JPMorgan Chase & Co. is furnishing this revised copy of its 2023 annual report to shareholders, which includes additional corrections of certain information contained in the Chairman and CEO's letter to shareholders as originally furnished.

Powering Growth with Curiosity and Heart

Annual Report 2023

JPMorgan Chase & Co.

Financial Highlights

As of or for the year ended December 31, (in millions, except per share, ratio data and employees)	2023	2022	2021
Selected income statement data			
Total net revenue	**$ 158,104**	$ 128,695	$ 121,649
Total noninterest expense	**87,172**	76,140	71,343
Pre-provision profit[a]	**70,932**	52,555	50,306
Provision for credit losses	**9,320**	6,389	(9,256)
Net income	**$ 49,552**	$ 37,676	$ 48,334
Per common share data			
Net income per share:			
Basic	**$ 16.25**	$ 12.10	$ 15.39
Diluted	**16.23**	12.09	15.36
Book value per share	**104.45**	90.29	88.07
Tangible book value per share (TBVPS)[a]	**86.08**	73.12	71.53
Cash dividends declared per share	**4.10**	4.00	3.80
Selected ratios			
Return on common equity	**17%**	14%	19%
Return on tangible common equity (ROTCE)[a]	**21**	18	23
Liquidity coverage ratio (average)[b]	**113**	112	111
Common equity Tier 1 capital ratio[c]	**15.0**	13.2	13.1
Tier 1 capital ratio[c]	**16.6**	14.9	15.0
Total capital ratio[c]	**18.5**	16.8	16.8
Selected balance sheet data (period-end)			
Loans	**$1,323,706**	$1,135,647	$1,077,714
Total assets	**3,875,393**	3,665,743	3,743,567
Deposits	**2,400,688**	2,340,179	2,462,303
Common stockholders' equity	**300,474**	264,928	259,289
Total stockholders' equity	**327,878**	292,332	294,127
Market data			
Closing share price	**$ 170.10**	$ 134.10	$ 158.35
Market capitalization	**489,320**	393,484	466,206
Common shares at period-end	**2,876.6**	2,934.2	2,944.1
Employees[d]	**309,926**[e]	293,723	271,025

As of and for the period ended December 31, 2023, the results of the Firm include the impact of First Republic. Refer to Business Segment Results on page 67 and Note 34 for additional information.

(a) Pre-provision profit, TBVPS and ROTCE are each non-GAAP financial measures. Refer to Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 62–64 for a discussion of these measures.
(b) Refer to Liquidity Risk Management on pages 102-109 for additional information on this measure.
(c) Refer to Capital Risk Management on pages 91-101 for additional information on these measures.
(d) This metric, which was formerly Headcount, has been renamed Employees but is otherwise unchanged.
(e) Included approximately 4,500 individuals associated with First Republic who became employees effective July 2, 2023.

JPMorgan Chase & Co. (NYSE: JPM) is a leading financial services firm with assets of $3.9 trillion and operations worldwide. The firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Under the J.P. Morgan and Chase brands, the firm serves millions of customers, predominantly in the U.S., and many of the world's most prominent corporate, institutional and government clients globally.

Information about J.P. Morgan's capabilities can be found at jpmorgan.com and about Chase's capabilities at chase.com. Information about JPMorgan Chase & Co. is available at jpmorganchase.com.

2023 Highlights

#1 BANK

IN DEPOSITS AND FOR SMALL BUSINESSES

Named #1 in retail deposit market share
and #1 primary bank for U.S. small businesses

#1

CORPORATE & INVESTMENT BANK

Generated $14 billion of net income
on revenue of $49 billion

#1

PRIVATE BANK AND ASSET MANAGER

Named #1 private bank in the world
by *Euromoney* magazine
and #1 asset manager by active flows

TOP 5

MOST ADMIRED COMPANIES

Ranked in the top five on
Fortune magazine's Most Admired Companies list
for the second year in a row

100%

DISABILITY EQUALITY INDEX

Scored 100% on the Disability Equality Index
for the ninth consecutive year

TOP 100

MOST INFLUENTIAL COMPANIES

Ranked as one of the 100 Most Influential Companies
by *Time* magazine

#1

MIDDLE MARKET SYNDICATED LENDER

Ranked #1 overall
Middle Market Syndicated Lender
in the U.S.

#1 BANK

IN ARTIFICIAL INTELLIGENCE

Ranked #1 for overall artificial intelligence
capabilities on the Evident AI Index
for the second year in a row

#1

CUSTOMER SATISFACTION

Ranked #1 among self-directed investors
in the J.D. Power 2023 U.S. Wealth
Management Digital Experience Study

Dear Fellow Shareholders,

Jamie Dimon, Chairman and Chief Executive Officer

Across the globe, 2023 was yet another year of significant challenges, from the terrible ongoing wars and violence in the Middle East and Ukraine to mounting terrorist activity and growing geopolitical tensions, importantly with China. Almost all nations felt the effects last year of global economic uncertainty, including higher energy and food prices, inflation rates and volatile markets. While all these events and associated instability have serious ramifications on our company, colleagues, clients and countries where we do business, their consequences on the world at large – with the extreme suffering of the Ukrainian people, escalating tragedy in the Middle East and the potential restructuring of the global order – are far more important.

As these events unfold, America's global leadership role is being challenged outside by other nations and inside by our polarized electorate. We need to find ways to put aside our differences and work in partnership with other Western nations in the name of democracy. During this time of great crises, uniting to protect our essential freedoms, including free enterprise, is paramount. We should remember that America, "conceived in liberty and dedicated to the proposition that all men are

created equal," still remains a shining beacon of hope to citizens around the world. JPMorgan Chase, a company that historically has worked across borders and boundaries, will do its part to ensure that the global economy is safe and secure.

In spite of the unsettling landscape, including last year's regional bank turmoil, the U.S. economy continues to be resilient, with consumers still spending, and the markets currently expect a soft landing. It is important to note that the economy is being fueled by large amounts of government deficit spending and past stimulus. There is also a growing need for increased spending as we continue transitioning to a greener economy, restructuring global supply chains, boosting military expenditure and battling rising healthcare costs. This may lead to stickier inflation and higher rates than markets expect. Furthermore, there are downside risks to watch. Quantitative tightening is draining more than $900 billion in liquidity from the system annually — and we have never truly experienced the full effect of quantitative tightening on this scale. Plus the ongoing wars in Ukraine and the Middle East continue to have the potential to disrupt energy and food markets, migration, and military and economic relationships, in addition to their dreadful human cost. These significant and somewhat unprecedented forces cause us to remain cautious.

2023 was another strong year for JPMorgan Chase, with our firm generating record revenue for the sixth consecutive year, as well as setting numerous records in each of our lines of business. We earned revenue in 2023 of $162.4 billion[1] and net income of $49.6 billion, with return on tangible common equity (ROTCE) of 21%, reflecting strong underlying performance across our businesses. We also increased our quarterly common dividend of $1.00 per share to $1.05 per share in the third quarter of 2023 — and again to $1.15 per share in the first quarter of 2024 — while continuing to reinforce our fortress balance sheet. We grew market share in several of our businesses and continued to make significant investments in products, people and technology while exercising strict risk disciplines.

Throughout the year, we demonstrated the power of our investment philosophy and guiding principles, as well as the value of being there for clients — as we always are — in both good times and bad times. The result was continued growth broadly across the firm. We will highlight a few examples from 2023: Consumer & Community Banking (CCB) extended its #1 leadership positions and grew share year-over-year in retail deposits, credit card sales and credit card outstandings (adding close to 3.6 million net new customers to the franchise); the Corporate & Investment Bank (CIB)

1 Represents managed revenue.

maintained its #1 rank in both Investment Banking and Markets and gained more than 100 basis points of Investment Banking market share; Commercial Banking (CB) added over 5,000 new relationships (excluding First Republic Bank), roughly doubling the prior year's achievement; and Asset & Wealth Management (AWM) saw record client asset net inflows of $490 billion, over 20% higher than its prior record.

In 2023, we continued to play a forceful and essential role in advancing economic growth. In total, we extended credit and raised capital totaling $2.3 trillion for our consumer and institutional clients around the world. On a daily basis, we move nearly $10 trillion in over 120 currencies and more than 160 countries, as well as safeguard over $32 trillion in assets. By purchasing First Republic Bank, we brought much-needed stability to the U.S. banking system while allowing us to give a new, secure home to over half a million First Republic customers.

As always, we hold fast to our commitment to corporate responsibility, including helping to create a stronger, more inclusive economy — from supporting work skills training programs around the world to financing affordable housing and small businesses to making investments in cities like Detroit that show how business and government leaders can work together to solve problems.

We have achieved our decades-long consistency by adhering to our key principles and strategies (see sidebar on Steadfast Principles on page 5), which allow us to drive good organic growth and promote proper management of our capital (including dividends and stock buybacks). The charts on pages 9–15 show our performance results and illustrate how we have grown our franchises, how we compare with our competitors and how we look at our fortress balance sheet. Please peruse them and the CEO letters in this Annual Report, all of which provide specific details about our businesses and our plans for the future.

I remain proud of our company's resiliency and of what our hundreds of thousands of employees around the world have achieved, collectively and individually. Throughout these challenging past few years, we have never stopped doing all the things we should be doing to serve our clients and our communities. As you know, we are champions of banking's essential role in a community — its potential for bringing people together, for enabling companies and individuals to attain their goals, and for being a source of strength in difficult times. I often remind our employees that the work we do matters

STEADFAST PRINCIPLES WORTH REPEATING (AND ONE NEW ONE)

Looking back on the past two+ decades – starting from my time as Chairman and CEO of Bank One in 2000 – there is one common theme: our unwavering dedication to help clients, communities and countries throughout the world. It is clear that our financial discipline, constant investment in innovation and ongoing development of our people have enabled us to achieve this consistency and commitment. In addition, across the firm, we uphold certain steadfast tenets that are worth repeating.

First, our work has very real human impact. While JPMorgan Chase stock is owned by large institutions, pension plans, mutual funds and directly by single investors, in almost all cases the ultimate beneficiaries are individuals in our communities. More than 100 million people in the United States own stocks; many, in one way or another, own JPMorgan Chase stock. Frequently, these shareholders are veterans, teachers, police officers, firefighters, healthcare workers, retirees, or those saving for a home, education or retirement. Often, our employees also bank these shareholders, as well as their families and their companies. Your management team goes to work every day recognizing the enormous responsibility that we have to all of our shareholders.

Second, shareholder value can be built ***only*** if you maintain a healthy and vibrant company, which means doing a good job of taking care of your customers, employees and communities. Conversely, how can you have a healthy company if you neglect any of these stakeholders? As we have learned over the past few years, there are myriad ways an institution can demonstrate its compassion for its employees and its communities while still strengthening shareholder value.

Third, while we don't run the company worrying about the stock price in the short run, in the ***long run*** we consider our stock price a measure of our progress over time. This progress is a function of continual investments in our people, systems and products, in good and bad times, to build our capabilities. These important investments will also drive our company's future prospects and position it to grow and prosper for decades. Measured by stock performance, our progress is exceptional. For example, whether looking back 10 years or even farther to 2004, when the JPMorgan Chase/Bank One merger took place, we have outperformed the Standard & Poor's 500 Index and the Standard & Poor's Financials Index.

Fourth, we are united behind basic principles and strategies (you can see the principles for How We Do Business on our website and our Purpose statement in my letter from last year) that have helped build this company and made it thrive. These allow us to maintain a fortress balance sheet, constantly invest and nurture talent, fully satisfy regulators, continually improve risk, governance and controls, and serve customers and clients while lifting up communities worldwide. This philosophy is embedded in our company culture and influences nearly every role in the firm.

Fifth, we strive to build enduring businesses, which rely on and benefit from one another, but we are not a conglomerate. This structure helps generate our superior returns. Nonetheless, despite our best efforts, the walls that protect this company are not particularly high – and we face extraordinary competition. I have written about this reality extensively in the past and cover it again in this letter. We recognize our strengths and vulnerabilities, and we play our hand as best we can.

Sixth, and this is the ***new one***, we must be a source of strength, particularly in tough times, for our clients and the countries in which we operate. We must take seriously our role as one of the guardians of the world's financial systems.

Seventh, we operate with a very important silent partner – the U.S. government – noting as my friend Warren Buffett points out that his company's success is predicated upon the extraordinary conditions our country creates. He is right to say to his shareholders that when they see the American flag, they all should say thank you. We should, too. JPMorgan Chase is a healthy and thriving company, and we always want to give back and pay our fair share. We do pay our fair share – and we want it to be spent well and have the greatest impact. To give you an idea of where our taxes and fees go: In the last 10 years, we paid more than $46 billion in federal, state and local taxes in the United States and over $22 billion in taxes outside of the United States. Additionally, we paid the Federal Deposit Insurance Corporation over $10 billion so that it has the resources to cover failure in the American banking sector. Our partner – the federal government – also imposes significant regulations upon us, and it is imperative that we meet all legal and regulatory requirements imposed on our company.

Eighth and finally, we know the foundation of our success rests with our people. They are the front line, both individually and as teams, serving our customers and communities, building the technology, making the strategic decisions, managing the risks, determining our investments and driving innovation. However you view the world – its complexity, risks and opportunities – a company's prosperity requires a great team of people with guts, brains, integrity, enormous capabilities and high standards of professional excellence to ensure its ongoing success.

MAPPING OUR PROGRESS AND MILESTONES

2000 2005 2010 2015 2020 2024

2000

Jamie Dimon joins Bank One as Chairman and CEO

Chase Manhattan buys J.P. Morgan & Co., forming J.P. Morgan Chase & Co.

2004

Bank One merges with J.P. Morgan Chase & Co.

2006

JPMorgan Chase holds first Investor Day

Asset & Wealth Management assets under management exceed $1 trillion

2008

JPMorgan Chase acquires Bear Stearns and Washington Mutual

The collapse of the housing and mortgage markets led to a severe worldwide financial crisis, the worst since the Great Depression. JPMorgan Chase helped stabilize the markets by acquiring two failing institutions, Bear Stearns and Washington Mutual (WaMu). WaMu is still the largest failure of an insured depository institution in the history of the FDIC. Importantly, the WaMu deal expanded the bank's network by more than 2,200 branches, including gaining a footprint in California and Florida.

JPMorgan Chase ranks #1 in investment banking fees market share for the first time

2010

JPMorgan Chase launches Chase Wealth Management

2011

JPMorgan Chase ranks #1 in Markets revenue market share for the first time

Jamie Dimon holds his first bus tour from Seattle to San Diego

JPMorgan Chase becomes the biggest U.S. bank by assets

2012

Chase becomes #1 credit card issuer based on outstandings

2014

JPMorgan Chase makes historic investment in Detroit, which reached $200 million in 2022

JPMorgan Chase begins using artificial intelligence and machine learning for fraud detection

2016

JPMorgan Chase becomes the biggest bank in the world by market capitalization

2018

Chase credit and debit card sales volume surpasses $1 trillion

JPMorgan Chase announces $30 million investment in Greater Paris, followed by $70 million in new commitments in 2023 to create economic opportunity across France

JPMorgan Chase announces branch expansion initiative

2019

JPMorgan Chase launches the Second Chance hiring initiative, helping remove barriers to employment opportunities for people with a criminal record

2020

JPMorgan Chase announces its $30 billion Racial Equity Commitment

With the goal of helping to close the racial wealth gap and advance economic inclusion among historically underserved U.S. communities, the effort reported over $30 billion in progress by the end of 2023.

Jamie Dimon returns to work in the office in June

Four modern, private cloud-based North American data centers go live

2021

JPMorgan Chase ranks #1 in retail deposits market share at 10% based on FDIC data, with deposits surpassing $1 trillion

2022

Chase becomes the first bank with nationwide branches in all lower 48 states

2023

JPMorgan Chase acquires First Republic Bank from the FDIC

The purchase of First Republic helped stabilize and strengthen the U.S. financial system in a time of crisis while allowing JPMorgan Chase to give a new, secure home to over half a million First Republic customers.

FDIC = Federal Deposit Insurance Corporation

and has impact. United by our principles and purpose, we help people and institutions finance and achieve their aspirations, lifting up individuals, homeowners, small businesses, larger corporations, schools, hospitals, cities and countries in all regions of the world. What we have accomplished in the 20 years since the Bank One and JPMorgan Chase merger is evidence of the importance of our values.

CELEBRATING THE 20TH ANNIVERSARY OF THE BANK ONE/JPMORGAN CHASE MERGER

J.P. Morgan Chase

By 2004, J.P. Morgan Chase already represented the consolidation of four of the 10 largest U.S. banks from 1990: The Chase Manhattan Corp., Manufacturers Hanover, Chemical Banking Corp. and, most recently, J.P. Morgan & Company. And some of their predecessor companies stretched back into the 1800s, one even into the late 1700s.

Bank One

Bank One had been even busier on the acquisition front, especially across the United States. By 1998, then Banc One had more than 1,300 branches in 12 states when it announced a merger with First Chicago NBD, a Chicago-based bank created just three years earlier by the merger of First Chicago and Detroit-based NBD. Now headquartered in Chicago, the new Bank One became the largest bank in the Midwest, second largest among credit card companies and fourth largest in the United States. But the merger didn't go as planned, with Bank One issuing three different earnings warnings. In March 2000, Bank One reached outside its executive ranks, and my tenure began as Chairman and CEO, working to overhaul the company and help bring it back to profitability and growth.

The story begins ... A merger 20 years ago helped transform two giant banks

Fast forward to 2003, and another wave of consolidation was well underway in U.S. banking. Most of the nation's larger banks were trying to position themselves to be an "endgame winner." In the biggest deal, Bank of America agreed to buy FleetBoston Financial Corp. for more than $40 billion. Those two banks – already amalgamations of several predecessor companies – touted the breadth of their combined retail branch network.

But they were hardly alone. In 2003, some 215 deals were announced among U.S. commercial banks and bank holding companies for a total value of $66 billion, according to Thomson Financial, which tracks merger data.

In July 2004, J.P. Morgan Chase and Bank One merged — as part of a 225-year journey — to form this exceptional company of ours: JPMorgan Chase. At its merger in 2004, the combined bank was the fourth largest bank in the world by market capitalization. But with patient groundwork over the years — fixing systems and upgrading technology, managing the notable acquisitions of Bear Stearns and Washington Mutual (WaMu) and continuing to reinvest, including in our talent — we have made our company an endgame winner.

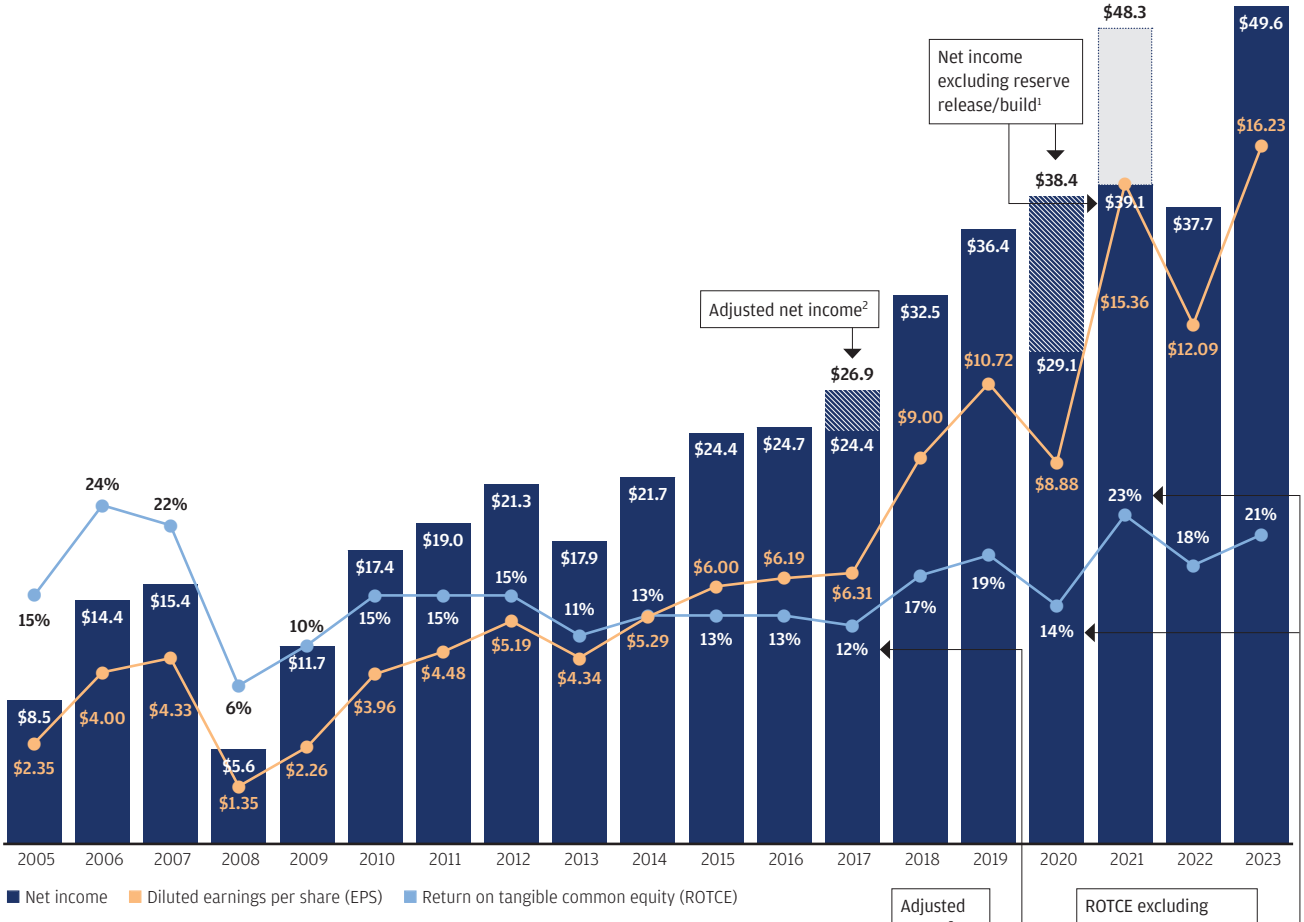
In earlier years, banks worried about their survival. While the past two decades have brought some virtually unprecedented challenges, including the great financial crisis and a pandemic followed by a global shutdown, they did not stop us from accomplishing extraordinary things. Our bank has now emerged as the #1 bank by market capitalization.

Each of our businesses is among the best in the world, with increased market share, strong financial results and an unwavering focus on serving our clients, communities and shareholders with distinction and dedication. The strengths that are embedded in JPMorgan Chase — the knowledge and cohesiveness of our people, our long-standing client relationships, our technology and product capabilities, our presence in more than 100 countries and our unquestionable fortress balance sheet — would be hard to replicate. Crucially, the strength of our company has allowed us to always be there for clients, governments and communities — in good times and in bad times — and this strength has enabled us to continually invest in building our businesses for the future.

You can see from the following charts what gains and improvements we have achieved along the way.

Earnings, Diluted Earnings per Share and Return on Tangible Common Equity 2005–2023

($ in billions, except per share and ratio data)

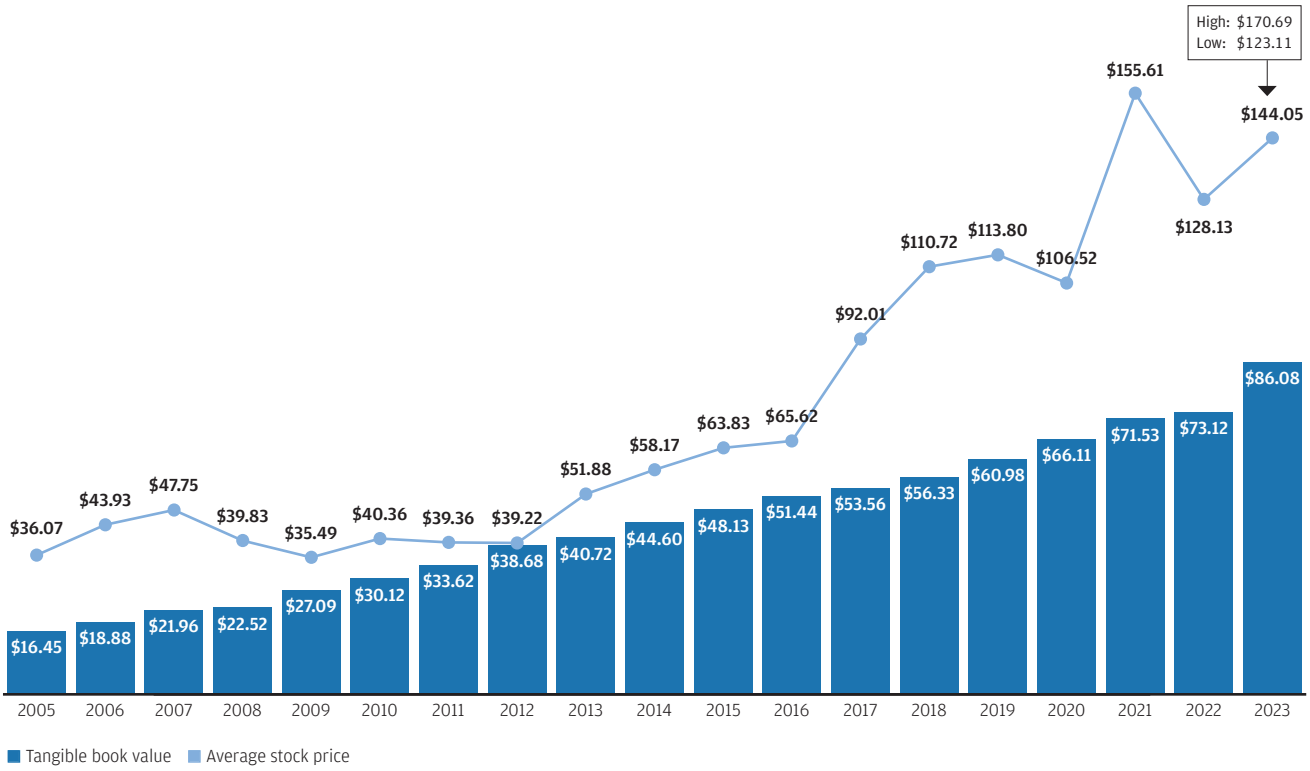


1 Effective January 1, 2020, the Firm adopted the Financial Instruments - Credit Losses accounting guidance. Firmwide results excluding the net impact of reserve release/(build) of ($9.3) billion and $9.2 billion for the years ending December 31, 2020 and 2021, respectively, are non-GAAP financial measures.

2 Adjusted net income excludes $2.4 billion from net income in 2017 as a result of the enactment of the Tax Cuts and Jobs Act.

GAAP = Generally accepted accounting principles

Tangible Book Value[1] and Average Stock Price per Share
2005–2023



1 10% compound annual growth rate since 2005.

Stock total return analysis

	Bank One	S&P 500 Index	S&P Financials Index
Performance since becoming CEO of Bank One (3/27/2000–12/31/2023)[1]			
Compounded annual gain	12.1%	6.9%	4.9%
Overall gain	1,400.7%	389.7%	209.7%

	JPMorgan Chase	S&P 500 Index	S&P Financials Index
Performance since the Bank One and JPMorgan Chase merger (7/1/2004–12/31/2023)			
Compounded annual gain	10.9%	9.8%	4.7%
Overall gain	647.3%	514.7%	146.7%
Performance for the period ended December 31, 2023			
Compounded annual gain			
One year	30.7%	26.3%	12.1%
Five years	15.2%	15.7%	12.0%
Ten years	14.4%	12.0%	10.0%

This chart shows actual returns of the stock, with dividends reinvested, for heritage shareholders of Bank One and JPMorgan Chase vs. the Standard & Poor's 500 Index (S&P 500 Index) and the Standard & Poor's Financials Index (S&P Financials Index).

1 On March 27, 2000, Jamie Dimon was hired as CEO of Bank One.

Client Franchises Built Over the Long Term

Consumer & Community Banking

	2005	2013	2022	2023
Average deposits ($B)[1]	$187	$453	$1,163	$1,127
Deposits market share[2]	4.5%	7.5%	10.9%	11.3%
# of top 50 markets where we are #1 (top 3)	*6 (12)*	*7 (22)*	*11 (25)*	*12 (26)*
Business Banking primary market share[3]	4.0%	6.8%	9.3%	9.5%
Client investment assets ($B)[1]	NA	$189	$647	$951
Total payments volume ($T)[4]	NA	$1.4	$5.6	$5.9
% of digital non-card payments[5]	~20%	45%	77%	79%
Credit card sales ($B)	*$225*	*$419*	*$1,065*	*$1,164*
Debit card sales ($B)	*NA*	*$224*	*$491*	*$515*
Debit and credit card sales volume ($B)	NA	$664	$1,555	$1,679
Credit card sales market share[6]	15%	21%	22%	23%
Credit card loans ($B, EOP)	$142	$128	$185	$211
Credit card loans market share[7]	19%	17%	17%	17%
Active mobile customers (M)	NA	15.6	49.7	53.8
# of branches	2,641	5,630	4,787	4,897
# of advisors[1]	NM	3,044	5,029	5,456

- Serve 82 million U.S. consumers and 6.4 million small businesses
- 67 million active digital customers[8], including 54 million active mobile customers[9]
- Primary bank relationships for ~80% of consumer checking accounts
- #1 retail deposit share
- #1 deposit market share position in 4 out of the 5 largest banking markets in the country (NY, LA, Chicago, and San Francisco), while maintaining branch presence in all contiguous 48 U.S. states
- #1 primary bank for U.S. small businesses
- #1 U.S. credit card issuer based on sales and outstandings[10]
- #1 owned mortgage servicer[11]
- #1 bank auto lender[12]

Corporate & Investment Bank

	2006			
Total Markets revenue[13]	#8	#1	#1	#1
Market share[13]	6.3%	9.0%	11.5%	11.4%
FICC[13]	#7	#1	#1	#1
Market share[13]	7.0%	9.6%	10.8%	11.0%
Equities[13]	#8	#3	#1	#2
Market share[13]	5.0%	7.9%	12.9%	12.3%
Global investment banking fees[14]	#2	#1	#1	#1
Market share[14]	8.7%	8.7%	7.8%	8.8%
Assets under custody (AUC) ($T)	$10.7	$20.5	$28.6	$32.4
Average client deposits ($B)[15]	$155	$384	$687	$645
Firmwide Payments revenue ($B)[16]	$4.9	$7.8	$13.9	$18.2
Firmwide Payments revenue rank (share)[17]	NA	NA	#1 (8.1%)	Co-#1 (9.0%)
Firmwide average daily security purchases and sales ($T)	NA	NA	$3.1	$3.0

- >90% of Fortune 500 companies do business with us
- Presence in over 100 markets globally
- #1 in global investment banking fees for the 15th consecutive year[14]
- Consistently ranked #1 in Markets revenue since 2011[13]
- J.P. Morgan Research ranked as the #1 Global Research Firm, #2 Global Equity Research Team and #1 Global Fixed Income Research Team[18]
- #1 in USD payments volume[19]
- 27.1% USD SWIFT market share[20]
- #1 in U.S. Merchant volume processing[21]
- #3 Custodian globally by revenue[22]

Commercial Banking

# of top 75 MSAs with dedicated teams[23]	36	52	69	72
# of bankers	1,208	1,242	2,360	2,888
New relationships (gross)[24]	NA	NA	2,277	4,940
Average loans ($B)	$48.1	$132.0	$223.7	$268.3
Average deposits ($B)	$66.1	$198.4	$294.2	$267.8
Gross investment banking revenue ($B)[25]	$0.6	$1.7	$3.0	$3.4
Multifamily lending[26]	#29	#1	#1	#1

- 151 locations across the U.S. and 39 international locations, with 16 new cities added in 2023
- $2.2B revenue from Middle Market expansion markets, up 45% YoY
- Credit, banking and treasury services to ~34K Commercial & Industrial clients and ~36K real estate owners and investors
- 18 specialized industry coverage teams
- #1 overall Middle Market Bookrunner in the U.S.[27]
- Approximately 28,000 incremental affordable housing units financed in 2023[28]

Asset & Wealth Management

JPMAM LT funds AUM performed above peer median (10Y)[29]	NA	80%	90%	83%
Client assets ($T)[30]	$1.1	$2.3	$4.0	$5.0
Traditional assets ($T)[30,31]	$1.0	$1.9	$3.4	$4.4
Alternatives assets ($B)[30,32]	$74	$207	$372	$411
Average deposits ($B)[30]	$42	$135	$261	$216
Average loans ($B)[30]	$27	$83	$216	$220
# of Global Private Bank client advisors[30]	1,484	2,512	3,137	3,515
Global Private Bank (Euromoney)[33]	#5	#3	#1	#1

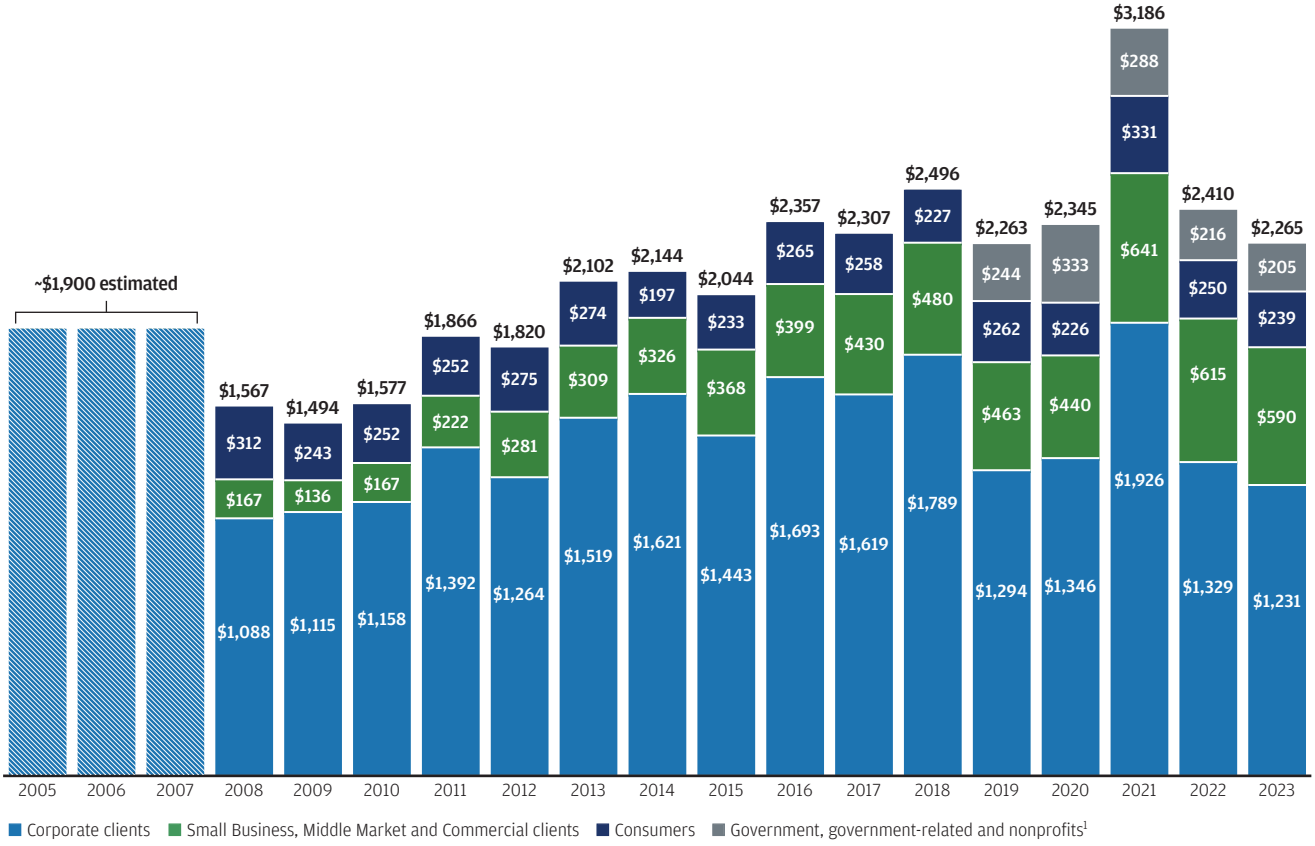
- 166 funds with a 4/5 star rating[34]
- Business with 59% of the world's largest pension funds, sovereign wealth funds and central banks
- #2 in 5-year cumulative net client asset flows[35]
- Positive client asset flows in 2023 across all regions and channels, with strength in liquidity, fixed income, equity, custody and brokerage
- #2 in Active ETF AUM and flows
- #1 in Institutional Money Market Funds AUM[36]
- 54% of Asset Management AUM managed by female and/or diverse portfolio managers[37]

NA = Not available
NM = Not meaningful
AUM = Assets under management
EOP = End of period
FICC = Fixed income, currencies and commodities
JPMAM = J.P. Morgan Asset Management
MSA = Metropolitan statistical area
USD = U.S. dollar
YoY = Year-over-year
M = Millions
B = Billions
T = Trillions
K = Thousands

For footnoted information, refer to pages 60-61 in this Annual Report.

New and Renewed Credit and Capital for Our Clients
2005–2023

($ in billions)

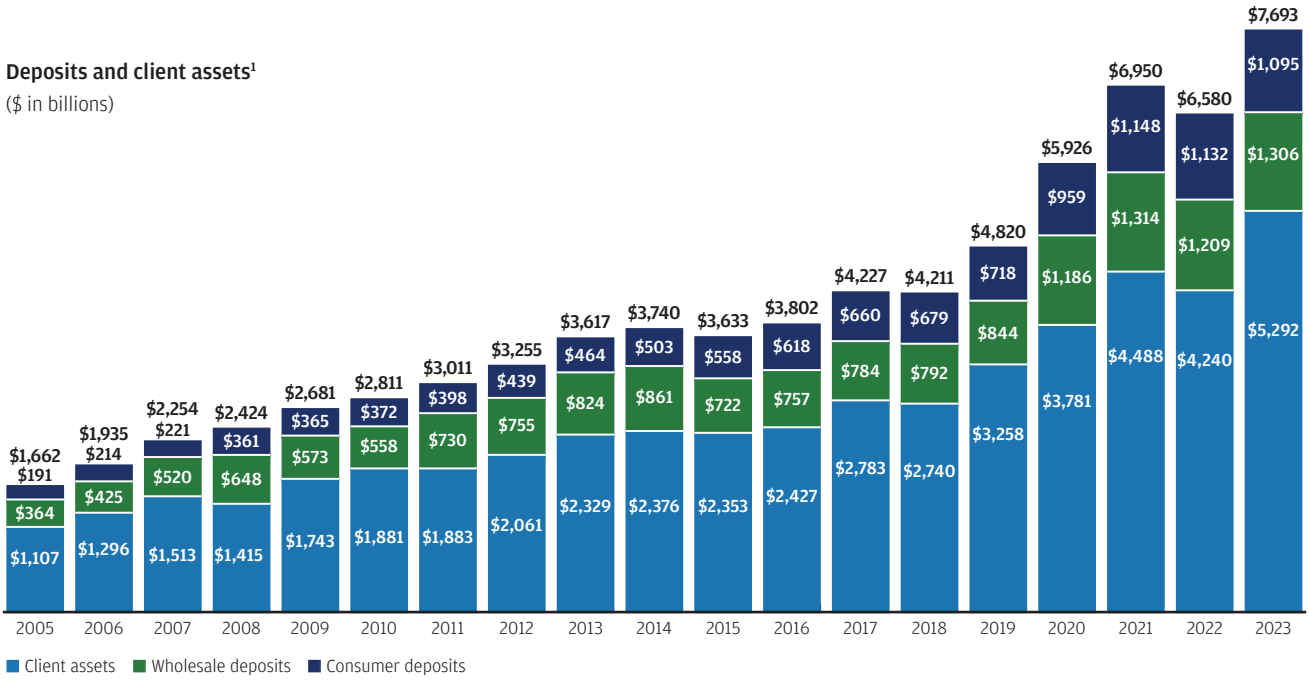


1 Government, government-related and nonprofits available starting in 2019; included in Corporate clients and Small Business, Middle Market and Commercial clients for prior years.

Assets Entrusted to Us by Our Clients
2005–2023

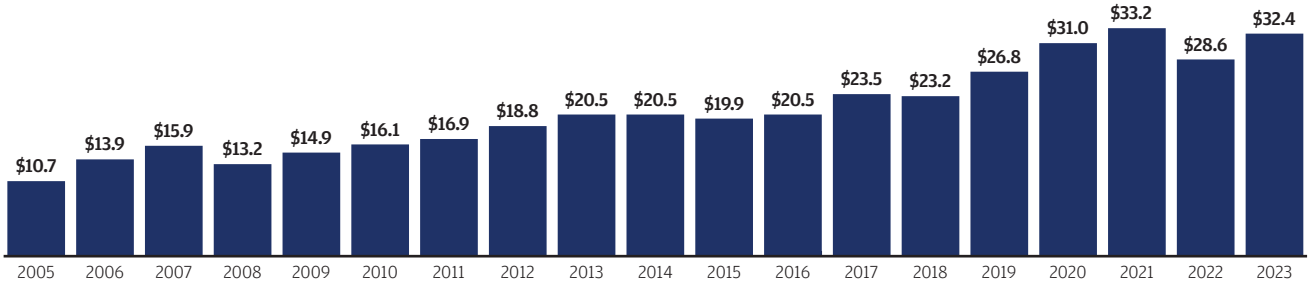
Deposits and client assets[1]

($ in billions)



Assets under custody[2]

($ in trillions)

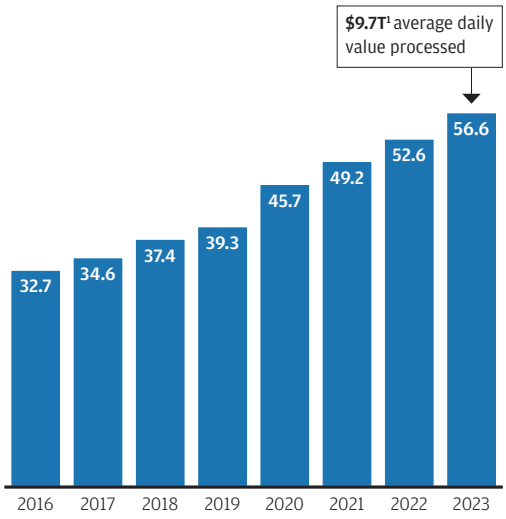


1 Represents assets under management, as well as custody, brokerage, administration and deposit accounts.

2 Represents activities associated with the safekeeping and servicing of assets.

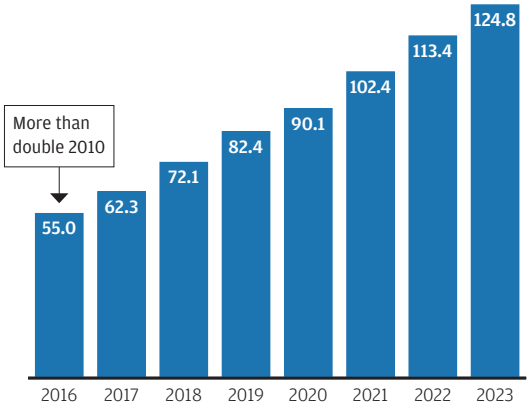
Daily Payment Volume[1]

(# in millions, average)



Daily Merchant Acquiring Transactions

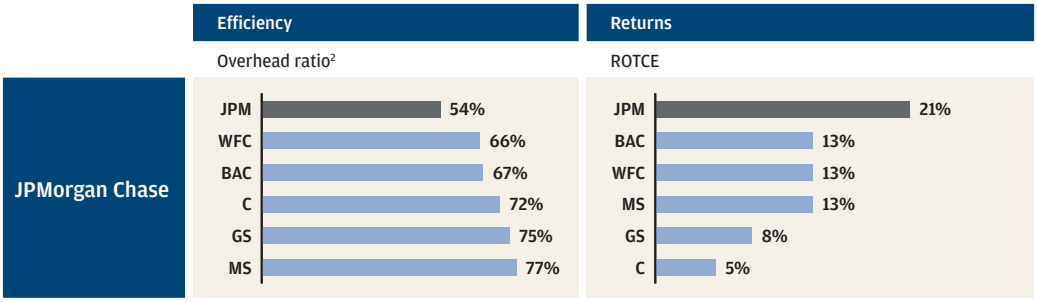
(# in millions, average)



1 Based on Firmwide data using regulatory reporting guidelines prescribed by the Federal Reserve for US Title 1 planning purposes; includes internal settlements, global payments to and through third-party processors and banks, and other internal transfers.

T = Trillions

JPMorgan Chase Exhibits Strength in Both Efficiency and Returns When Compared with Large Peers and Best-in-Class Peers[1]



	Efficiency		Returns		
	JPM 2023 overhead ratio	Best-in-class peer overhead ratio[3]	JPM 2023 ROTCE	Best-in-class all banks ROTCE[4,6]	Best-in-class GSIB ROTCE[5,6]
Consumer & Community Banking	50%	50% COF-DC & CB	38%	28% BAC-CB	28% BAC-CB
Corporate & Investment Bank	59%	55% BAC-GB & GM	13%	16% BAC-GB & GM	16% BAC-GB & GM
Commercial Banking	35%	39% FITB	20%	19% WFC-CB	19% WFC-CB
Asset & Wealth Management	64%	63% NTRS-WM & ALLIANZ-AM	31%	58% MS-WM & IM	58% MS-WM & IM

GSIB = Global systemically important banks

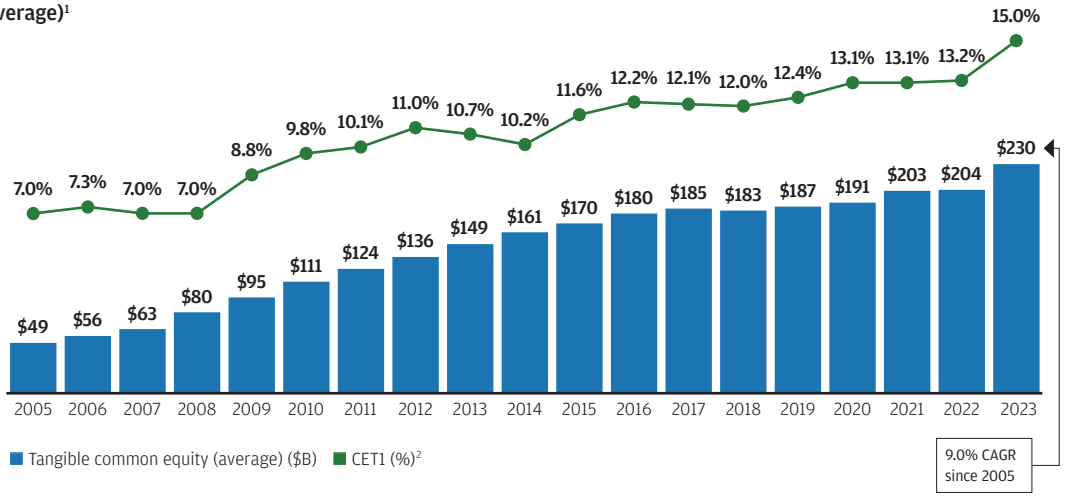
ROTCE = Return on tangible common equity

For footnoted information, refer to page 61 in this Annual Report.

Our Fortress Balance Sheet
2005–2023

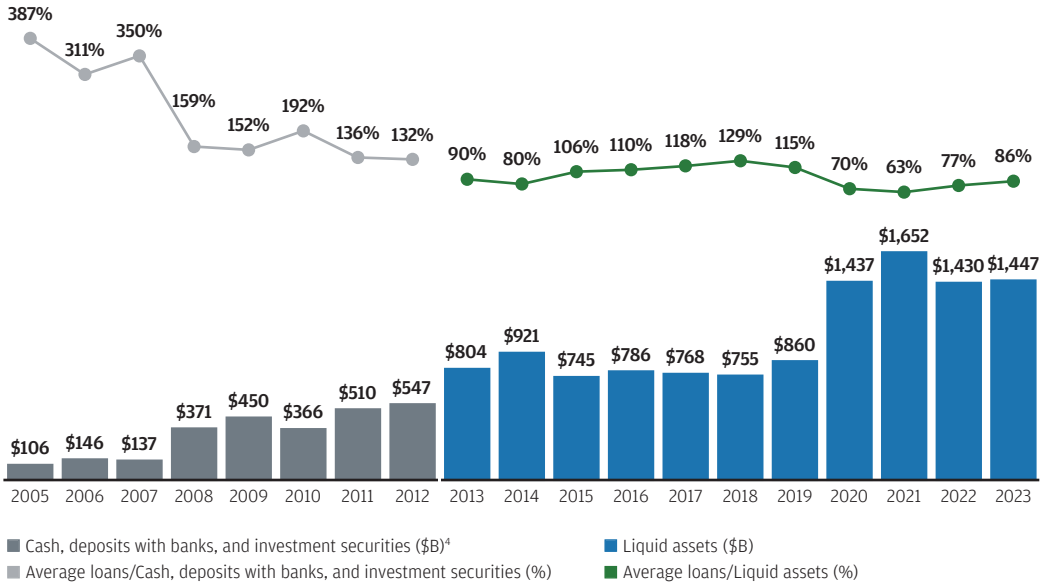
Tangible Common Equity (Average)[1]

($ in billions)



Liquid Assets[3]

($ in billions)



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Net income applicable to common stockholders ($B)	$8.5	$14.4	$14.9	$4.7	$8.8	$15.8	$17.6	$19.9	$16.6	$20.1	$22.4	$22.6	$22.6	$30.7	$34.6	$27.4	$46.5	$35.9	$47.8
Capital returned to common stockholders ($B)[5]	$6.3	$5.0	$9.5	($11.8)	($6.4)	$1.1	$10.8	$4.5	$9.2	$9.6	$10.8	$14.4	$22.0	$27.9	$34.0	$16.3	$28.5	$13.2	$19.8
ROTCE (%)	15%	24%	22%	6%	10%	15%	15%	15%	11%	13%	13%	13%	12%	17%	19%	14%	23%	18%	21%

CAGR = Compound annual growth rate
CET1 = Common equity Tier 1
ROTCE = Return on tangible common equity

For footnoted information, refer to page 61 in this Annual Report.

Within this letter, I discuss the following:

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  - Steadfast principles worth repeating (and one new one) Page 5
  - Mapping our progress and milestones Page 6
- Celebrating the 20th anniversary of the Bank One/JPMorgan Chase merger Page 7
- Financial performance Page 9

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- Our journey to the cloud Page 18
- Acquiring First Republic Bank and its customers Page 18
- Navigating in a complex and potentially dangerous world Page 19
- Our extensive community outreach efforts, including diversity, equity and inclusion Page 21
  - What we learned: A five-point action plan to move forward on the climate challenge Page 26
  - Powering economic growth in Florida Page 28
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- Providing strong leadership globally and effective policymaking domestically Page 50
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Update on Specific Issues Facing Our Company

Each year, I try to update you on some of the most important issues facing our company. First and foremost may well be the impact of artificial intelligence (AI).

While we do not know the full effect or the precise rate at which AI will change our business – or how it will affect society at large – we are completely convinced the consequences will be extraordinary and possibly as transformational as some of the major technological inventions of the past several hundred years: Think the printing press, the steam engine, electricity, computing and the Internet, among others.

THE CRITICAL IMPACT OF ARTIFICIAL INTELLIGENCE

Since the firm first started using AI over a decade ago, and its first mention in my 2017 letter to shareholders, we have grown our AI organization materially. It now includes more than 2,000 AI/machine learning (ML) experts and data scientists. We continue to attract some of the best and brightest in this space and have an exceptional firmwide AI/ML and Research department with deep expertise.

We have been actively using predictive AI and ML for years – and now have over 400 use cases in production in areas such as marketing, fraud and risk – and they are increasingly driving real business value across our businesses and functions. We're also exploring the potential that generative AI (GenAI) can unlock across a range of domains, most notably in software engineering, customer service and operations, as well as in general employee productivity. In the future, we envision GenAI helping us reimagine entire business workflows. We will continue to experiment with these AI and ML capabilities and implement solutions in a safe, responsible way.

While we are investing more money in our AI capabilities, many of these projects pay for themselves. Over time, we anticipate that our use of AI has the potential to augment virtually every job, as well as impact our workforce composition. It may reduce certain job categories or roles, but it may create others as well. As we have in the past, we will aggressively retrain and redeploy our talent to make sure we are taking care of our employees if they are affected by this trend.

Finally, as a global leader across businesses and regions, we have large amounts of extraordinarily rich data that, together with AI, can fuel better insights and help us improve how we manage risk and serve our customers. In addition to making sure our data is high quality and easily accessible, we need to complete the migration of our analytical data estate to the public cloud. These new data platforms offer high-performance compute power, which will unlock our ability to use our data in ways that are hard to contemplate today.

Recognizing the importance of AI to our business, we created a new position called Chief Data & Analytics Officer that sits on our Operating Committee.

Elevating this new role to the Operating Committee level – reporting directly to Daniel Pinto and me – reflects how critical this function will be going forward and how seriously we expect AI to influence our business. This will embed data and analytics into our decision making at every level of the company. The primary focus is not just on the technical aspects of AI but also on how all management can – and should – use it. Each of our lines of business has corresponding data and analytics roles so we can share best practices, develop reusable solutions that solve multiple business problems, and continuously learn and improve as the future of AI unfolds.

Clearly, AI comes with many risks, which need to be rigorously managed.

We have a robust, well-established risk and control framework that helps us proactively stay in front of AI-related risks, particularly as the regulatory landscape evolves. And we will, of course, continue to work hard with our regulators, clients and subject matter experts to make sure we maintain the highest ethical standards and are transparent in how AI helps us make decisions; e.g., to counter bias among other things.

You may already be aware that there are bad actors using AI to try to infiltrate companies' systems to steal money and intellectual property or simply to cause disruption and damage. For our part, we incorporate AI into our toolset to counter these threats and proactively detect and mitigate their efforts.

OUR JOURNEY TO THE CLOUD

Getting our technology to the cloud – whether the public cloud or the private cloud – is essential to fully maximize all of our capabilities, including the power of our data. The cloud offers many benefits: 1) it accelerates the speed of delivery of new services; 2) it simultaneously reduces the cost of compute power and enables, when needed, an extraordinary amount of compute capability – called burst computing; 3) it provides that compute capability across all of our data; and 4) it allows us to be able to constantly and quickly adopt new technologies because updated cloud services are continually being added – more so in the public cloud, where we benefit from the innovation that all cloud providers create, than in the private cloud, where innovation is only our own.

Of course, we are learning a lot along the way. For example, we know we should carefully pick which applications and which data go to the public cloud versus the private cloud because of the expense, security and capabilities required. In addition, it is critical that we eventually use multiple clouds to avoid lock-in. And we intend to maintain our own expertise so that we're never reliant on the expertise of others even if that requires additional money.

We invested approximately $2 billion to build four new, modern, private cloud-based, highly reliable and efficient data centers in the United States (we have 32 data centers globally). To date, about 50% of our applications run a large part of their processing in the public or private cloud. Approximately 70% of our data is now running in the public or private cloud. By the end of 2024, we aim to have 70% of applications and 75% of data moved to the public or private cloud. The new data centers are around 30% more efficient than our existing legacy data centers. Going to the public cloud can provide 30% additional efficiency if done correctly (efficiency improves when your data and applications have been modified, or "refactored," to enable new cloud services). We have been constantly updating most of our global data centers, and by the end of this year, we can start closing some that are larger, older and less efficient.

ACQUIRING FIRST REPUBLIC BANK AND ITS CUSTOMERS

The purchase of First Republic Bank was not something that we would have done just for ourselves. But the regulators relied on us to step forward (we worked hand in hand with the Federal Reserve, the Federal Deposit Insurance Corporation (FDIC) and the U.S. Treasury), and the purchase of First Republic helped stabilize and strengthen the U.S. financial system in a time of crisis.

The acquisition of a major company entails a lot of complexity. People tend to focus on the financial and economic outcomes, which is a reasonable thing to do. And in the case of First Republic, the numbers look rather good. We recorded an accounting *gain of $3 billion on the purchase,* and we told the world we expected to add more than $500 million to earnings annually, which we now believe will be closer to $2 billion. However, these results mask some of the true costs. First, approximately one-third of the incremental earning was simply deploying excess capital and liquidity, which doesn't require purchasing a $300 billion bank – we simply could have bought $300 billion of assets. Second, as soon as the deal was announced, approximately 7,600 of our employees went from working on tasks that would benefit the future of JPMorgan Chase to working on the

merger integration. Overall, the integration involves effectively combining more than 165 systems (e.g., statement, deposit, accounting and human resources) and consolidating policies, risk reporting, and other various rules and procedures. We hope to have most of the integration done by the middle of 2024.

Fortunately, we were very familiar and comfortable with all of the assets we were acquiring from First Republic. What we didn't take on was First Republic's excessive interest rate exposure — one of the reasons it failed — which we effectively hedged within days of the acquisition.

Our people did a great job of respectfully managing this transition, knowing that circumstances were particularly tough for our new colleagues, whom we tried to welcome with open arms. We did everything we could to redeploy individuals whose jobs were lost because of the merger (we directly hired over 5,000 people). Our approach has always been to go into an acquisition knowing we can learn things from other teams, and in this case, we did: First Republic had done an outstanding job serving high-net-worth clients and venture capitalists, and we are developing what is effectively a new business for us following First Republic's servicing model. We will serve these high-net-worth clients through a single point of contact, supported by a concierge service model, across our distribution channels — including more than 20 new J.P. Morgan branded branches.

NAVIGATING IN A COMPLEX AND POTENTIALLY DANGEROUS WORLD

In the policy section, we talk about how we may be entering one of the most treacherous geopolitical eras since World War II. And I have written in the past about high levels of debt, fiscal stimulus, ongoing deficit spending and the unknown effects of quantitative tightening (which I am more worried about than most) so I won't repeat those views here. However, the impacts of these geopolitical and economic forces are large and somewhat unprecedented; they may not be fully understood until they have completely played out over multiple years. In any case, JPMorgan Chase must be prepared for the various potential impacts and outcomes on our company and our people.

We remain wary of economic prognosticating.

While all companies essentially budget on a base case forecast, we are very careful not to ***run*** our business that way. Instead, we look at a range of potential outcomes for which we need to be prepared. Geopolitical and economic forces have an unpredictable timetable — they may unfold over months, or years, and are nearly impossible to put into a one-year forecast. They also have an unpredictable interplay: For example, the geopolitical situation may end up having virtually no effect on the world's economy or it could potentially be its determinative factor.

We have ongoing concerns about persistent inflationary pressures and consider a wide range of outcomes to manage interest rate exposure and other business risks.

Many key economic indicators ***today*** continue to be good and possibly improving, including inflation. But when looking ahead to ***tomorrow***, conditions that will affect the future should be considered. For example, there seems to be a large number of persistent inflationary pressures, which may likely continue. All of the following factors appear to be inflationary: ongoing fiscal spending, remilitarization of the world, restructuring of global trade, capital needs of the new green economy, and possibly higher energy costs in the future (even though there currently is an oversupply of gas and plentiful spare capacity in oil) due to a lack of needed investment in the energy infrastructure. In the past, fiscal deficits did not seem to be closely related to inflation. In the 1970s and early 1980s, there was a general understanding that inflation was driven by "guns and butter"; i.e., fiscal deficits and the increase to the money supply, both partially driven by the Vietnam War, led to increased inflation, which went over 10%. The deficits today are even larger and occurring in boom times — not as the result of a recession — and they have been supported by quantitative easing, which was never done before the great financial crisis. Quantitative easing is a form of increasing the money supply (though it has many offsets). I remain more concerned about quantitative easing than most, and its reversal, which has never been done before at this scale.

Equity values, by most measures, are at the high end of the valuation range, and credit spreads are extremely tight. These markets seem to be pricing in at a 70% to 80% chance of a soft landing — modest growth along with declining inflation and interest rates. I believe the odds are a lot lower than that. In the meantime, there seems to be an enormous focus, too much so, on monthly inflation data and modest changes to interest rates. But the die may be cast — interest rates looking out a year or two may be predetermined by all of the factors I mentioned above. Small changes in interest rates today may have less impact on inflation in the future than many people believe.

Therefore, we are prepared for a very broad range of interest rates, from 2% to 8% or even more, with equally wide-ranging economic outcomes — from strong economic growth with moderate inflation (in this case, higher interest rates would result from higher demand for capital) to a recession with inflation; i.e., stagflation. Economically, the worst-case scenario would be stagflation, which would not only come with higher interest rates but also with higher credit losses, lower business volumes and more difficult markets. Under these many different scenarios, our company would continue to perform at least okay. Importantly, being prepared means we can continue to help our clients no matter what the future portends.

The mini banking crisis of 2023 is over, but beware of higher rates and recession — not just for banks but for the whole economy.

When we purchased First Republic in May 2023 following the failure of two other regional banks, Silicon Valley Bank (SVB) and Signature Bank, we thought that the ***current*** banking crisis was over. Only these three banks were offsides in having the toxic combination of extreme interest rate exposure, large unrealized losses in the held-to-maturity (HTM) portfolio and highly concentrated deposits. Most of the other regional banks did not have these problems. However, we stipulated that the crisis was over ***provided*** that interest rates didn't go up dramatically and we didn't experience a serious recession. If long-end rates go up over 6% and this increase is accompanied by a recession, there will be plenty of stress — not just in the banking system but with leveraged companies and others. Remember, a simple 2 percentage point increase in rates essentially reduced the value of most financial assets by 20%, and certain real estate assets, specifically office real estate, may be worth even less due to the effects of recession and higher vacancies. Also remember that credit spreads tend to widen, sometimes dramatically, in a recession.

Finally, we should also consider that rates have been extremely low for a long time — it's hard to know how many investors and companies are truly prepared for a higher rate environment.

We seek to be engaged globally and carefully manage complex countries and geopolitical issues.

JPMorgan Chase does business in more than 100 countries, and we have people on the ground in over 60 countries. In almost all those locations, we do research on their economy, their markets and their companies; we bank their government institutions and their companies; and we bank multinational corporations, including the U.S. multinational corporations within their borders. This is a critical role — not only in helping those countries grow and improve but also in expanding the global economy.

Many of these countries are quite complex with different laws, customs and regulations. We are occasionally asked why we bank certain companies and even certain countries, particularly when countries have some laws and customs that are counter to many of the values held in the United States. Here's why:

- **The U.S. government sets foreign policy.** And when it does, we salute. Wherever we do business, we follow the law of the United States, as it applies in that country (in addition to the laws of the country itself), in all respects. Think of trade rules, sanctions, anti-money laundering and the Foreign Corrupt Practices Act, among others. By and large, these things help improve those countries. In most cases, the U.S. government does not want us to leave because it agrees, generally, that the engagement of American business enhances our relationships with other countries and helps those countries themselves.

- **Engagement makes the world a better place.** We all should want the world to continue to improve. Isolation and lack of engagement do not accomplish that goal. While we believe that it makes sense for the United States to push for constant improvement around the world — from advocating for human rights to fighting corruption — this is rarely accomplished through coercion, and, in fact, is enhanced by engagement.
- **We need to be prepared for emerging challenges and position ourselves to understand them.** We created a new role — Head of Asia Pacific Policy and Strategic Competitiveness — to focus specifically on key policy issues critical to the firm's (and, in fact, the country's) competitiveness, such as trade restrictions, supply chains and infrastructure. We also created a new strategic security forum to focus on emerging and evolving risks, including trade wars, pandemics, cybersecurity and actual wars, to name just a few.

OUR EXTENSIVE COMMUNITY OUTREACH EFFORTS, INCLUDING DIVERSITY, EQUITY AND INCLUSION

JPMorgan Chase makes an extraordinary effort as part of our "normal" day-to-day outreach to engage with individual clients, small and midsized businesses, large and multinational firms, government officials, regulators and the press in cities all around the world. This dialogue is part of the normal course of business but it is also part of building trust and putting down roots in a community.

We believe that companies, and banks in particular, must earn the trust of the communities and countries in which they operate. We believe — and we are unashamed about this — that it is our obligation to help lift up the communities and countries in which we do business. We believe that doing so enhances business and the general economic well-being of those communities and countries and also enhances long-term shareholder value. JPMorgan Chase thrives when communities thrive.

This approach is integral to what we do, in great scale, around the world — and it works. We are quite clear that whether our efforts are inspired by the goodness of our hearts (as philanthropy or venture-type investing) or good business, we try to measure the ***actual outcomes***.

It's also interesting to point out that many of our efforts were spawned from our work around Advancing Black Pathways, Military and Veterans Affairs, and our work in Detroit. While we've banked Detroit for more than 90 years, our $200 million investment in its economic recovery over the last decade demonstrated that investing in communities is a smart business strategy. We are one of the largest banks in Detroit, from consumer banking to investment banking, and it's quite clear that not only did our efforts help Detroit, but they also helped us gain market share. The extent of Detroit's remarkable recovery was recently highlighted when Moody's upgraded the city's credit rating to investment grade — an extraordinary achievement just over 10 years after the city filed the largest municipal bankruptcy in U.S. history.

For JPMorgan Chase, Detroit was an incubator for developing models that help us hone how we deploy our business resources, philanthropic capital, skilled volunteerism, and low-cost loans and equity investments, as well as how we identify top talent to drive successful business and societal improvements. I hope that, as shareholders, you are proud of our focus on promoting opportunity for all, both within and outside our organization, which includes economic opportunity. Some of our initiatives are listed below.

- **Business Resource Groups.** To deepen our culture of inclusion in the workplace, we have 10 Business Resource Groups (BRG) across the company to connect more than 160,000 participating employees around common interests, as well as to foster networking and camaraderie. Groups welcome anyone — allies and those with shared affinities alike. For example, some of our largest BRGs are Access Ability (employees with disabilities and caregivers), Adelante (Hispanic and Latino employees), BOLD (Black employees), NextGen (early career professionals), PRIDE (LGBTQ+ employees) and Women on the Move.

- **Women on the Move.** At JPMorgan Chase, they sure are! Women represent 28% of our firm's senior leadership globally. In fact, our major lines of business – CCB, AWM and CIB, which would be among Fortune 1000 companies on their own – are all run by women (one with a co-head who is male). More than 10 years ago, a handful of senior women at the company, on their own, started this global, firmwide, internally focused organization called Women on the Move. It was so successful that we expanded the initiative beyond the company; it now empowers clients and consumers, as well as women employees and their allies, to build their careers, grow their businesses and improve their financial health. The Women on the Move BRG has more than 70,000 employees globally.

- **Advancing Black Pathways.** This comprehensive program, which just reached the five-year mark, focuses on strengthening the economic foundation of Black communities because we know that opportunity is not always created equally. The program does so by, among other accomplishments, helping to diversify our talent pipeline, providing opportunities for Black individuals to enter the workforce and gain valuable experience, and investing in the financial success of Black Americans through a focus on financial health, homeownership and entrepreneurship. An important part of the program's work is achieved through our investment in **Historically Black Colleges and Universities** (HBCU). We now partner with 18 schools across the United States to boost recruitment connections, expand career pathways for Black students and other students, and support their long-term development and financial health. As a measure of the program's success, in four years we have made nearly 400 hires into summer and full-time analyst and associate roles at the firm.

- **Military and Veterans Affairs.** This firmwide effort sponsors recruitment, mentorship and development programs to support the military members and veterans working at JPMorgan Chase. Back in 2011, we joined with 10 other companies to launch the Veteran Jobs Mission (VJM), whose membership has since grown to more than 300 companies representing various industries across the United States and has hired over 900,000 veterans and military spouses. In 2023, VJM announced the creation of its Advisory Board, which is composed of 14 corporate leaders, to provide strategic direction and oversight of VJM as it continues to expand its commitment to support economic opportunities for veterans and military spouses, including its goal to hire 2 million veterans and 200,000 military spouses by 2030. JPMorgan Chase alone has hired in excess of **18,000 veterans** since 2011 and currently employs more than **3,100 military spouses**.

- **Creating opportunity for people with disabilities.** The firm's Office of Disability Inclusion continues to lead strategy and initiatives aimed at advancing economic opportunity for people with disabilities. In 2023, we joined lawmakers and business leaders in Washington, D.C., to show support for passage of the Supplemental Security Income (SSI) Savings Penalty Elimination Act. Modernizing the SSI program, by updating asset limits for the first time in nearly 40 years, would allow millions of people with disabilities who receive SSI benefits the opportunity to build their savings without putting their essential benefits at risk. We also provided business coaching to more than 370 entrepreneurs with disabilities.

- **Virtual call centers**. When we sought to expand our customer service specialists program across the United States, we turned to Detroit, launching our first virtual call center in 2022. Investments in Detroit's workforce development infrastructure helped us hire 90 virtual customer service specialists for a program that has outperformed many of our traditional call centers around the world. Following this success, we expanded our hiring efforts and this virtual program to Baltimore to create new jobs that jump-start careers. And now we're evaluating the possibility of expanding even further.

- **Entrepreneurs of Color Fund.** A critical challenge we have seen in so many communities is that traditional lending standards render too many entrepreneurs — particularly entrepreneurs of color and those serving these communities — ineligible for credit. In response, we helped launch the Entrepreneurs of Color Fund (EOCF) in Detroit, a lending program designed to help aspiring small business owners gain access to critical resources needed for growth that are often not equitably available — capital, technical assistance and mentorship, among others. These challenges aren't unique to Detroit so we worked with community development financial institutions to replicate the EOCF program in 10 markets across the United States in 2023, deploying more than 2,900 loans and $176 million in capital to underserved entrepreneurs across the country.

- **Senior business consultants.** To help entrepreneurs and small businesses make the transition from community lending to accessing capital from traditional financial institutions, we created a new job — senior business consultant — to provide support. Senior business consultants in branches that focus on underserved communities offer coaching and help business owners with everything from navigating access to credit to managing cash flow to generating effective marketing. Since 2020, these consultants have mentored more than 5,500 business owners, helping them improve their operations, grow revenue and network with others in the local business community.

- ***Advancing*Cities.** The organizing principles that define the business and community investments we make and how we best achieve an overall impact in local economies were heavily influenced by our experience in Detroit. Seeing Detroit's comeback begin to take shape several years ago, we created *Advancing*Cities to replicate this model for large-scale investments to other cities around the world. From San Francisco to Paris to Greater Washington, D.C., we've applied what we learned in Detroit to communities where conditions are opportune for success and require deeper investments — where community, civic and business leaders have come together to solve problems and get results.

- **JPMorgan Chase Service Corps.** Ten years ago, we launched the JPMorgan Chase Service Corps to strengthen the capacity-building of nonprofit partners. We brought employees from around the world to Detroit to assist with its recovery — from creating a scoring model for a nonprofit to helping prioritize neighborhoods for development funding to devising an implementation plan for an integrated talent management system. Since that time, the Service Corps has expanded, with more than 1,500 JPMorgan Chase employees contributing 100,000 hours to support over 300 nonprofits globally.

- **Community Centers/Branches and Community Managers.** A local bank branch, especially in a low-income neighborhood, can be successful only when it fits the community's needs. That is why over the last several years we have shifted our approach to how we offer access to financial health education, as well as low-cost products and services to help build wealth. Since 2019, we have opened 16 Community Center branches, often in areas with larger Black, Hispanic or Latino populations, and have plans to open three more by the end of 2024. These branches have more space to host grassroots community events, small business mentoring sessions and financial health seminars, which have been well-attended — to date, over 400,000 people have taken advantage of the financial education seminars. In each of these Community Center branches, we hired a Community Manager (who acts as a local ambassador) to build relationships with community leaders, nonprofits and small businesses. The Community Manager concept and practice have become so successful that we have also placed these managers in many of our traditional branches in underserved communities. We now have 149 Community Managers throughout our branch network.

- **Work skills development.** Detroit showed us how talent in communities is often overlooked. We saw this in the early days of our investment when we visited our partners at Focus: HOPE, a training program designed to help Detroiters develop skills for high-demand jobs. Quickly, it became clear that the training and education system in Detroit was disconnected from

employers and their talent needs. By investing in programs like Focus: HOPE, we have been able to help bridge local skills gaps by training people for in-demand jobs in communities like Dallas, Miami and Washington, D.C. Between 2019 and 2023, we supported more than 2 million people through our extensive learning and career programming around the world.

- **Increasing our rural investment.** We are proud to be the only bank with branches in all 48 contiguous states, which include many rural communities. Nearly 17 million consumers living in rural areas hold over $100 billion in deposits with us and $175 billion in loans. We are also a leading wholesale lender in these communities, helping to fuel local economies through relationships with local companies, governments, hospitals and universities. Since 2019, we have made material progress in extending our footprint to reach more rural Americans, including expanding our branch network into 13 new states with large rural populations. Now we are raising the bar. With our new strategy, we have a goal to have a branch available to serve 50% of a state's population within an acceptable driving distance, including in heavily rural states such as Alabama and Iowa. This focus is part of our recently announced plan to build an additional 500 branches and hire 3,500 employees over the next three years. Through this expansion, we will partner across lines of business and our Corporate Responsibility organization to help advance inclusive economic growth and bring the full force of the firm to America's heartland.

We've nearly completed our five-year, $30 billion Racial Equity Commitment — it will now become a permanent part of our business.

What began in 2020 as a five-year, $30 billion commitment is now transforming into a consistent business practice for our lines of business in support of Black, Hispanic, Latino and other underserved communities. By the end of 2023, we reported over $30 billion in progress toward our original goal. However, our focus is not on how much money is deployed — but on long-term impact and outcomes. And going forward, these programs will be embedded in our business-as-usual operating system.

- **Affordable rental housing.** Through our Affordable Housing Preservation program, we approved program funding to date of approximately $21 billion in loans to incentivize the preservation of over 190,000 affordable housing rental units across the United States. Additionally, we financed approximately $5 billion for the construction and rehabilitation of affordable rental housing.

- **Homeownership**. In 2023, we expanded our $5,000 Chase Homebuyer Grant program to include over 15,000 majority Black, Hispanic and Latino communities — and in January 2024, we increased our grant amount to $7,500 in select markets. Since our grant program began in 2021, we have provided about 8,600 grants totaling $43 million. We also have provided home purchase and refinance loans in 2023 worth over $4.6 billion for more than 14,000 Black, Hispanic and Latino households across the economic spectrum.

- **Small business**. The Business Card Special Purpose Credit Program, launched in January 2023, has provided over 10,900 cards, totaling over $43 million in available credit lines to underserved entrepreneurs and communities across the United States.

- **Supplier diversity**. In 2023, our firm spent approximately $2.3 billion directly with diverse suppliers — an increase of 10% over 2022. As a part of our racial equity commitment, over $450 million was spent in 2023 with more than 190 Black-, Hispanic- and Latino-owned businesses.
- **Minority depository institutions and community development financial institutions**. To date, we have invested more than $110 million in equity in diverse financial institutions and provided over $260 million in incremental financing to community development financial institutions to support communities that lack access to traditional financing. JPMorgan Chase also helped these institutions build their capacity so they can provide a greater number of critical services like mortgages and small business loans.

We're thoughtfully continuing our diversity, equity and inclusion efforts.

Of course, JPMorgan Chase will conform as the laws evolve. We will scour our programs, our words and our actions to make sure they comply.

That said, we think all the efforts mentioned above will remain largely unchanged. And, in fact, around the world, cities and communities where we do business applaud these efforts. We also believe our initiatives make us a more inclusive company and lead to more innovation, smarter decisions and better financial results for us and for the economy overall.

We are often asked in particular about "equity" and what that word means. To us, it means equal treatment, equal opportunity and equal access … not equal outcomes. There is nothing wrong with acknowledging and trying to bridge social and economic gaps, whether they be around wealth or health. We would like to provide a fair chance for everyone to succeed — regardless of their background. And we want to make sure everyone who works at our company feels welcome.

We want to articulate how we weigh in on social issues and what it means for our customers.

Before I comment about culture issues, I have a confession to make: I am a full-throated, red-blooded, patriotic, free-enterprise (properly regulated, of course) and free-market capitalist. Our company is frequently asked to take a position on an issue, rule or legislation that might be considered "cultural." When that happens, we take a deep breath and study the matter. Many of the laws in question have many specific requirements, some of which you would agree with but not others. But we are being asked to support the entire law. In cases like these, we simply make our own statement that reflects our educated view and values; however, we do not give our voice to others.

We believe in the values of democracy, including freedom of speech and expression, and are staunchly against discrimination and hate. We have not turned away — and will not turn away — customers because of their political or religious affiliations nor would we tell customers how they should spend their money.

Our commitment to these ideals is also reflected in our employees. The talent at our firm is a vibrant mix of cultures, beliefs and backgrounds. We are, of course, fully committed to freedom of speech. There are things that you can say that would be permitted under freedom of speech but would not be allowed under our Code of Conduct. For example, we do not allow intimidation, threats or highly prejudicial behavior or speech. Our Code of Conduct clearly stipulates that certain statements and behavior, while allowed under freedom of speech, can lead to disciplinary action at our company — from being reprimanded to being fired.

WHAT WE LEARNED: A FIVE-POINT ACTION PLAN TO MOVE FORWARD ON THE CLIMATE CHALLENGE

In May 2023, we gathered with knowledgeable and influential people from the energy industry writ large to the government and financial services arena in Scottsdale, Arizona, for an action forum. The goal was to explore various aspects of the climate challenge and try to devise effective solutions that could help lead to meaningful progress. The climate challenge is immense and complex. Addressing it requires more than making simplistic statements and rules; rather, energy systems and global supply chains need to be transformed across virtually all industries. And there is also a deep need for new research and development. Energy systems and supply chains provide the foundation of the global economy and must be treated with care.

At the same time, the opportunity here is immense. The investment required to meet climate goals — estimated at over $5 trillion annually — could generate economywide growth and opportunity at a scale the world has not seen since the Industrial Revolution.

The task for industry, policymakers and finance is to help formulate solutions that support the transition to a low-carbon economy, balancing affordable, reliable access to energy with generating economic growth.

To find a way forward, we sought input from diverse stakeholders in pursuit of a North Star. In Scottsdale and in discussions with clients across industries about what's needed to achieve a low-carbon economy, these five action steps and reforms were top of mind:

- **Supportive government policy and leadership to advance the transition.** Policy that promotes favorable economic conditions to make the transition viable is a critical first step for clients. This includes government leadership via mandates, incentives or subsidies to support jobs and investment in the transition; actions on permitting and interconnection reform; and regulatory clarity and certainty, especially around long-term investments. As one vital example, current grid infrastructure is insufficient to accommodate the growth in renewables.
- **Public/private partnerships in scaling bankable projects.** Scaling investments needs to happen both for commercially proven technologies (e.g., wind and solar) and for emerging technologies (e.g., green hydrogen, sustainable aviation fuel and carbon capture). Developing "bankable" clean energy projects will require the application of smart financial tools, as well as further policy support. It will take public/private partnerships and innovation to create catalytic forms of capital that can step into these gaps, absorb first-mover risks and provide the necessary funding. The cost of capital is too high for some companies — and public funds ought to be deployed in a smart way that effectively attracts private capital.
- **Public education and engagement.** Without question, clients told us that public commitment to and investment in energy-related infrastructure is one of the most important parts of combating the climate crisis and running their businesses. Supporting the buildout of energy-related infrastructure with speed and scale is critical. Public acceptance of building and advancing the infrastructure needed to meet climate goals is at the heart of progress. While the energy transition is poised to deliver benefits to communities across the world, securing acceptance and support to build clean energy infrastructure at scale is challenging. Access to job-creating renewable energy projects can help rural communities thrive by advancing local economies. Ensuring public support and social license to operate requires better engagement strategies, including widespread stakeholder education about the benefits of these technologies for local communities.
- **Communication about concrete successes.** Across industries, market participants need to do a better job of celebrating and championing concrete successes and tangible milestones. This includes highlighting success stories around emerging technologies and the complex nature of the carbon transition. Stakeholders also should better convey the benefits of clean energy — across all technologies — to help combat misinformation and foster a more informed dialogue.

- **Work skills training.** Businesses depend on healthy, thriving communities so the carbon transition needs to work for everyone. This includes helping to ensure that workers are trained in the skills for the future, such as through improved engineering schools and job training programs. Work across the entire supply chain is essential to moving at pace. As one example, the U.S. Bureau of Labor Statistics estimates we will need more than 70,000 additional electricians per year through 2031; it is currently unclear how the market will meet that demand. If the deployment of heat pumps and electric vehicle chargers accelerates, demand for electricians will be even higher. A concerted focus to train electricians can help the United States meet some of its climate goals while providing well-paying jobs that do not require a four-year college degree. Also, broadly speaking, businesses are in a better position to make investments with confidence when labor requirements across the value chain — from design and manufacturing to installation — are satisfied.

We recently reconsidered certain memberships.

JPMorgan Chase recently exited Climate Action 100+ and the Equator Principles. "Why?" we are asked. While we don't necessarily disagree with some of the principles many organizations have, we make our own business decisions. We think we have some of the best-in-class environmental, social and risk standards because we have invested in our own in-house experts and matured our own risk management processes over the years. As a result, we are going to go our own way and make our own independent decisions, gathering the best learnings of experts in the field, and, of course, we will follow all legal requirements.

We are engaged but recognize our role: three more important points.

First, everyone should understand that conquering the climate problem needs proper government action, particularly around taxes, permitting, grids, infrastructure building and proper coordination of policies — we are not there yet. Second, there is no known technology that can fill the gap between our "aspirations" and the current trajectory of the world. We hope and believe that this will be found (for example, through carbon capture, improved batteries, hydrogen or other measures). This new technology will also require proper government research and development funding, as the effort cannot be accomplished by private enterprise alone. And third, we are going to use the word "commitment" much more reservedly in the future, clearly differentiating between ***aspirations*** we are actively striving toward and ***binding commitments***.

For JPMorgan Chase to play the right role in tackling the climate challenge, we have organized a special group around the green economy and related infrastructure investment. This group will coordinate and inform our work across all established industry groups (from auto to real estate, energy, agriculture and others) and includes hundreds of employees devoted to these efforts.

POWERING ECONOMIC GROWTH IN FLORIDA

From Tallahassee to Miami and from Tampa to Palm Bay, JPMorgan Chase has been committed to Florida for more than 130 years and has enjoyed being the bank for all communities. Each year, we contribute billions of dollars to the economy, hire and train local residents, help to revitalize neighborhoods and remove barriers to opportunity for Floridians across the state. Our partnerships with businesses, nonprofits, government entities and community organizations have enabled us to drive sustainable impact and help them achieve their goals. We couldn't be more proud to help make opportunity happen in Florida.

This year, we forged a relationship with Inter Miami CF, one of the most recognizable sports teams in the world. Through this partnership and the newly named Chase Stadium, we're continuing to contribute to South Florida and its local communities. In Tampa, home to nearly 6,000 of our employees, we're triggering an additional $210 million in economic activity and creating over 660 local construction jobs through the renovation of our Highland Oaks campus and downtown Tampa office. We're proud that one-third of all Floridians do business with us through deposits, credit cards or a mortgage. Through each of our investments across the state, we're ensuring that residents have the resources and tools they need to thrive.

Our support to government, higher education, healthcare and nonprofit organizations:

- We serve over 150 government, higher education, healthcare and nonprofit clients throughout the state, and over the last five years, we have provided more than $20.2 billion in credit and capital to them.
- Our clients range from the city of Jacksonville to the Orlando Utilities Commission, the University of South Florida, Broward Health and the District School Board of Pasco County – a decades-long client.
- We are the lead treasury bank for the Wounded Warrior Project, one of the largest veteran service organizations in the United States. Headquartered in Jacksonville, the organization caters to wounded veterans and service members who served in the military on or after 9/11.

Our support to investment and middle-market banking clients:

- Over the last five years, we have provided in excess of $318 billion in credit and capital to local clients, such as utility, technology and tourism companies.
- We have more than 12,500 large and midsized clients across the state.

Our support to local financial firms:

- Over the last five years, we have provided more than $24 billion in credit and capital for financial institutions, such as local banks, insurance companies, asset managers and securities firms.
- We bank over 50 of Florida's regional, midsized and community banks, helping them play an essential role in maintaining the state's economy and serve local communities.

Our support to small business:

- At the end of 2023, balances for loans extended to Florida's small businesses totaled more than $1.2 billion — funds being used to help those businesses scale and grow, contribute to the economy and create local jobs.
- Across the state, we have over 654,000 small business customers.
- In 2023, our bankers and senior business consultants spent more than 375,000 hours advising and supporting Florida business owners.

Our support to consumer banking needs:

- We operate 1,445 ATMs and 410 branches across the state.
- In 2023, we supported more than 6.1 million customers with mortgages, auto loans and savings, checking and credit card accounts, giving JPMorgan Chase one of the largest consumer banking market shares in the state.
- We managed more than $70 billion in investment and annuity assets for local clients.

Our business and community investments:

- Over the last five years, we have committed nearly $65 million in philanthropic support, including:
  - $3 million to The Miami Foundation's Resilient 305: Building Prosperity Collaborative to increase access to quality jobs and develop small businesses through training, investments and capacity-building.
  - $1.6 million to the Community Justice Project, which empowers community-based legal advocates to help delay displacement and improve conditions for housing stability for renters across nine Florida counties.
- In 2022, we committed $10 million over five years to Tech Equity Miami to advance equal access to tech skills, careers and education, including:
  - A $1 million investment to Florida Memorial University, South Florida's only HBCU, to help traditionally underresourced students pursue a career in technology.

Our support as a local employer:

- We employ more than 14,000 residents throughout the state, including nearly 1,900 veterans and over 660 people with a criminal background who deserve a second chance.
- In Florida, the average salary of our employees is more than $87,000 (plus a starting comprehensive annual benefits package worth nearly $17,600) compared with the statewide per capita income of nearly $40,300.

GIVING THE BANK REGULATORY AND SUPERVISORY PROCESS A SERIOUS REVIEW

The Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank) was finished 14 years ago, and we believe it accomplished a lot of good things. But it's been quite a while since then, and we're still debating some very basic issues. It's time to take a serious, hard, honest look at what has been done and what can be improved.

It's good to remember that the United States has the best financial system in the world, with diversified, deep and experienced institutions, from banks, pension plans, hedge funds and private equity to individual investors. It has healthy public and private markets, transparency, rule of law and deep research. The best banking system in the world is a critical part of this, and, integrated with the overall financial system, is foundational to the proper allocation of capital, innovation and the fueling of America's growth engine.

This is not about JPMorgan Chase — we believe we can manage through whatever is thrown our way. This is about the impact on all parts of the system — from smaller banks to larger regional banks that may not have the resources to handle all of these regulatory requirements. It's also about the effect on the financial markets and the economy from the rapidly growing shadow banking system, as well as the ultimate impact on the customers, clients and communities we serve. This is about what's right for the system.

The banking and financial system is innovative, dynamic and constantly changing.

The banking system is not static: There are startup banks, mergers, successful upstarts and fintech banks, and even Apple, which effectively acts as a bank — it holds money, moves money, lends money and so on. Nonbanks are competing with traditional banks, and, in general, this dynamism and churn are good for innovation and invention — with success and failure simply part of the robust process. Innovation runs across payments systems, budgeting, digital access, product extensions, risk and fraud prevention, and other services. Different institutions play different roles, and, importantly, small banks and big banks serve completely different strategic functions. Large banks bank multinational corporations around the world, make healthy markets, and wield technology and a product set that are the best in the world. A small bank simply cannot bank these same multinational governments and safely move the amount of money and securities that large banks do. Regional and community banks have exceptional local knowledge and presence and are critical in serving thousands of towns and certain geographies.

It is also important to recognize that the banking system as we know it is shrinking relative to private markets and fintech, which are growing and becoming increasingly competitive. And remember that many of these new players do not have the same transparency or need to abide by the extensive rules and regulations as traditional banks, even if they offer similar products — this often gives them significant advantage.

To deal with this fluid environment, banks of all sizes develop their own strategies, whether to specialize, expand geographically or embark on mergers and acquisitions. There are certain banking services where economies of scale are a competitive advantage, but not all banks need to become bigger to gain this benefit (there are many highly successful banks that are smaller). What is clear is that banks should be allowed to pursue their individual strategies, including mergers and acquisitions, as they see fit. Overall, this process should be allowed to happen — it's part of the natural and healthy course of capitalism — and it can be done without harming the American taxpayer or economy.

While we all want a strong banking and financial system, we should step back and assess how all the regulatory steps we have taken measure up against the goals we all share. Since Dodd-Frank was signed into law in 2010, thousands of rules and reporting requirements written by 10+ different regulatory bodies in the United States alone have been added. And it would probably be an understatement to say that some are duplicative, inconsistent, procyclical, contradictory, extremely costly, and unnecessarily painful for both banks and regulators. Many of the rules have unintended consequences that are not desirable and have negative impacts, such as increasing the cost of credit for consumers (hurting lower-income Americans the most).

The whole process, including the Basel III endgame, could be much more productive, streamlined, economical, efficient and safe.

Both regulators and banks should want the same thing — a healthy banking system, serving its clients and striving for continuous improvement. We all should also want the enormous benefits that would come from good collaboration between regulators and bank management teams and boards.

Over time, these relationships have deteriorated, and, again, are increasingly less constructive. There is little real collaboration between practitioners — the banks — and regulators, who generally have not been practitioners in business. While we acknowledge the dedication of regulators who work with banks on a daily basis, management teams across the industry are putting in a disproportionate amount of time addressing requests for extra details, documentation and processes that extend far beyond the actual rules — and distract both regulators and management from more critical work. We should be more focused on the truly important risks for the safety of the system. And unfortunately, without collaboration and sufficient analysis, it is hard to be confident that regulation will accomplish desired outcomes without undesirable consequences. Instead of constantly improving the system, we may be making it worse. A few additional points:

- **The Basel III endgame disadvantages American banks.** The Basel III endgame has been 10 years in the making, and it still has not been completed. In my view, many of the rules are flawed and poorly calibrated. If the Basel III endgame were implemented in its current form, it would hamper American banks: As proposed, it would increase our firm's required capital by 25%, making our requirement 30% higher than it would be under the equivalent European Union proposal. That means for every loan and asset financed in the United States by a major American bank, that bank would have to hold 30% more capital than any international competitor. The proposed regulations would also damage market making (see the following section). There are many other flaws but suffice it to say that much of the work being done today to analyze the effects should have been done ***before*** the proposed rulemaking.

  One of the single most important lessons from the great financial crisis is that there is enormous value to having a bank that is well-managed and has diverse revenue sources. Yet regulation since then both punishes consolidation and diversification — *and* punishes performance — through many features of the GSIB surcharge.

- **Built over many years, the framework is now full of duplication.** The following is only a partial list: American gold-plating and conceptual inconsistencies among Comprehensive Capital Analysis and Review (CCAR), recovery and resolution plans, liquidity requirements, global systemically important bank (GSIB) requirements, and safety and soundness principles. The many overlapping rules contribute to the bureaucracy that generates an extraordinary amount of make-work (an 80,000-page CCAR and shockingly another, coincidentally, 80,000-page recovery and resolution plan).

- **The new rules do virtually nothing to fix what caused the failure of SVB and First Republic.** For example, they don't improve certain liquidity requirements, limit HTM accounting or reduce allowable interest rate exposure.

- **The current regulatory approach to liquidity might simply run counter to the stated intent.** Regulations should recognize the value and importance of lending and borrowing against good collateral and using central bank resources, such as the discount window. Adhering to current liquidity requirements permanently ties up good liquidity in a way that makes the system more fragile and more risky.

- **It is not clear what the full intent of the Basel III endgame was — it will have unintended consequences.** Without real analysis of expected outcomes, additional regulation will likely reduce the number of banks offering certain services and increase costs for all market participants and activity, including loans, market making and hedging (by farmers, airlines and countries, among others). And new rules might even increase consolidation as companies race to achieve economies of scale in certain products and services.

Unfortunately, some recent regulations are ending up in court. You can imagine that no one wants to sue their regulators. Banks would not sue if they did not think they were right — or if they thought they had any other recourse — which they effectively do not. This is definitely not what anyone should want. A more constructive relationship with regulators would reduce confusion and uncertainty and would lead to better outcomes for banks, their shareholders, and their clients, customers and communities.

Collaboration between banks and regulators could improve the use of resources and create better outcomes.

True collaboration could dramatically improve the banking system. For example:

- **Redirect enormous resources from things that don't matter to things that do.** As mentioned, it takes 80,000 pages to describe a CCAR test and 80,000 pages to detail recovery and resolution. The talent and resources at the banks and regulators could be better used elsewhere. Such overload is distracting and takes your eye off the ball on real, emerging risks, including China, trade, payment systems and cybersecurity, among others.
- **Reduce bureaucratic processes that provoke a tendency to herd mentality.** For example, CCAR is just a point-in-time stress test, and it can lull you into a false sense of security — for reference, we do more than 100 stress tests each week. On interest rate exposure, focusing on the documentation of details may stop you from thinking about big interest rate exposure. Sometimes analyzing "what ifs" and fat tail risks is better than excessive and rigid models and documentations.
- **Examine risks outside the regulatory system that are rarely analyzed and largely unaddressed.** These risks include data and privacy, as well as consumer banking and payment systems, which are growing fast in the unregulated market. In addition, there are potential risks from private credit markets (which I talk about later in the next section).
- **Let's imagine what's possible with real collaboration.** Working together, we can improve how the FDIC manages failing institutions, how to limit contagion and restore confidence to depositors, how liquidity requirements can create more flexible funding for banks under stress, how the banking and Federal Reserve's payment system can become more interoperable, how clearinghouse risk can be reduced, how stress tests can protect the system from a wider variety of outcomes, how costs and therefore consumer costs can be reduced (not increased), how anti-money laundering requirements can be simplified and improved at the same time, and how financial products can be brought to the unbanked.

  We can fix the housing and mortgage markets. For example, mortgage regulations around origination, servicing and securitization could be simplified, without increasing risk, in a way that would reduce the average mortgage by 70 or 80 basis points. The Urban Institute estimates that a reduction like this would increase mortgage originations by 1 million per year and help lower-income households, in particular, buy their first home, thereby starting them on the best way to build household net worth.

  There are many more things that can be improved — and we really should start working on them.

We need a detailed review and probably a complete revamp.

I know this might be wishful thinking, but now would be a good time to step back and have a thorough and candid review of the thousands of new rules passed since Dodd-Frank. After this review, we should ask what is it that we really want: Do we want to try to eliminate the possibility of bank runs? Do we want to change and create liquidity rules that would essentially back most uninsured deposits? Do we want the mortgage business and leveraged lending business to be inside or outside the banking system? Do we want products that are inside and outside the banking system to be regulated the same way? Do we want to reasonably give smaller banks a leg up in purchasing a failing bank? And while Dodd-Frank did some good things, shouldn't we take a look at the huge overlapping jurisdictions of various regulators? This overlap creates difficulties, not only for banks, but for the regulators, too. Any and all of this is achievable, and, I believe, could be accomplished with simpler rules and guidelines and without stifling our critical banking system.

PROTECTING THE ESSENTIAL ROLE OF MARKET MAKING (TRADING)

Before we discuss market making and financial markets, readers should understand that market making occurs in almost all businesses. There are healthy markets in farm animals, foreign products, commodities, energy, logistics, healthcare and so on. Healthy markets increase customer choice and reduce cost. They almost always involve holding inventory and taking some risk, which is simply a part of the process. America's financial markets are the biggest in the world — U.S. public debt and equity markets total $137 trillion, constituting the biggest "market" in the world, and are larger than America's gross domestic product (GDP) of $27 trillion.

Market participants are not "Wall Street." They are large and small, mainly sophisticated, global investors (pension plans, mutual funds, governments and individuals) representing retirees, veterans, individuals, unions, federal workers and others. They all benefit from our efficient, low-cost and transparent markets.

Some regulators seem to think that market making is a speculative, hedge fund-like activity — and this thinking is what might be leading them to constantly increase capital requirements. The proposed capital rules could fundamentally alter market-making activities that are critical to a thriving economy, particularly in difficult markets when market making is even *more important*. The new rules would raise capital requirements by 50% for major banks — which could undermine market stability, make banking services costlier and less accessible, and push even more activity to a less regulated banking system.

Our financial system and markets are the best in the world and benefit ALL participants; exceptionally good market making in the secondary market makes our primary markets the best in the world.

We should recognize that the United States has the biggest, deepest and most liquid capital markets in the world. For these markets to function, it is critical for transparency and liquidity to be in the **secondary market**. Market making provides this, promoting the flow of capital to real economy investments and supporting all sectors of the economy, including companies, state and local governments, universities, hospitals, pension plans and overall job creation. Without market making in the secondary market, it would be extremely difficult for companies to raise capital through the ***primary*** market — equity and debt offerings — which have totaled approximately $3.6 trillion on average over the past few years. The incredible strength of these markets enables companies ***of all sizes*** to grow and expand especially during times of volatility and stress. It also enables consumers to access cheaper credit and governments (local, state and federal) to reduce their borrowing costs.

It takes enormous resources to properly support the Markets business.

JPMorgan Chase spends $700 million per year in extensive research coverage of nearly 5,200 companies across 83 countries. This massive effort continuously educates investors and decision makers around the world and often leads to improved governance and management. It also critically complements the firm's market-making activities and further promotes transparency, enabling investors to make thoughtful choices around investing in capital markets.

I would also like our shareholders to know that our market making is backed by approximately $7 billion in support expenses, including over $2 billion in technology spend alone each year. This investment allows us to maintain global trading systems and constantly improve upon risk management and efficiency.

JPMorgan Chase deploys approximately $70 billion in capital to maintain our Markets franchise. This capital supports $500 billion in securities inventory (largely hedged) — and this inventory allows us to buy and sell $2 trillion (notional) in securities ***daily*** for our clients.

Market making entails risk but is not particularly speculative.

The main objective of market makers is to continuously quote prices and diligently manage an inventory to transact at those prices, which includes assuming certain risks to support heavy volumes and orderly trading. Market makers have a moral obligation to try to make markets in good times

and in bad. Part of our brand promise is to stand ready as the willing buyer and seller. In this, we have never failed. In addition, in most cases regarding government debt, where we serve as a government securities dealer, we are legally obligated to make markets. This constant visibility into prices provided by market makers fosters investor confidence, keeps fees low and promotes economic growth by attracting more investors.

Many large market participants — for example, hedge funds and high-frequency traders, among others — have no obligation to make markets. In fact, many of these market participants often "step out" of the markets and dramatically reduce liquidity specifically when market conditions are difficult.

Market making is not particularly speculative since market makers generally hedge their positions, as you will see from some real life examples of the economics and risks. We earn revenue of approximately $100 million on a typical day. In the average year, the total is nearly $30 billion. On our $2 trillion in notional daily trading, this amounts to only one hundredth of a cent charged to the investor for these services — an extraordinarily low cost compared with any other market in the world.

Now let's take a look at the ***actual*** risk and results versus the ***hypothetical*** risk and results. The ***hypothetical*** global market shock of the CCAR stress test has us losing $18 billion in a single day and never recovering any of it. Let's compare that to ***actual*** losses under real, actual market stress.

Now consider these historical data points: First, over the last 10 years, the firm's market-making business has ***never had a quarterly loss*** and has lost money on ***only*** 30 trading days. These loss days represent only 1% of total trading days, and the average loss on those days was $90 million. Second, when markets completely collapsed during the COVID-19 pandemic (from March 2 through March 31, 2020, the stock market fell 16%, and bond spreads gapped out dramatically), J.P. Morgan's market-making activities made money every day prior to the Federal Reserve's major interventions, which stabilized the markets. During that entire month, we lost money on only two days but made $2.5 billion in Markets revenue for the month. And third, in the ***worst quarter ever*** in the markets following the 2008 failure of Lehman Brothers, we lost $1.7 billion, but we made $5.6 billion in Markets revenue for the full year. The firm as a whole did not lose money in any quarter that year. In 2009, there was a complete recovery in Markets, and we made $22 billion in Markets revenue.

You can see that our actual performance under extreme stress isn't even close to the hypothetical losses of the stress test.

Another major fallacy is that derivatives are objects of financial destruction. In reality, derivatives are an essential part of managing financial risk and are used by investors, corporations, farmers, businesses, countries, governments and others to manage their risks. And more than 85% of derivatives are fairly basic forms of foreign exchange or interest rate swaps.

One last fallacy is that the repo markets are all about speculation. While it's true that repo is used by certain investors to leverage up their positions, about 75% of repo is essential to normal money market functioning, i.e., is done by broker-dealers financing their actual inventory positions, money market funds investing their cash backed by highly rated collateral and clients hedging their positions.

Market makers add confidence, liquidity and transparency to U.S. capital markets — market making helps stabilize markets and can reduce volatility.

In addition, more liquidity, not less liquidity, will be needed to maintain market stability. Large banks keep an inventory of securities they can deploy in times of stress to help soothe markets; however, with the implementation of new regulations, banks now hold 70% as much inventory in securities as they did before the 2008 financial crisis, while the total size of the market has almost tripled. Higher capital requirements will accelerate this trend even further, impacting banks' ability to deliver support to clients and markets in times when it is needed the most.

Washington's Basel III endgame proposal damages market making, hurts Americans and drives activity to less transparent, less regulated markets.

If this proposal is enacted as drafted:

- **Everyday consumer goods could be impacted.** Households contending with inflation could also feel the effects of higher capital requirements on market-making activities when they shop. From beverage companies that need to manage aluminum costs to farms that need to protect against environmental risks, if the cost of hedging those risks increases, it could be reflected in what consumers pay for everything from a can of soda to meat products.
- **Mortgages and small business loans will be more expensive**. Consumers seeking a mortgage – including first-time homebuyers and historically underserved, low- to moderate-income borrowers with smaller down payments – will face higher interest rates or will have a tougher time accessing one. This will occur not only because the cost of originating and holding these loans is higher but also because the cost of securitizing them will rise for banks, non-banks and government agencies. Not only that, but the proposal will likely lead to reductions in the size of unfunded credit card lines, which will put pressure on FICO scores and thereby make it more difficult for some people to access other forms of retail credit such as mortgages. Again, this will have the greatest impact on low- to moderate-income borrowers who rely most heavily on credit cards for day-to-day spending and to build their credit history. It could even be argued that existing regulations go too far and that there is an opportunity to help underserved communities by dialing down regulations that lead to higher borrowing costs. This should be studied and the pros and cons analyzed. The same can be said for small business loans, which will become more expensive and less accessible.
- **Saving for retirement or college will be harder.** The cost of products that families count on to save for retirement or college will go up as a result of this proposal. Asset managers, money market funds and pension funds all buy, sell and safekeep securities and other financial instruments for American investors. Under the proposed rules, the cost of banking products used on behalf of clients each day – including brokerage, advisory, clearing and custody services – will go up and feed through to customers. That will lead to lower returns on retirement accounts, college funds and other long-term savings.
- **Government infrastructure projects and corporate development will become more expensive**. Federal, state and local governments, as well as corporations and other institutions, rely on large banks for access to U.S. capital markets to fund development. If accessing capital markets becomes more expensive, it will have a ripple effect on the hiring of American workers, investment in research and development, and funding to build hospitals, roads and bridges, including the planned infrastructure projects from the Inflation Reduction Act (IRA).

More market activity will move to unregulated institutions, out of sight from regulators and without the same level of consumer protections that Americans expect from their banks. Other market participants that don't have holistic client relationships are less likely to provide liquidity to help stabilize markets.

In volatile times, banks have been able to intermediate to help their clients and to work with the regulators. With new regulations, they may be less able to do so. There have been several times in the past few years where banks had ample liquidity and capital but were unable to rapidly increase their intermediation in the markets due to very rigid liquidity and capital requirements. Finally, the proposed rules increase the chance that the Federal Reserve will have to step in again – and this is not something they should want to do on a regular basis but only in an extreme emergency.

Staying Competitive in the Shrinking Public Markets

In previous letters, I have described the diminishing role of public companies in the American financial system. From their peak in 1996 at 7,300, U.S. public companies now total 4,300 — the total should have grown dramatically, not shrunk. Meanwhile, the number of private U.S. companies backed by private equity firms — which does not include the rising number of companies owned by sovereign wealth funds and family offices — has grown from 1,900 to 11,200 over the last two decades. This trend is serious and may very well increase with more regulation and litigation coming. Along with a frank assessment of the regulation landscape, we really need to consider: Is this the outcome we want?

There are good reasons for private markets, and some good outcomes result from them. For example, companies can stay private longer if they wish and raise more and different types of capital without going to the public markets. However, taking a wider view, I fear we may be driving companies from the public markets. The reasons are complex and may include factors such as intensified reporting requirements (including investors' growing needs for environmental, social and governance information), higher litigation expenses, costly regulations, cookie-cutter board governance, shareholder activism, less compensation flexibility, less capital flexibility, heightened public scrutiny and the relentless pressure of quarterly earnings.

Along with the universal proxy — which makes it easier to put poorly qualified directors on a board — the pressures to retreat from the public market are mounting. In addition, corporate governance principles are becoming more and more templated and formulaic, a negative trend. For example, proxy advisors may automatically judge directors unfavorably if they have a long tenure on the board, without a fair assessment of their actual contributions or experience. Another example is the constant battle by some proxy advisors who try to split the chairman and CEO role when there is no evidence this makes a company better off — in fact, today, lead directors generally hold most of the authorities previously assigned to the chairman. The governance of major corporations is evolving away from guidance by governance principles that focus on a company's relationship to long-term economic value toward a bureaucratic compliance exercise. Good corporate governance is critical, and a little common sense would go a long way.

THE PRESSURE OF QUARTERLY EARNINGS COMPOUNDED BY BAD ACCOUNTING AND BAD DECISIONS

There is something very positive about detailed and disciplined quarterly financial and operating reporting. But company CEOs and boards of directors should resist the undue pressure of quarterly earnings, and it is clearly somewhat their fault when they don't. However, it is naïve to think that the pressure doesn't exist because companies that "disappoint" can face extensive criticism, particularly those with a new or young CEO. It's possible for companies to take short-term actions to increase earnings, such as selling more product cheaply at the end of a quarter, cutting certain investments that may be terrific but can show accounting losses in the first year or two, or just deploying more aggressive accounting methods at times. Once shortcuts like this begin, people all over the company understand that it is okay to "stretch" to meet your numbers. This could put you on a treadmill to ruin. Obviously, a company should not resort to these tactics, but it does happen in the public markets — and it's probably less likely in the private markets.

THE HIJACKING OF ANNUAL SHAREHOLDER MEETINGS

One of the reasons it is less desirable to be a public company is because of the spiraling frivolousness of the annual shareholder meeting, which has devolved into mostly a showcase of grandstanding and competing special interest groups. We should

treat shareholders with tremendous respect — and we do. At JPMorgan Chase, we are constantly talking with our investors — our directors, our lead director and our corporate governance experts visit most of our major investors whether they be direct owners or asset managers who manage the money for others. Meeting with your shareholders and investors is critical, but the annual shareholder meeting itself has become ineffective. We should try to come up with a far more constructive alternative.

THE UNDUE INFLUENCE OF PROXY ADVISORS

There are essentially two main proxy advisors in the United States. One is called Institutional Shareholder Services (ISS), and the second is called Glass Lewis. These proxy advisors started out providing reams of data from companies to help their institutional investor clients vote on proxy matters (information on executive compensation, stock returns, detail on directors, policies and so on). However, they soon also began to provide advice on how shareholders should vote on proxy matters. And, in fact, institutional investors generally execute their voting on an ISS or Glass Lewis platform, which often includes a clear statement of the advisory service's position.

I should also point out, because it may be relevant, that ISS is owned by Deutsche Boerse, a German company, and Glass Lewis is owned by Peloton Capital, a Canadian private equity firm. I question whether American corporate governance should be determined by for-profit international institutions that may have their own strong feelings about what constitutes good corporate governance.

While asset managers and institutional investors have a fiduciary responsibility to make their own decisions, it is increasingly clear that proxy advisors have undue influence.

Asset managers (who manage money on behalf of others) and institutional investors (e.g., pension plans and endowments) may rely on a variety of information sources to support their valuation decision-making process. While data and recommendations may form pieces of the information mosaic, their votes should ultimately be based on an independent application of their own voting guidelines and policies. To the extent they use recommendations from proxy advisors in their decision-making processes, they should disclose that they do so and should be satisfied that the information upon which they are relying is accurate and relevant. However, many companies would argue that this information is frequently not balanced, not representative of the full view and not accurate. In addition, companies complain that they often cannot get the data corrected, and, therefore, a vote may go uncorrected.

Almost all asset managers receive proxy advisor data and recommendations; while some asset managers vote completely independently of this information, the majority do not. Most asset managers have formed corporate governance or stewardship committees that are responsible for their voting, and these committee positions are often held not by portfolio managers and research analysts (i.e., the people buying and analyzing the individual securities) but by stewardship experts. While it is good to have stewardship experts, the reality is that many of these committees default large portions of what they do to proxy advisors and, more troubling, make it harder for actual portfolio managers to override this decision making.

Some have argued that it's too hard and too expensive to review the large number of proxies and proxy proposals — this is both lazy and wrong. If issues are important to a company, they should be important to the shareholder — for the most part, only a handful of proposals are important to companies.

We are making enhancements to J.P. Morgan Asset Management's proxy voting processes to amplify the role of portfolio managers and to address the perception of asset managers' reliance on third-party advisor voting recommendations.

Enhancements to the firm's internal proxy voting process will include:

- **More portfolio manager participation in proxy committee decision making.** The firm has significantly expanded the representation of portfolio managers on its North American Proxy Committee in an effort to increase the diversity of viewpoints represented on the committee. As part of this change, and in recognition that portfolio managers, as fiduciaries, may differ in their views on how to vote on particular proposals depending on a mandate's investment strategy and guidelines, we are broadening our capabilities to support voting results that may vary across our platform.
- **Diminished role of proxy advisor recommendations.** J.P. Morgan Asset Management makes its own independent proxy voting decisions (based on deep fundamental research) and stands behind the depth and rigor of its processes and historical information advantage. In most cases, the firm will only use proxy advisory firms for research, data and technical mechanics of vote transmission and not for outsourced recommendations. By the end of 2024, J.P. Morgan Asset Management generally will have eliminated third-party proxy advisor voting recommendations from its internally developed voting systems. Additionally, the firm will work with third-party proxy voting advisors to remove their voting recommendations from research reports they provide to J.P. Morgan Asset Management by the 2025 proxy season.
- **Other enhancements**. We are working to give a company and its management even greater access to the ultimate decision makers; to raise critical issues to a company as early as possible in a constructive and proactive way; and to be willing to tell companies how we have voted once our decision is made rather than waiting until votes are finally counted.

Taken together, these steps are designed to respond to a growing perception (and, I believe, reality) that the asset management industry generally places undue reliance on proxy advisors in how proxies are voted. We believe these actions will strengthen our relationships with our clients and with companies while helping to build trust among shareholders, investors and companies.

THE BENEFITS AND RISKS OF PRIVATE CREDIT

I have already mentioned some of the benefits of private credit, and I'll now mention some more. Many people in the private credit arena are very smart and creative and want to help the companies they invest in navigate through market shoals. They can move quickly, discreetly and flexibly. Most generally understand that bad accounting drives bad decisions, and their goal is to make the right decisions for the future of the company.

On the other hand, not all players are that good. And problems in the private credit market caused by the bad players can leak onto the good ones, even though private credit money is locked up for years. If investors feel mistreated, they will cry foul, and the government will respond by putting a laser focus on the business. It's a reasonable assumption that at some point regulations will focus on the private markets as they do on the public markets.

This scrutiny will include a look at how private credit values its assets, which isn't as transparent as public market valuations. In addition, private market loans commonly lack liquidity in the secondary market and are not generally supported by in-depth market research.

New financial products that grow extremely rapidly often become an area of unexpected risk in the markets. Frequently, the weaknesses of new products, in this case private credit loans, may only be seen and exposed in bad markets, which private credit loans have not yet faced. When credit spreads gap out, when interest rates go up and when some leveraged companies suffer in the recession, we will find out how those loans survive ***stress testing***. In addition, they can create a little bit of a "***credit crunch***" for borrowers since it might be hard for private creditors to roll over loans under those conditions. Under stress conditions, private creditors would have to charge exorbitant prices that companies simply cannot afford in order to book the new loan at par. Banks are in a slightly different position.

A BANK'S STRENGTH: PROVIDING FLEXIBLE CAPITAL

Banks generally try to be there for their borrowers in difficult times – striving to roll over loans, renegotiate terms and raise additional capital. Banks do this for multiple reasons: They normally feel an obligation to help their clients, they have long-term relationships and they can commonly earn other sources of revenue from client-driven transactions. Banks can also flex their capital and lending base as needed by their clients. This is because a bank can and should make decisions to help companies through good times and bad, seeking to retain them as long-term clients across many areas of the bank. They can and do take "losses" that help the client maintain the franchise. But an asset manager must act as a "fiduciary" of other people's money and cannot lend based on a moral obligation or potential future relationship.

Recently, we have been witnessing a convergence between the public and private markets. But it's too soon to say how this ultimately will play out, particularly if we go through a recessionary cycle.

Size of the Financial Sector/Industry

($ in trillions)

			2007	2010	2023
Banks in the financial system	Global GDP[1]		$ 61.7	$ 65.0	$ 92.4
	Total U.S. debt and equity market		$ 54.2	$ 55.9	$ 137.2
	Total U.S. broker-dealer inventories		$ 6.2	$ 4.1	$ 4.9
	U.S. GSIB market capitalization		$ 0.9	$ 0.8	$ 1.4
	U.S. bank loans		$ 6.5	$ 6.6	$ 12.4
	U.S. bank liquid assets[2]		$ 1.4	$ 2.8	$ 7.6
	Federal Reserve total assets		$ 0.9	$ 2.4	$ 7.7
	Federal Reserve RRP volume		-	$ <0.1	$ 1.0
Shadow banks	Hedge fund and private equity AUM[3]		$ 3.1	$ 2.8	$ 9.7
	Top 50 sovereign wealth fund AUM[4]		$ 2.7	$ 4.1	$ 12.0
	Loans held by nonbanks[5]		$ 15.8	$ 14.3	$ 23.2
	U.S. money market funds[6]		$ 3.1	$ 3.0	$ 6.4
	U.S. private equity-backed companies (K)[7]	1996	4.9	6.0	11.3
	U.S. publicly listed companies (K)[8]	7.3	4.6	4.2	4.3
	Nonbank share of mortgage originations[9]		12%	9%	69%
	Nonbank share of leveraged lending[10]		44%	54%	70%
	Global private credit AUM[10]		$ 0.2	$ 0.3	$ 1.6

Sources: FactSet, S&P Global Market Intelligence, Assets and Liabilities of Commercial Banks in the United States H.8 data, Financial Accounts of the United States Z.1 data, World Federation of Exchanges, Pitchbook, Preqin and World Bank.

AUM = Assets under management
GDP = Gross domestic product
GSIB = Global systemically important banks
RRP = Reverse repurchase agreements
K = Thousands

For footnoted information, refer to page 61 in this Annual Report.

Management Lessons: Thinking, Deciding and Taking Action – Deliberately and with Heart

I always enjoy sharing what I've learned from watching others, reading and experiencing through my own journey.

BENEFITING FROM THE OODA LOOP

The military, which often operates in extreme intensity of life and death and in the fog and uncertainty of war, uses the term "OODA loop" (Observe, Orient, Decide, Act – repeat), a strategic process of constant review, analysis, decision making and action. One cannot overemphasize the importance of observation and a full assessment – the failure to do so leads to some of the greatest mistakes, not only in war but also in business and government.

A full assessment is critical.

To properly manage any business situation, you need to perform a full and complete assessment of it. In business, you have to understand your competitors, their distribution, their economics, their innovations, and their strengths and weaknesses. You also need to understand customers and their changing preferences, along with your own costs, your people and their skills. Then there's knowing how other factors fit in, like technology, risk, motivations … hope you get the point. For countries, you need a thorough grasp of their economies, strengths and weaknesses, population and education, access to raw materials, laws and regulations, history and culture. Research, data and analytics should be at a very detailed level and constantly reassessed. Only after you complete this diligent study can you start to make plans with a high degree of success.

Get on the road – it builds knowledge and culture.

I have frequently wondered about all the nonstop road trips, client meetings, briefings, greetings, bus trips, and visits to call centers, operating centers and branches, regulators and government officials, among others: Did they make a difference? The answer is absolutely yes because they enabled a process of constant learning, assessment and modification of best practices – gaining insights from employees to clients to competitors. Employees will tell you what you are doing well or poorly if you simply ask them, and they know you want to hear the real answer. Curiosity is a form of humility – acknowledging that you don't know everything. Responding to curiosity allows other people to speak freely. Facts and details matter and inform a deeper and deeper analysis that allows you to continually revise and update your plans. This, of course, also means that you are constantly admitting prior mistakes.

You need to shed sacred cows, seek out blind spots and challenge the status quo.

Very often companies or individuals develop narratives based upon beliefs that are very hard to dislodge but are often wrong – and they can lead to terrible mistakes. A few examples will suffice. Stripe, Inc. built a payments business by working with developers – something we never would have imagined but might have figured out if we had tried to seek out what others were doing in this area. Branches were being closed, both at Bank One and Chase, because the assumption was that they would not be needed in the future. We underinvested for years in the wealth management business because we were always focused on the value of deposits versus investments. Question everything.

Use your brains to figure out the truth — not to justify what you already think.

It's often hard to change your own attitudes and beliefs, especially those you may have held on to for some time. But you must be open to it. When you learn something that is different from what you thought, it may affect many conclusions you have, not just one. Try not to allow yourself to become rigid or "weaponized," where other employees or interest groups jazz you up so much that you become a weapon on their behalf. This makes it much harder to see things clearly for yourself. When people disagree with you, seek out where they may be partially right. This opens the door for a deeper understanding and avoids binary thinking.

It's hard to see certain long-term trends, but you must try.

There is too much emphasis on short-term, monthly data and too little on long-term trends and on what might happen in the future that would influence long-term outcomes. For example, today there is tremendous interest in monthly inflation data, although it seems to me that every long-term trend I see increases inflation relative to the last 20 years. Huge fiscal spending, the trillions needed each year for the green economy, the remilitarization of the world and the restructuring of global trade — all are inflationary. I'm not sure models could pick this up. And you must use judgment if you want to evaluate impacts like these.

Also, a block of time as short as one year is an artificial framework for judging the impact of long-term trends that could easily play out over years. A helpful exercise is to think "future back," in which you imagine different future outcomes, including the ones you want, and then work backward to events that are happening today (or that might happen or that you cause to happen), closely examining the connections between those events and your projected or desired outcomes. Those connections inform your risk and R&D planning. Similarly, when companies compare the attributes of their products and services with their competitors, they usually only consider where they are versus their competitors. But nothing is static — they should consider where their competitors will be in the future. Conditions are always changing, crises are always emerging. When analyzing the playing field, it is better to assume that your competitors are strong and are already in the process of improving and innovating. This minimizes the chance of arrogance leading to complacency.

DECISION MAKING AND ACTING (HAVE A PROCESS)

There is a time for an individual to decide and act.

Sometimes you should take the time to measure twice and cut once. And then sometimes making a quick decision is better than delaying. You should try to distinguish between the two. For example, with decisions that are hard to reverse, it's usually better to go slow. With other decisions where you can test, learn, probe and change direction, it's often better to go fast. It's been my experience that it's hard for some people to actually decide and act. This could be from analysis paralysis, lack of "perfect" information, fear of failure or the feeling that full consensus is needed before a decision can be reached. But whatever it is, it can slow down and possibly seriously damage a company.

To get people to think like decision makers and take a strong point of view, we like to ask, "What would you do if you were king or queen for a day?" It helps shift the direction to individual decision making. We also ask questions like, "What would

you wish for if you knew X was going to happen?" (for example, higher interest rates). Decision making takes a mix of courage, grit and guts.

One exercise that I find useful (and sometimes painful) is to draw up a list of important decisions that need to be made – the ones I often avoid confronting. So I take time every Sunday to think about these tough issues and almost always make progress. Progress doesn't always mean that you come to the final conclusion – sometimes it's just a very rational next step that can put you on a path to the final decision.

Try to have a good decision-making process.

Try to give yourself the time to decide. Make sure you speak with the right people and make sure the right people are in the room. Information should be fully shared. People should be made very comfortable with open debate. Quite often, the "right" answer is simply waiting to be found – you don't have to guess.

Crowdsourcing, compromise, consensus and committees have benefits and risks.

There are huge benefits to crowdsourcing intelligence. It is a form of full assessment, a strategy for getting the best ideas and challenging the status quo. We should do this for almost every major decision. It is perfectly fine on some occasions to compromise and gain consensus, particularly on decisions that are not critical and can easily be reversed. Often people spend too much time debating issues that are simply not that important; it's better to decide and move on. Also, before you compromise, you should know exactly what you want to achieve and the consequences of any tradeoffs. However, sometimes compromise and consensus cannot work and only lead to a feel-good decision that is probably wrong – this could be the road to ruin.

The use of committees can be good when done properly. For example, if our risk committees could do a full assessment and crowdsource all potential risks, that would lead to better decision making. I will give one very personal and painful example, which is when we had a major trading scandal, called The London Whale. The scandal was not caused by the complexity of the trade but rather the failure to go to the proper Risk committee for a thorough review, which should have happened but didn't. I have no doubt that had the trade been raised there, the flaws would have been exposed immediately, thereby dramatically reducing or eliminating the problem. On the other hand, the opposite can happen when a committee, with everyone staring at each other, devolves into herd-like behavior with people looking for confirmation and ending up with a compromise that is a poor choice.

Good leadership involves great observation and the ability to act, but there is more …

THE SECRET SAUCE OF LEADERSHIP (HAVE A HEART)

You need to earn trust and respect with your employees.

You can be great at assessment, you can be brilliant and you may often be willing to act. But all of that is not good enough for "complete" leadership. To become a true leader, you need to be trusted and you must earn your respect, every day. People have to know that you do not have ulterior motives and that you're trying to do the right thing – not trying to burnish your personal reputation. Good people want to work for people they respect, and they will not respect people who take all the credit and share all the blame. People need to know that even when you make mistakes, you're willing to admit them and take corrective action. And there is more …

The importance of vision, communication and inspiration.

The reason I've always hesitated to talk about "vision" is because often it is the basic BS of corporate speak — that somehow if you impart your vision to people, they will take the mountain. What it really is all about is this: After you've done your full assessment and decision making, you can then continuously educate, explain, train, simplify, propel and fight. But this only works if people know you are in the trenches with them, if they understand the mission and if they are there side by side with your effort.

We know that bureaucracy can lead to politics, corporate stasis and terrible decisions. So you can communicate your vision about how to fight bureaucracy by telling stories about the silly things we do — but with a smile — and then by showing people that you will actually fix the problems.

Finally, your vision needs to be clear, coherent and consistent. Within an organization, people very quickly pick up the pattern of management saying one thing but doing another. Because if words and actions are inconsistent (for example, and I could give many, when we say we want employees to be treated with respect, but we allow a jerk to be their boss), confidence in leadership will be eroded.

Heart cannot be overstated.

Heart matters. And it makes a difference when people know and see that you actually care. One example: Many years ago when I was new to JPMorgan Chase, I learned that the company's security guards had been outsourced — to save money. Since after outsourcing, when the same guards continued coming to work every day at the same salary, I wondered, "How could this be?" (FYI, this was brought to my attention by the head of the Service Employees International Union, who came to see me over the objection of my management team.) The reason we were saving money is because the healthcare benefits were cut in half for the guards and their family members (currently worth approximately $15,000 a year), and the savings were split with us. This was a heartless thing to do — and the second I found out, I reversed the decision. JPMorgan Chase's success will not be built off the backs of our guards — it will be the result of fair treatment of all of our employees — and we're thankful that many of those guards are still with our company today.

You know heart and soul when you see it in effect on sports teams or with "the boys in the boat" — it's a beautiful thing to watch. It's not as obvious, but it happens in business, too.

It's essential to build trust with your customers, constituencies and, yes, even competitors.

Of course, I'm not bringing this up as a matter of corporate governance or a corporation's purpose: A business should, over the long run, try to maximize shareholder value. It is completely obvious that running a decent business —treating everyone ethically and earning trust and respect in all your communities — is not only fundamental to shareholder value but also to a healthy society.

A Pivotal Moment for America and the Free Western World: Strategy and Policy Matter

In past years, I have written extensively about public policy issues. It is important to engage in these conversations, particularly around domestic economic policy because ***policy matters***. While JPMorgan Chase can execute specific plans to improve outcomes for customers and communities, there is no replacement for effective government policies that add to the general well-being of the country. A stronger and more prosperous country will make us a stronger company.

As CEO of this company, every year I visit numerous countries around the globe. I meet with foreign government leaders, presidents and prime ministers, business leaders, and civic and academic experts, which allows me to learn a significant amount about how public policy is executed around the world. It also reinforces some of the critical values and virtues that are essential to a healthy country.

Every time I see the American flag, it reminds me of the values and virtues of this country and its founding principles conceived in liberty and dedicated to the notion that all men and women are created equal. Talk with someone who has recently become a naturalized citizen or watch a ceremony where groups of people take the oath to America, and you will see extraordinary joy and newfound pride. They now live free, with individual rights protected by the Constitution and with their life and the well-being of their family and community protected by the U.S. military. As Americans, we have much to be grateful for and much to defend.

If you read the newspaper from virtually any day of any year since World War II, there is abundant coverage on wars – hot and cold – inflation, recession, polarized politics, terrorist attacks, migration and starvation. As appalling as these events have been, the world was generally on a path to becoming stronger and safer. When terrible events happen, we tend to overestimate the effect they will have on the global economy. Recent events, however, may very well be creating risks that could eclipse anything since World War II – we should not take them lightly.

February 24, 2022 is another day in history that will live in infamy. On that day, 190,000 Russian soldiers invaded a free and democratic European country – importantly, somewhat protected by the threat of nuclear blackmail. Russia's invasion of Ukraine and the subsequent abhorrent attack on Israel and ongoing violence in the Middle East should have punctured many assumptions about the direction of future safety and security, bringing us to this pivotal time in history. America and the free Western world can no longer maintain a false sense of security based on the illusion that dictatorships and oppressive nations won't use their economic and military powers to advance their aims – particularly against what they perceive as weak, incompetent and disorganized Western democracies. In a troubled world, we are reminded that national security is and always will be paramount, even if its importance seems to recede in tranquil times.

The fallout from these events should also lay to rest the idea that America can stand alone. Of course, U.S. leaders must always put America first, but global peace and order are ***vital*** to American interests. Only America has the full capability to lead and coalesce the Western world, though we must do so respectfully and in partnership with our allies. Without cohesiveness and unity with our allies, autocratic forces will divide and conquer the bickering democracies. America needs to lead with its strengths – not only its

military but also its economic, diplomatic and moral forces. And now we must do so as America's leadership is being challenged around the world. There is nothing more important.

Policy and strategy matter, and it's important to be engaged.

In our increasingly complex world, there is a vital interrelationship between domestic and foreign economic policy, particularly around trade, investment, national security and other issues. And, of course, while American voters and leadership set U.S. foreign policy, being a constructive part of the global conversation has become more important than ever.

If you doubt how important public policy is for the health of a country, you need to look no further than the recent history of Greece, Ireland or Singapore. Each of these countries, starting from deeply challenging places, implemented effective government and policies that have done a great job of lifting up their people when many thought it wasn't possible. Sweden is another great example of a country with good broad-based policies that have succeeded at precisely what we all may want – a dynamic, innovative, free-market economy (Sweden actually has fewer government-owned enterprises than America) and safety nets that work. Conversely, you need to look no further than North Korea or Venezuela to see the complete destruction and havoc that terrible public policies (often in the name of the people) can cultivate.

Strategy by its nature must be comprehensive. In the rest of this section, I try to answer the question: What must we do to ensure that the world stays safe, not only for America but for freedom and democracy? A comprehensive strategy entails four important pillars, and we must succeed at each:

1. Maintain American leadership (including military).
2. Achieve long-term economic success with our allies.
3. Strengthen our nation domestically.
4. Deepen focus and resolve on addressing our most pressing challenges.

COALESCING THE WESTERN WORLD – A UNIQUELY AMERICAN TASK

Only America has the full capabilities of military might, economic power and the principles that most people around the world yearn for – based on "liberty and justice for all" and the proposition that all people are created equal. America remains the bastion of freedom and the arsenal of democracy.

There is no alternative to American leadership.

In the free and democratic Western world, and, in fact, for many other countries, there is no real or good alternative to America. The only other potential superpower is China. Other nations know they can rely on the founding principles of America. If we reach out our hand, most nations will happily take that hand. America is still the most prosperous nation on the planet, which not only can guarantee our military strength but also positions us to help our allies develop and grow their nations (though we should minimize the "our way or the highway" type of behavior). This leadership is needed today to help Ukraine stay free in its battle with Russia.

Most of the world wants American leadership.

America continues to be the envy of much of the world, and as we've seen with the challenges at our borders, there is a reason people want to come here and not to autocratic nations. If you opened America's borders to the rest of the world, I have little doubt that hundreds of millions of people would want to move here. By contrast, not many would want to emigrate to autocratic nations. Also, I have little doubt that if most investors across the globe could only invest in one country, they would choose the United States. Beyond our country's borders, people and nations around the world understand the role that America has played in promoting world peace – known as ***Pax Americana***. For the most part, Pax Americana has kept the world relatively peaceful since World War II and helped lead to enormous global economic prosperity, which has helped lift 1.3 billion people out of poverty.

Modern America does not engage in economic coercion or foreign wars to steal land or treasure. The fact that some of our foreign excursions might have been misguided does not negate this. We helped rebuild Europe and Japan after the devastation of World War II, and we, with our allies, have helped create global institutions to maintain peace. We are still trusted.

First and foremost, the Western world needs unquestioned military might — peace through strength.

"We know only too well that war comes not when the forces of freedom are strong, but when they are weak," said Ronald Reagan in 1980.

So far, the Western world has done a good job in strengthening military alliances in response to the war in Ukraine. Ukraine is essentially the front line that needs immediate support. Providing that support is the best way to counter autocratic forces that would seek to weaken the Western world, particularly America. But the ongoing wars in Ukraine and the Middle East could become far worse and spread in unpredictable ways. Most important, the specter of nuclear weapons — probably still the greatest threat to mankind — hovers as the ultimate decider, which should strike deep fear in all our hearts. The best protection starts with an unyielding resolve to do whatever we need to do to maintain the strongest military on the planet — a commitment that is well within our economic capability.

American leadership requires not only the military but also the full "symphony of power."

Former Secretary of Defense Robert Gates, in his book *Exercise of Power*, writes extensively in the first chapter about "the symphony of power." He makes the critical point that America has often overused and misused military power and has massively underused other muscles — diplomacy, intelligence, communication (explaining to the world the benefits of democracy and free enterprise) and comprehensive economic policy.

America has the most extensive group of partners, friends and allies — both military and economic — that the world has probably ever seen. We should put this to better use.

The American public ought to hear more about why this is so important.

International isolationism has run through American foreign policy throughout our history, frequently with good reason. The chant, "Don't get involved in foreign wars" was often right. That said, the American public should remember that even after the Revolutionary War, we did, in fact, have British and French armies on our soil. The sinking of American merchant and passenger ships during World War I and the surprise attack on Pearl Harbor in World War II brought isolationism to a close for a time. America is never far from being dragged into terrible conflicts. Global wars come to our shores whether we like it or not — we need to stay engaged.

In perilous periods of history when our allies and other democracies were under serious assault, great American leaders have inspired the American people — through words and actions — to stand up to help and defend them. Staying on the sidelines during battles of autocracy and democracy, between dictatorship and freedom, is simply not an option for America today. Ukraine is the front line of democracy. If the war goes badly for Ukraine, you may see the splintering of Pax Americana, which would be a disaster for the ***whole free world***. Ukraine's struggle is our struggle, and ensuring their victory is ensuring ***America first***. It is imperative that our national leaders explain to the American people what is at stake and make a powerful case - with energy, consistency and clarity - for our strong enduring commitment to Ukraine's survival for as long as it takes (and it could take years).

One last point: Ukraine needs our help immediately, but it's important to understand that much of the money that America is directing to Ukraine is for purchasing weapons and equipment, most of which will be built in America. Not only is our aid helping Ukraine, but it is going directly to American manufacturers, and it is helping the country rebuild our military industrial capacity for the next generation.

STRENGTHENING OUR POSITION WITH A COMPREHENSIVE, GLOBAL ECONOMIC SECURITY STRATEGY

Sustaining America's economic strength is a bedrock for our long-term military strength. There are many things we need to do to strengthen the U.S. economy, and I talk about that later in this section. This discussion is about foreign economic policies – ***the economic battlefield***.

The whole Western world is rethinking and reimagining its military strategies and alliances. We need to do the same for our economic strategies and alliances, but we should be guided by a comprehensive global strategy that deals with critical issues. Done properly, such a strategy would help strengthen, coalesce and possibly be the glue that holds together Western democratic alliances over decades.

Foreign economic policy involves trade and investment, export controls, secure and resilient supply chains, and the execution of sanctions and any related industrial policies. It must also include development finance – think of the "Belt and Road" efforts in China – which are critical to most developing nations. This framework should tell us not only how to deal with our allies but also how to work with nonaligned nations around the world. These strategies should not be aimed against any one country (such as China) but rather be focused on keeping the world safe for democracy and free enterprise.

Economic national security is paramount – both for the United States and for our allies.

It is a valid point that the Western world – both government and business – essentially underestimated the growing strength and potential threat of China. It's also true that China has been comprehensively and strategically focused on these economic issues, all while we slept. But let's not cry over spilled milk – let's just fix it.

We missed the potential threat from three vantage points. The first is companies' overreliance on China as the sole link in their supply chain, which can create vulnerabilities and reduces resiliency. But to the extent this involves everyday items, like clothes, sneakers, vaccine compounds and consumer goods, this dependency is not as critical or complex and will eventually be sorted out.

The second is the most critical. The United States cannot rely on any potential adversaries for materials essential to our national security – think rare earths, 5G and semiconductors, penicillin and materials critical to essential pharmaceuticals, among others. We also cannot be sharing vital technologies that can enhance an adversary's military capabilities. The United States should properly and narrowly define these issues and then act unilaterally, if necessary, to fix them.

The third is also complex, which is countering unfair competition or "mercantilist" behavior in critical industries; think electric vehicles, renewable energy and AI, among others. Examples of this would be where a state, any state, uses government powers, capital, subsidies or other means to dominate critical industries and deeply damage the economic position of other nations. Weakening a country economically can render it a virtual "vassal state," reliant on potential adversaries for essential goods and services, which also weakens it militarily. We cannot cede our important resources and capabilities to potential adversaries.

All these issues can be resolved, though they will take time and need devoted effort.

Every nation will have different national security issues. For example, Europe in general and countries like India, Japan and Korea need reliable, affordable and secure energy; many nations would put food security as their top concern. This means that we must work with our allies to accomplish our own goals and to help them accomplish theirs. We have extraordinary common interests in our joint security: We must hang together – because if we don't, we will assuredly hang separately.

We already engage in trade – improving it is good economics and great geopolitics.

We must have a better understanding of trade. As a nation, we refuse to get into genuine trade discussions, but this ignores the complete and obvious truth – we already have trade relationships with all these countries. Approximately 92%

of the world's consumers live outside the United States. Increased trade allows our workers and farmers to access those markets. We should negotiate trade agreements that can achieve more, economically, for ourselves and our allies, as well as meet all of our national security needs. While it is appropriate to use trade to continue to nudge allies in the right direction around human rights and climate, this objective should be subordinated to our national interests of long-term security.

Negotiating must be done in concert with our allied nations so as not to cause a fissure in economic relations. This is critical – strong economic bonds will help ensure strong military alliances. The Inflation Reduction Act has much good in it (more on this later), but it angered many of our allies. To them, the bill was by America and for America, and, subsequently, they felt a need to match it so their businesses would not be disadvantaged. The terms of the legislation could have been better negotiated with our allies in mind, strengthening our economic ties with the free world.

We should also immediately re-enter, if possible, the prior negotiated Trans-Pacific Partnership agreement. Not only is it good for the economy, but it also could be a ***brilliant, strategic, economic security move*** – an economic alliance that binds us with 11 other important countries (including Australia, Chile, Japan, Malaysia, Mexico, Singapore and Vietnam). Geopolitically and strategically, this might be one of the most important moves to counter China. While this is a challenging step, our political leaders need to explain and lead – and not be afraid of dealing with the tough issues. We also need to acknowledge that there have been real negative job impacts as a result of trade, which are usually concentrated around certain areas and businesses. So any new trade policy should be combined with a greatly enhanced Trade Adjustment Assistance program, which provides retraining, income assistance and relocation for those workers directly impacted by trade.

Trade is ***realpolitik,*** and the recent cancellation of future liquified natural gas (LNG) projects is a good example of this fact. The projects were delayed mainly for political reasons – to pacify those who believe that gas is bad and that oil and gas projects should simply be stopped. This is not only wrong but also enormously naïve. One of the best ways to reduce CO2 for the next few decades is to use gas to replace coal. When oil and gas prices skyrocketed last winter, nations around the world – wealthy and very climate-conscious nations like France, Germany and the Netherlands, as well as lower-income nations like Indonesia, the Philippines and Vietnam that could not afford the higher cost – started to turn back to their coal plants. This highlights the importance of ***safe, secure and affordable*** energy. Second, the export of LNG is a great economic boon for the United States. But most important is the realpolitik goal: Our allied nations that need secure and affordable energy resources, including critical nations like Japan, Korea and most of our European allies, would like to be able to depend on the United States for energy. This now puts them in a difficult position – they may have to look elsewhere for such supplies, turning to Iran, Qatar, the United Arab Emirates or maybe even Russia. We need to minimize anything that can tear at our economic bonds with our allies.

The strength of our domestic production of energy gives us a "power advantage" – cheaper and more reliable energy, which creates economic and geopolitical advantages.

Industrial policy is now necessary, but it should be carefully constructed and limited.

In some cases, industrial policy (using government resources to subsidize investments to help make businesses more competitive) may be the only solution for quickly building up the industries we need (rare earths and semiconductors, among others) to guarantee resilient national security. The IRA and CHIPS Act are good examples of this and government has to get it right.

Such policy can also be used to help combat unfair competitive policies of nations that are using state capitalism and state control to dominate critical industries. However, when crafting industrial policy, the function of government needs to be narrowly defined and kept simple; i.e., governmental jurisdiction should be limited to very specific products and

probably to what we know works, such as tax credits and, to a lesser extent, loan guarantees. And industrial policy should include twin provisions: 1) strict limitations on political interference, like social policies, and 2) specific permitting requirements, which, if not drastically improved, will badly inhibit our ability to make investments and allow infrastructure to be built. Adding social policy, politics and matters other than simple tax credits dramatically reduces the economic efficiency of industrial policy and creates conditions for corporate America to feed at the trough of government largess. We should quickly address how we can improve on already executed legislation. We do not want to look back and have great regrets about how so much of this policy work failed.

There are those who argue that the U.S. government needs much more far-reaching industrial policy to be able to micromanage and accomplish its many ambitious objectives. To those I say, read further in this section about how ineffective so many government policies have been.

We should be tough, but we should engage with China.

Over the last 20 years, China has been executing a more comprehensive economic strategy than we have. The country's leaders have successfully grown their nation and, depending on how you measure it, have the first or second largest economy in the world. That said, many question the current economic focus of China's leadership as they don't have everything figured out. While China has become the largest trading partner to many countries around the world, its own GDP per person is $13,000. And the country continues to be beset by many economic and domestic issues.

China has its own national security concerns. The country is located in a very politically complex part of the world, and many of China's actions have caused its neighbors (e.g., Japan, Korea, Philippines, among others) to start to re-arm and, in fact, draw closer to the United States. It also surprises many Americans to hear that while our country is 100% energy sufficient, China needs to import 10 million barrels of oil a day. It is clear that China's new leadership has set a different course, with a much more intense focus on national security, military capability and internal development. That is their right, and we simply need to adjust to it.

America still has an enormously strong hand — plenty of food, water and energy; peaceful neighbors; and what remains the most prosperous and dynamic economy the world has ever seen, with a per person GDP of over $80,000 a year. Most important, our nation is blessed with the benefit of true freedom and liberty. See the sidebar on the amazing power of freedom later in this section.

While we may always have a complex relationship with China (made all the more complicated and serious by ongoing wars), the country's vast size and importance to so many other nations requires us to stay engaged — thoughtfully and without fear. At the same time, we need to build and execute our own long-term, comprehensive economic security strategy to keep our position safe and secure. I believe that respectful, strong and consistent engagement would be best for both our countries and the rest of the world.

We need to strengthen and rebuild the international order — we may need a new Bretton Woods.

The international rules-based order established by the Western world after World War II is clearly under attack by outside forces, somewhat weakened by its own failures and inability to keep up with the increasingly complex world. This international order relies on a web of military alliances, trade agreements (e.g., World Trade Organization), development finance (e.g., International Monetary Fund and the World Bank) and related global tax and investment policies and diplomacy organizations (e.g., United Nations), which have evolved into a confusing and overlapping regime of policies. You can now add to it the new issues of cyber warfare, digital trade and privacy, and global taxes, among others.

It might be a good idea to convene a group of like-minded leaders to build and improve upon what already exists. The time may be right for a reimagined Bretton Woods — and by this, I mean revitalizing our global architecture. Since too many parts of the world have been neglected, any new system has to take into account and properly address the needs of all nations, including areas of concentrated poverty.

While we hope the wars in Ukraine and in the Middle East will end eventually (and, we hope, successfully from the standpoint of our allies), these other critical economic battles could possibly continue throughout our lifetime. If the Western world is slowly split apart over the next few decades, it will likely be the result of our failure to effectively address crucial global economic challenges.

PROVIDING STRONG LEADERSHIP GLOBALLY AND EFFECTIVE POLICYMAKING DOMESTICALLY

When you travel around the United States and talk with people of all types and persuasions, there is a rather common refrain; namely, why are we helping foreign nations with the safety of their borders and economies when we are not doing a particularly good job of protecting our own? While there is no moral equivalency in these arguments, they are understandable. It is clear that many Americans feel we need to do a better job ***here*** at home before we can focus over ***there***. We can understand why some people living in this country, who have been neglected for decades, ask how their government can find the money for Ukraine and other parts of the world but not for them. It is a reasonable question.

From my point of view, our highly charged, emotional and political domestic issues are centered around 1) immigration and lack of border security and 2) the fraying of the American dream, particularly for low-income and rural Americans who feel left behind amid the growing wealth and prosperity of others around them. Please read the sidebar on page 57, which I believe explains the legitimate frustration of some of our citizens. And I agree with them.

In the sidebar, I also explain how two policies (a large expansion of the Earned Income Tax Credit and focus on work skills and job outcomes at high schools, community colleges and colleges) would not only dramatically increase both the income and employment opportunities for many of those left behind but would also have the virtue of actually growing the workforce. The combined effect of all of this would be quite a boon to our GDP.

I believe that many affected Americans are not angry at hardworking, law-abiding immigrants and, in fact, acknowledge the critical role immigrants continue to play in building this wonderful country. Rather, they are angry that America has not implemented proper border control and immigration policies. It is astounding that many in Congress know what to do and want to do it but are simply unable to pass legislation because of partisan politics. Congress did come close on a few occasions — and I hope they keep trying.

Deliberate policies meant to drive healthy growth are needed.

For over two decades, since 2000, America has grown at an anemic rate of 2%. We should have strived for and achieved 3% growth. Had we done so, GDP per person today would be $16,000 higher, which would, in turn, have paid for better healthcare, childcare, education and other services. Importantly, the ***best*** way to handle our excess deficit and debt issues is to maximize economic growth.

Growth policies include (the list could be very long so I'll just mention a few):

- **Consistent tax policies, conducive to both employment and capital investment.** Capital investment is the primary driver of innovation, productivity and, therefore, growth in America. Tax policies change too frequently, which causes uncertainty and complicates long-term capital investment decision making (I won't bore you with the details here). A bipartisan committee of Congress is probably required to fix this — and the sooner the better.

- **Well-conceived regulations (and related laws).** This requires an ongoing concerted effort to streamline regulations to cost effectively drive better outcomes for the United States. The last thing we need is a constant pile-on of politically driven, fragmented policies. Please read the sidebar on the next page, an editorial in *The Wall Street Journal* by George McGovern, one of the most liberal presidential nominees in our lifetime, in which he clearly lays out the complexity, risks and costs that businesses, large and small, face every day. While he acknowledges the worthiness of the goals of many regulations, he points out their negatives. He also calls out the "blame-shifting and scapegoating and the endless exposure to frivolous claims and high legal fees." Not only is this state of affairs demoralizing, but it also reduces employment, capital investment and the formation of new businesses, as well as cause unnecessary bankruptcies. Estimates of the regulatory costs for America are approximately $19,000 per worker, dwarfing the regulatory burdens in other countries. We all want sensible regulations that make us a better and safer nation – but this number is astounding. We should be able to accomplish our goals while sharply reducing needless and wasteful expenses. And remember, it's discouraging not only to companies but to all citizens who have to deal with it on a daily basis.
- **Timely permits on projects large and small.** There is virtually no industry – from agriculture and construction to transportation, technology, and oil and gas – or business, large or small, that isn't disadvantaged by the tedious process and the length of time it takes to get approvals for permits to get things done. This includes federal, state and local requirements. These bottlenecks also make investment far more costly and slow. Timely permits would improve infrastructure and save lives, not endanger them.
- **Proper federal government budgeting and fiscal management.** The staggering inability of the government to draft and pass a proper budget causes deep and unnecessary damage to our growth. Some people estimate that the waste alone (due to improper payments, overlapping programs, and fragmented and duplicative contracts, among other things) could cost the nation hundreds of billions of dollars annually. This uncertainty filters through virtually every part of the American economy and should not be accepted.

We can all forgo a little self-interest to do what is right for our country.

Those of us who have benefited the most from this country bear even greater responsibility to do this. It's perfectly understandable that institutions, including businesses, unions and industries, lobby in Washington, D.C., to protect themselves – in good ways and bad – but we should more regularly put national interests ahead of self-interests. It's good to want to ensure well-paying jobs and healthy industries. But it is not good when it reduces competition, stops the deployment of enhanced technology, harms efficiency, creates fake jobs or builds bridges to nowhere or damages the general health of the economy. Doing the right thing, the right way – which is achievable – would be better for everyone. As former President John F. Kennedy said, "Ask not what your country can do for you – ask what you can do for your country."

Celebrate American exceptionalism.

We can safely say that America is an exceptional nation built and grounded on principles – principles of freedom of speech, freedom of religion, free enterprise (capitalism), and the freedom and empowerment brought to us by our democracy through the power to elect our leaders and of our Constitution, which makes these individual freedoms sacrosanct. Much of the world yearns to be here because of those principles – the right to life, liberty and the pursuit of happiness. We should extol those virtues while recognizing that America has never been a perfect nation, like all other nations. We can acknowledge our flaws and strive to constantly correct them, without denigrating our nation.

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Manager's Journal:

A Politician's Dream Is a Businessman's Nightmare

By George McGovern

Wisdom too often never comes, and so one ought not to reject it merely because it comes late.

-- Justice Felix Frankfurter

It's been 11 years since I left the U.S. Senate, after serving 24 years in high public office. After leaving a career in politics, I devoted much of my time to public lectures that took me into every state in the union and much of Europe, Asia, the Middle East and Latin America.

In 1988, I invested most of the earnings from this lecture circuit acquiring the leasehold on Connecticut's Stratford Inn. Hotels, inns and restaurants have always held a special fascination for me. The Stratford Inn promised the realization of a longtime dream to own a combination hotel, restaurant and public conference facility -- complete with an experienced manager and staff.

In retrospect, I wish I had known more about the hazards and difficulties of such a business, especially during a recession of the kind that hit New England just as I was acquiring the inn's 43-year leasehold. I also wish that during the years I was in public office, I had had this firsthand experience about the difficulties business people face every day. That knowledge would have made me a better U.S. senator and a more understanding presidential contender.

Today we are much closer to a general acknowledgment that government must encourage business to expand and grow. Bill Clinton, Paul Tsongas, Bob Kerrey and others have, I believe, changed the debate of our party. We intuitively know that to create job opportunities we need entrepreneurs who will risk their capital against an expected payoff. Too often, however, public policy does not consider whether we are choking off those opportunities.

My own business perspective has been limited to that small hotel and restaurant in Stratford, Conn., with an especially difficult lease and a severe recession. But my business associates and I also lived with federal, state and local rules that were all passed with the objective of helping employees, protecting the environment, raising tax dollars for schools, protecting our customers from fire hazards, etc. While I never have doubted the worthiness of any of these goals, the concept that most often eludes legislators is: "Can we make consumers pay the higher prices for the increased operating costs that accompany public regulation and government reporting requirements with reams of red tape." It is a simple concern that is nonetheless often ignored by legislators.

For example, the papers today are filled with stories about businesses dropping health coverage for employees. We provided a substantial package for our staff at the Stratford Inn. However, were we operating today, those costs would exceed $150,000 a year for health care on top of salaries and other benefits. There would have been no reasonable way for us to absorb or pass on these costs.

Some of the escalation in the cost of health care is attributed to patients suing doctors. While one cannot assess the merit of all these claims, I've also witnessed firsthand the explosion in blame-shifting and scapegoating for every negative experience in life.

Today, despite bankruptcy, we are still dealing with litigation from individuals who fell in or near our restaurant. Despite these injuries, not every misstep is the fault of someone else. Not every such incident should be viewed as a lawsuit instead of an unfortunate accident. And while the business owner may prevail in the end, the endless exposure to frivolous claims and high legal fees is frightening.

Our Connecticut hotel, along with many others, went bankrupt for a variety of reasons, the general economy in the Northeast being a significant cause. But that reason masks the variety of other challenges we faced that drive operating costs and financing charges beyond what a small business can handle.

It is clear that some businesses have products that can be priced at almost any level. The price of raw materials (e.g., steel and glass) and life-saving drugs and medical care are not easily substituted by consumers. It is only competition or antitrust that tempers price increases. Consumers may delay purchases, but they have little choice when faced with higher prices.

In services, however, consumers do have a choice when faced with higher prices. You may have to stay in a hotel while on vacation, but you can stay fewer days. You can eat in restaurants fewer times per month, or forgo a number of services from car washes to shoeshines. Every such decision eventually results in job losses for someone. And often these are the people without the skills to help themselves -- the people I've spent a lifetime trying to help.

In short, "one-size-fits-all" rules for business ignore the reality of the marketplace. And setting thresholds for regulatory guidelines at artificial levels -- e.g., 50 employees or more, $500,000 in sales -- takes no account of other realities, such as profit margins, labor intensive vs. capital intensive businesses, and local market economics.

The problem we face as legislators is: Where do we set the bar so that it is not too high to clear? I don't have the answer. I do know that we need to start raising these questions more often.

Mr. McGovern, the 1972 Democratic presidential candidate, is president of the Middle-Eastern Policy Council in Washington.

(See related letters: "Letters to the Editor: A Politician's Dream Is a Businessman's Nightmare" -- WSJ July 2, 1992)

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Let's celebrate the shared sense of sacrifice that gives us all strength.

There were very few positives from the pandemic, but I'm mentioning one, which, unfortunately, didn't last, but reflected the best of us. In New York City, at 7 p.m. every evening, people throughout the city would open their windows, shouting and screaming and banging pots and pans to show gratitude to the essential workers — sanitation workers, police, firefighters, emergency responders, nurses and doctors. Of course, these workers were always essential, but I was hoping that spirit and civility would become deeply embedded and have longer lasting effects in our society.

I can understand when an individual for conscientious reasons chooses not to do work that helps our military. But I cannot understand when an entire company takes that position. How can we have a sense of shared sacrifice, when America is home to 18 million veterans who were willing to risk their lives for America's safety, and yet some companies are not even willing to use their fingertips to help?

For example, back in 1969 the cancellation of the Reserve Officers' Training Corps programs by the country's most prestigious universities and colleges likely fueled the great divide — between elites and others in our country — that persists today. Our strength as a nation is best served when the best students and the best soldiers are brought together, and we would all benefit from more civility and better teaching around basic virtues like hard work, shared sacrifice, justice, rationality and more respect for the enduring values of American freedom and free enterprise.

Resist being "weaponized."

We can start by trying to understand other people's and other voters' points of view, even around deeply emotional topics. We can stop insulting whole classes of voters. We can stop name calling. We can stop blame-shifting and scapegoating. We can stop being petty. Politicians can cease insulting, baiting and belittling each other, which diminishes them and the voter. It has also become too acceptable for some politicians to say one thing in private and deliver a completely different message in public. It would also be nice to see some cabinet members from the opposing party. We should also stop degrading and demonizing American business and American institutions, which are the best in the world, because it erodes confidence in our very country.

Social media could do more.

There is no question that social media has some real negative effects, from the manipulation of elections to the increasingly documented negative effects on the mental health of children. These are issues impacting our individual and collective spheres, and it's time for social media companies to take more action to remedy these challenges — and swiftly. Rapid advances in technology will not only make these existing issues harder to address, but they will likely create new ones. The current state of the online information landscape has wide-ranging implications on trust in institutions, information integrity and more — and it bears on institutions like ours, where platform policy has increasingly widespread implications for concerns about fraud, security and other issue spaces.

A range of tools and approaches is required to address this complex and important situation — and there are several measures that platform companies can immediately enact, voluntarily, while strengthening and improving their business models. One commonsense and modest step would be for social media companies to further empower platform users' control over what they see and how it is presented, leveraging existing tools and features — like the alternative feed algorithm settings some offer today. I believe many users (not just parents) would appreciate a greater ability to more carefully curate their feeds; for example, prioritizing educational content for their children.

Platforms could also consider enhanced authentication measures; i.e., having users identify themselves to the platform or to a trusted third party. This would have the virtue of increasing individual accountability and reducing imposters, bots and

possibly foreign political actors on platforms. It would have immediate benefits for users who prefer content from authenticated sources that take responsibility for their postings. There are clear competing values that need to be balanced in such an approach, including those related to our cherished right to free speech, individual privacy and inclusion (for example, roughly 850 million people globally don't have a way to easily authenticate themselves today). There are also legitimate questions as to whether authentication would be used as a tool to chill or block speech or quash bona fide political dissenters, and real work needs to be done to identify policy and technical solutions that balance such risks and benefits.

I offer these approaches as a starting place, understanding that it's crucial to continue honest conversation across sectors about the immediate, incremental improvements we can make to our online public square, considering the high stakes involved in how information is created and shared.

Effective measures will require time, money, learning and improvement, all in service of significantly enhancing the well-being, quality, and civility of our experiences online and in the world around us.

Healthy collaboration with business is needed.

Companies big and small create jobs, pay for employee healthcare and benefits, and build bridges, roads and hospitals. The people who work for and run these companies care deeply about their country — they are patriots, and they want to see people and communities succeed and prosper.

Unfortunately, the message America hears is that the federal government does not value business — that business is the problem and not part of the solution. There are fewer individuals in government who have any significant experience in starting or running a company, which is apparent every day in the political rhetoric that demonizes businesses and free enterprise and that damages confidence in American's institutions. The relationship between business and government, in fact, might improve if there were more people from the business sector working in government. Inexperience with business is also evident from the regular lack of transparency or curiosity from regulators as they develop economic policies with potentially seismic consequences for the economy.

When I travel around the country, I experience a very different perspective on the street and at the local level — I see that many governors, mayors and city council members understand they are not facing big challenges alone. They stand shoulder to shoulder with our company, even when some of their constituents disagree or are skeptical about big banks. These government officials know they need partners who have the same stake in helping successful communities thrive and who care about building a prosperous future as much as they do. For example, in fewer than 10 years, Detroit saw one of the greatest turnarounds because of a vibrant collaboration between government and business. And businesses know they cannot succeed if individuals, families, towns and cities are not flourishing. We obviously don't agree on everything, but there is a shared belief that we must work together. We can and should be full partners in developing solutions to our big problems.

The federal government, regardless of which party is in charge, needs to earn back trust through competence and effective policymaking.

The world is becoming more complex, more technologically competent and faster. Unfortunately, the government simply is not built to innovate, compete and move quickly, as in the competitive business world. This may be the reason why government is becoming less effective. We need to take action on this because the loss of trust in government is damaging to society. We should be brutally honest about the staggering number of policies, systems and operations that are underperforming: Too many ineffective public schools do not give students the skills they need to land a well-paying job; we have over 25 million uninsured Americans, soaring healthcare costs and too many bad outcomes; we are unable to plan, permit and build infrastructure efficiently; our litigation

system is capricious and wasteful; progress on immigration policies and reform is frustrating; lack of efficient mortgage markets and an affordable housing policy keep housing out of reach for many Americans; problems plague the Department of Veterans Affairs, the Federal Aviation Administration and the Internal Revenue Service; public universities don't take responsibility for their costs and are often funded by excessive student lending; underinvestment in the electric grid results in high costs and unreliable service; highly inefficient U.S. merchant shipping and ports; and we have unfunded pension plans and no action on deficit spending, Social Security and Medicare. I'll stop here. This should be unacceptable to all of us.

We need to find a way to bring more varied expertise and accountability to government.

We should be more ambitious in striving for excellence in government. I acknowledge that some of the best and the brightest are in government and the military today. Yet we should return to a government that seeks out more of the best and the brightest people from ***every background***, including the private sector, to benefit from their knowledge and experience. Government also needs to leverage the expertise of business to address problems that it cannot solve on its own. And to be fair, business could use its influence to do less to further its own interest and more to enhance the nation as a whole.

We need good government. And there are some things only governments can do, such as oversee the military and justice systems. And while most innovation happens through the private sector, there are certain types of foundational innovations that can only be advanced by the government, such as basic research that simply cannot be funded by business. The Democrats want the government to do even more and the Republicans even less — I think we should spend more time trying to do ***even better***. But no one, not even my most liberal Democratic friends, thinks that sending the government another trillion a year would be a wise use of money.

OUT OF THE LABYRINTH, WITH FOCUS AND RESOLVE

Even America, the most prosperous nation on the planet with its vast resources, needs to focus its resources on the complex and difficult tasks ahead.

I hope to never read a book about ***How the West Was Lost,*** summarized as follows: The failure to save Ukraine and find peace in the Middle East led to more bickering among the allies and weakened military alliances. This accelerated a division within the Western world, splitting countries into different economic spheres and with each nation trying to protect its economy, trade and energy sources. America's economy weakened, eventually leading to the loss of its reserve currency status. Besotted by populism and partisanship and crippled by bureaucracy and lack of willpower, America failed to focus on what it needed to do to lead and save the Western world. The enemy was within — we just didn't see it in time.

Paraphrasing what Winston Churchill was thought to have said: America, after it had exhausted all other possibilities, would do the right thing.

What I want and hope to see is a book about ***How the West Was Won.*** As the wars in Ukraine and the Middle East dragged on and as the fears of the Western world mounted, America rose to the challenge as it had in other turbulent times in history. America coalesced with its allies to form the alliances necessary to keep the world safe for freedom and democracy.

I remain with a deep and abiding faith in the strength of the enduring values of America.

WE SHOULD HAVE MORE FAITH IN THE AMAZING POWER OF OUR FREEDOMS

The heart and soul of the dynamism of America is human freedom — freedom of speech, freedom of religion, free enterprise (capitalism), and the freedom and empowerment brought to us by our democracy through the right to elect our leaders. Free people are at liberty to move around as they see fit, work as they see fit, dream as they see fit, and invest in themselves and in the pursuit of happiness as they see fit. This freedom that people enjoy, accompanied by the freedom of capital, is what drives the dynamism — economic and social — of this great country.

Our civil liberties depend upon the rule of law, property rights, including intellectual property, and restrictions on government encroachment upon these freedoms. Our Constitution and Bill of Rights secure our individual freedoms and reserve all rights to the individual other than those important but limited authorities given to the government.

The issue of individual rights is not all or none or freedom versus no freedom. There are, of course, terrible examples where individual rights were trampled upon, and the results were devastating — both for the individual and for the economy — in East Germany, Iran, North Korea, Russia, Venezuela, to name a few. And there are many countries that protect individual rights and are on a spectrum closer to American values. Think of Europe, for example. But even in some countries that have some of these rights, a lack of dynamism — often due to bureaucracy, weak institutions and government, and corruption — is palpable and has clearly led to less innovation, lower growth and, in general, a lower standard of living.

Freedom must necessarily be joined with the principle of striving toward equal opportunity. Equal opportunity is what allows individuals to rise to the best of their ability — it also means unequal outcomes. Equal opportunity is the foundation for fairness and meritocracy. The fight for equality, which is a good moral goal, should not damage the rights of the individual and their liberties.

Democracy and freedom are cojoined — together, they make freedom more durable. Democracy also has a self-correcting element — every four years you get to throw out leadership if you don't like them (which you do not see in autocracies). But we all know that democracy can be sloppy: Maintaining an effective democracy is hard work. Democracy fosters open debate and compromise, which lead to better decisions over time (whether in government or in business). Intelligence is effectively "crowdsourced" with constant feedback. Good public policy comes from good debate and analytics, guided by reason coupled with a firm understanding of what you would like the outcomes to be and complemented with an honest assessment of what is really happening.

Even democracies can become stagnant, bureaucratic and self-perpetuating. Good government does many admirable things, but admitting to mistakes is often not one of them. It takes civically engaged citizens and a strong free press to bring sunlight to issues and keep a nation strong.

Autocratic societies by their nature subjugate the individual to the state. By definition they are not meritocracies — they are more about "who you know," and they exist to perpetuate the existing ruling class. Their decisions are based on a completely different calculation, and their decision-making process does not encourage and, therefore, benefit from open debate. Democracy means that it is immoral to subjugate individual freedoms to state actors other than to protect the existence of the nation itself.

There are values that many of us hold dear, such as religion, family and country. But none may be more important than the freedoms that allow us to choose to live our life as we see fit. We should do more to applaud the virtue and amazing power of our freedoms.

HOW WE CAN HELP LIFT UP OUR LOW-INCOME CITIZENS AND MEND AMERICA'S TORN SOCIAL FABRIC

To fix problems, we must first acknowledge them. Despite decades of government programs and all the moralizing that surrounds them, we have not done a particularly good job lifting up our low-income fellow citizens. I may be wrong, but I do believe this is tearing at the social fabric of America and is among the root causes of the fraying of the American dream.

The gap between low-wage and well-paid workers has been growing dramatically. From 1979 to 2019, the wage growth of the top 10% was nearly 10 times that of the bottom 10% – which, basically, had not increased at all. The growth of low-income workers' annualized real wages after the pandemic was, for the first time in decades, higher than the top 60%, but that's not enough. The net worth for the bottom 25% of households is $20,800, and the net worth for the bottom 10% is essentially $0. This makes it increasingly difficult for low-wage workers to support their families. Of the 160 million Americans working today, approximately 40 million are paid less than $15 per hour.

Low-income individuals bear far greater burdens than the rest of us. Nearly 40% of Americans don't have $400 in savings to deal with unexpected expenses, such as medical bills or car repairs, which leads to financial distress. More than 25 million Americans don't have medical insurance at all; of these, one in five are in a family with income below the federal poverty level. People who live in low-income neighborhoods also tend to have worse health outcomes, including higher rates of mental health issues, depression and suicide, and a lower life expectancy – as many as 20 years. Finally, low-income Americans generally experience higher unemployment and more crime.

No one can claim that the promise of equal opportunity is being offered to ***all*** Americans through our education systems. Students in the lowest socioeconomic bracket are 50% less likely to attend college than those in the highest socioeconomic groups. Many inner city schools graduate under 50% of their students – and even those who graduate may not be well-prepared for the workforce. In addition, boys growing up in the bottom 10% of family income are 20 times more likely to be incarcerated. Those who do run afoul of our justice system generally do not get the second chance that many of them deserve. Their exclusion from the workforce is not only unfair to them but also results in an estimated $87 billion average annual cost to the economy.

Too many policies that are wrong – affecting housing and mortgage markets, healthcare, immigration, regulation, education and student lending, to name a few – are jeopardizing the opportunity for American citizens to succeed. The people who suffer the most, throughout all of this, are not high-income individuals. I strongly believe that these outcomes are destroying the concept of "fair" in America and are driving populism and diminishing, if not eliminating, trust – not only in government but in all our institutions. Simply put, the social needs of far too many of our citizens are not being met. We should never accept these outcomes – we must fix them.

There are two policy changes that I believe can have a dramatic effect on jobs, growth and equality – and they go a long way toward repairing the frayed American dream. Let's start by treating all jobs with respect. Even starter jobs, which are the first rung on the ladder of opportunity, bring dignity and create better social outcomes in terms of health, higher household formation and lower crime. Of these two policy changes, one would better utilize existing resources, and the other would cost some money. But both would significantly change outcomes for low-income Americans.

The free one is so blindingly obvious that it's almost embarrassing to propose. Our schools (high schools, community colleges and perhaps even four-year colleges) should take responsibility for outcomes – they should be judged on the quality and income level of the jobs that their graduates and even non-graduates attain. This means providing graduating students and other individuals with work skills (in fields such as advanced manufacturing, cyber, data science and technology, healthcare and so on) that will lead to better paying jobs. These schools should work with local businesses to replicate effective programs that are in place – because that is where the actual jobs are now. This would be good for growth and, as there are so many examples of successful programs, we

already know what to do. With nearly 9 million job openings and just under 6 million unemployed workers in the United States, job skills training has never been needed more. We already spend a tremendous amount of money on education – just not the right way.

The second step is related to the first: Get more income to low-paid workers. While this one would cost money, it is to me a complete no-brainer since it is an expansion of an existing program, the Earned Income Tax Credit (EITC), which many Democrats and Republicans already agree upon. Today, the EITC supplements low- to moderate-income working individuals and couples, particularly with children and people living in rural areas. For example, a single mother with two children earning $9 an hour (approximately $20,000 a year) could receive a tax credit of more than $6,000 at year-end. Workers without children receive a very small tax credit (96% of all EITC dollars were received by families with children). This should be dramatically expanded, including eliminating the child requirement from the calculation altogether. We should convert the EITC to make it more like a negative income payroll tax, paid monthly. Any tax credit income should not be offset by any other benefits these individuals already receive (we have to eliminate benefit "cliffs" that disincentivize work).

An increase in the EITC to a maximum of $10,000 would cost tens of billions a year, but I have little doubt that these policy changes ***would do more than anything else*** to lift up low-income families and their communities. Well-paying jobs have been shown to reduce crime, increase household formation, improve health and reduce addiction. Both of these policies would have the virtue of increasing the number of people in the workforce. I also have little doubt that this would add to GDP.

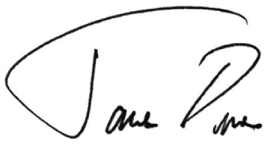
We should attack all our other problems as well, but these two policy changes alone would dramatically improve our low-income neighborhoods, broadly strengthen the economy and give more opportunity to deserving citizens. It would restore the American Dream for many.

In Closing

It's been 20 years since the Bank One-JPMorgan Chase merger — and it's been an extraordinary journey. I can't even begin to express my heartfelt appreciation and respect for the tremendous character and capabilities of the management team who got us through the good times and the bad times to where we stand today. And I recognize that we all stand on the shoulders of many others who came before us in building this exceptional company of ours.

I would also like to express my deep gratitude to the 300,000+ employees, and their families, of JPMorgan Chase. Through these annual letters, I hope shareholders and all readers have gained a deeper understanding of what it takes to be an "endgame winner" in a rapidly changing world. More important, I hope you are as proud of what we have achieved — as a business, as a bank and as a community investor — as I am.
Thank you for your partnership.

Finally, we sincerely hope to see the world on the path to peace and prosperity.



Jamie Dimon
Chairman and Chief Executive Officer

April 8, 2024

Footnotes

Client Franchises Built Over the Long Term (page 11)

Note: figures may not sum due to rounding

1 Certain wealth management clients were realigned from Asset & Wealth Management (AWM) to Consumer & Community Banking (CCB) in 4Q20. 2005 and 2013 amounts were not revised in connection with this realignment.

2 Federal Deposit Insurance Corporation (FDIC) Summary of Deposits survey per S&P Global Market Intelligence applies a $1 billion deposit cap to Chase and industry branches for market share. While many of our branches have more than $1 billion in retail deposits, applying a cap consistently to ourselves and the industry is critical to the integrity of this measurement. Includes all commercial banks, savings banks and savings institutions as defined by the FDIC.

3 Barlow Research Associates, Primary Bank Market Share Database. Rolling 8-quarter average of small businesses with revenues of more than $100,000 and less than $25 million. 2023 results include First Republic. Barlow's 2005 Primary Bank Market Share is based on companies with revenues of more than $100,000 and less than $10 million.

4 Total payment volumes reflect Consumer and Small Business customers' digital (ACH, BillPay, PayChase, Zelle, RTP, external transfers, digital wires), non-digital (non-digital wires, ATM, teller, checks) and credit and debit card payment outflows.

5 Digital non-card payment transactions includes outflows for ACH, BillPay, PayChase, Zelle, RTP, external transfers, and digital wires, excluding Credit and Debit card sales. 2005 is based on internal JPMorgan Chase estimates.

6 Represents general purpose credit card (GPCC) spend, which excludes private label and Commercial Card. Based on company filings and JPMorgan Chase estimates.

7 Represents GPCC loans outstanding, which excludes private label, American Express Company (AXP) Charge Card, Citi Retail Cards, and Commercial Card. Based on loans outstanding disclosures by peers and internal JPMorgan Chase estimates.

8 Represents users of all web and/or mobile platforms who have logged in within the past 90 days.

9 Represents users of all mobile platforms who have logged in within the past 90 days.

10 Based on 2023 sales volume and loans outstanding disclosures by peers (AXP, Bank of America Corporation, Capital One Financial Corporation, Citigroup Inc. and Discover Financial Services) and JPMorgan Chase estimates. Sales volume excludes private label and Commercial Card. AXP reflects the U.S. Consumer segment and JPMorgan Chase estimates for AXP's U.S. small business sales. Loans outstanding exclude private label, AXP Charge Card, Citi Retail Cards and Commercial Card. Card loans outstanding market share has been revised to reflect a restatement to the 2022 reported total industry outstandings disclosed by Nilson, which impacts annual share growth in 2023.

11 Inside Mortgage Finance, Top Owned Mortgage Servicers as of 4Q23.

12 Experian Velocity data as of FY23. Reflects financing market share for new and used loan and lease units at franchised and independent dealers.

13 Coalition Greenwich Competitor Analytics (preliminary for FY23). Market share is based on JPMorgan Chase's internal business structure and revenue. Ranks are based on Coalition Index Banks for Markets. 2006 rank is based on JPMorgan Chase analysis.

14 Dealogic as of January 2, 2024, excludes the impact of UBS/CS merger prior to the year of the acquisition (2023).

15 Client deposits and other third-party liabilities pertain to the Payments and Securities Services businesses.

16 Firmwide Payments revenue metrics exclude the net impact of equity investments; 2005 data represents Treasury Services firmwide revenue only. All other periods include Merchant Services revenue.

17 Coalition Greenwich Competitor Analytics (preliminary for FY23) reflects global firmwide Treasury Services business (CIB and CB). Market share is based on JPMorgan Chase's internal business structure, footprint and revenue. Ranks are based on Coalition Index Banks for Treasury Services.

18 Institutional Investor.

19 Based on third-party data.

20 The Market Share number represents US dollar payment instructions for direct payments and credit transfers processed over Society for Worldwide Interbank Financial Telecommunications ("SWIFT") in the countries where J.P. Morgan has sales coverage.

21 Nilson, Full Year 2023.

22 Coalition Greenwich FY23 Competitor Analytics (preliminary). Rank is based on JPMorgan Chase's internal business structure and revenue and Coalition Index Banks for Securities Services.

23 Data in 2005 column is as of 12/31/2006.

24 New relationships (gross) exclude impact of First Republic acquisition.

25 Includes gross revenues earned by the Firm that are subject to a revenue sharing arrangement between CB and the CIB for Investment Banking and Markets' products sold to CB clients. This includes revenue related to fixed income and equity markets products.

26 S&P Global Market Intelligence as of December 31, 2023.

27 London Stock Exchange Group, FY23.

28 Aligns with the affordable housing component of the Firm's $30 billion racial equity commitment.

29 Percentage of active mutual fund and active ETF assets under management in funds ranked in the 1st or 2nd quartile (one, three and five years): All quartile rankings, the assigned peer categories and the asset values used to derive these rankings are sourced from the fund rating providers. Quartile rankings are based on the net-of-fee absolute return of each fund. Where applicable, the fund rating providers redenominate asset values into U.S. dollars. The percentage of AUM is based on fund performance and associated peer rankings at the share class level for U.S.-domiciled funds, at a "primary share class" level to represent the quartile ranking for U.K., Luxembourg and Hong Kong SAR funds and at the fund level for all other funds. The performance data may have been different if all share classes had been included. Past performance is not indicative of future results. "Primary share class" means the C share class for European funds and Acc share class for Hong Kong SAR and Taiwan funds. If these share classes are not available, the oldest share class is used as the primary share class. Due to a methodology change effective September 30, 2023, prior results include all long-term mutual fund assets and exclude active ETF assets.

30 In the fourth quarter of 2020, the Firm realigned certain wealth management clients from AWM to CCB. Prior-period amounts have been revised to conform with the current presentation.

31 Traditional assets includes Equity, Fixed Income, Multi-Asset and Liquidity AUM Brokerage, Administration and Custody assets under supervision.

32 AUM only for 2005. Prior period amounts have been restated to include changes in product categorization.

33 Source: *Euromoney*.

34 Percentage of active mutual fund and active ETF assets under management in funds rated 4- or 5-star: Mutual fund rating services rank funds based on their

risk adjusted performance over various periods. A 5-star rating is the best rating and represents the top 10% of industry-wide ranked funds. A 4-star rating represents the next 22.5% of industry-wide ranked funds. A 3-star rating represents the next 35% of industry-wide ranked funds. A 2-star rating represents the next 22.5% of industry-wide ranked funds. A 1-star rating is the worst rating and represents the bottom 10% of industrywide ranked funds. An overall Morningstar rating is derived from a weighted average of the performance associated with a fund's three-, five and ten- year (if applicable) Morningstar Rating metrics. For U.S.- domiciled funds, separate star ratings are provided at the individual share class level. The Nomura "star rating" is based on three-year risk-adjusted performance only. Funds with fewer than three years of history are not rated and hence excluded from these rankings. All ratings, the assigned peer categories and the asset values used to derive these rankings are sourced from the applicable fund rating provider. Where applicable, the fund rating providers redenominate asset values into U.S. dollars. The percentage of AUM is based on star ratings at the share class level for U.S.-domiciled funds, and at a "primary share class" level to represent the star rating of all other funds, except for Japan, for which Nomura provides ratings at the fund level. The performance data may have been different if all share classes had been included. Past performance is not indicative of future results.

35 Source: Company filings and JPMorgan Chase estimates. Rankings reflect publicly traded peer group as follows: Allianz, Bank of America, Bank of New York Mellon, BlackRock, Charles Schwab, DWS, Franklin Templeton, Goldman Sachs, Invesco, Morgan Stanley, State Street, T. Rowe Price and UBS. JPMorgan Chase ranking reflects Asset & Wealth Management client assets, U.S. Wealth Management investments and new-to-firm Chase Private Client deposits.

36 Source: iMoneynet.

37 Represents AUM in a strategy with at least one listed female and/or diverse portfolio manager. "Diverse" defined as U.S. ethnic minority.

JPMorgan Chase Exhibits Strength in Both Efficiency and Returns When Compared with Large Peers and Best-in-Class Peers (page 14)

1 Bank of America Corporation (BAC), Citigroup Inc. (C), The Goldman Sachs Group, Inc. (GS), Morgan Stanley (MS) and Wells Fargo & Company (WFC).

2 Managed overhead ratio = total noninterest expense/managed revenue; revenue for GS and MS is reflected on a reported basis.

3 Best-in-class peer overhead ratio represents the comparable business segments of JPMorgan Chase (JPM) peers: Capital One Domestic Card and Consumer Banking (COF-DC & CB), Bank of America Global Banking and Global Markets (BAC-GB & GM), Fifth Third Bank (FITB), Northern Trust Wealth Management (NTRS-WM) and Allianz Group (ALLIANZ-AM).

4 Best-in-class all banks ROTCE represents implied net income minus preferred stock dividends of the comparable business segments of JPM peers, when available, or of JPM peers on a firmwide basis when there is no comparable business segment: Bank of America Consumer Banking (BAC-CB), Bank of America Global Banking and Global Markets (BAC-GB & GM), Wells Fargo & Company Commercial Banking (WFC-CB) and Morgan Stanley Wealth Management & Investment Management (MS-WM & IM).

5 Best-in-class GSIB ROTCE represents implied net income minus preferred stock dividends of the comparable business segments of JPM GSIB peers, when available, or of JPM GSIB peers on a firmwide basis when there is no comparable business segment: Bank of America Consumer Banking (BAC-CB), Bank of America Global Banking and Global Markets (BAC-GB & GM), Wells Fargo & Company Commercial Banking (WFC-CB) and Morgan Stanley Wealth Management & Investment Management (MS-WM & IM). WFC-CB is the only GSIB peer to disclose a comparable business segment to Commercial Banking.

6 Given comparisons are at the business segment level, where available; allocation methodologies across peers may be inconsistent with JPM's.

Our Fortress Balance Sheet (page 15)

1 Tangible common equity 2005-2007 reflects common stockholders' equity less goodwill and other intangible assets.

2 Basel III Transitional rules became effective on January 1, 2014; prior-period CET1 data is based on Basel I rules. As of December 31, 2014, the ratios represent the lower of the Standardized or Advanced approach calculated under the Basel III Fully Phased-In basis.

3 Includes eligible High Quality Liquid Assets (HQLA) as defined in the liquidity coverage ratio (LCR) rule and unencumbered marketable securities, such as equity and debt securities, that the Firm believes would be available to raise liquidity including excess eligible HQLA securities at JPMorgan Chase Bank, N.A. that are not transferable to nonbank affiliates; for December 31, 2023 and 2022, the balance includes eligible end-of-period HQLA as defined in the LCR rule, issued December 19, 2016. For December 31, 2017-2021, the balance includes average eligible HQLA. Periods prior to 2017 represent period-end balances. December 31, 2016 and 2015 balances are under the initial U.S. rule approved on September 3, 2014. The December 31, 2014 amount is estimated prior to the effective date of the initial rule, and under the Basel III liquidity coverage ratio (Basel III LCR) for December 31, 2013.

4 2005-2012 reflect cash and cash due from banks and investment securities.

5 Capital returned to common stockholders includes common dividends and net repurchases.

Size of the Financial/Sector Industry (page 39)

1 2007 and 2010 sourced from WorldBank.org annual GDP publication. 2023 is calculated using JPM Research forecasts. Figures are represented in 2015 prices.

2 Consists of cash assets and Treasury and agency securities.

3 2023 figure is as of 3Q23.

4 Top 50 fund AUM data per Sovereign Wealth Fund Institute (SWFI).

5 Loans held by nonbank entities per the FRB Z.1 Financial Accounts of the United States.

6 U.S. money market fund investment holdings of securities issued by entities worldwide.

7 Methodology updated in 2022, previous years have been restated.

8 NYSE + NASDAQ; excludes investment funds, ETF's unit trusts and companies whose business goal is to hold shares of other listed companies; a company with several classes of shares is only counted once.

9 Inside Mortgage Finance and JPMorgan Chase internal data; consists of Top 50 Originators (Top 40 for 2007).

10 Preqin, Dealogic, JPM Credit Research.

Consumer & Community Banking

I'm very proud to have co-led Consumer & Community Banking (CCB) for the past three years and am grateful to Jenn Piepszak for her partnership. When we took over this leading franchise, we established a strategic framework for continued, long-term success, and that framework guided CCB to deliver strong performance again in 2023. The evolving macro landscape means uncertainty on many fronts: the financial health of the consumer, the path of credit and interest rates, and the impact of new regulations. While the future will bring challenges, it will also create opportunities, and we've proved our ability to adapt and optimize.

In 2023, we remained focused on a consistent set of strategic priorities:

- Growing and deepening relationships by:
  - Engaging customers with products and services they love and
  - Expanding our distribution
- Delivering financial performance that is consistently best-in-class.
- Leveraging data and technology to deliver customer value and drive speed to market.
- Protecting our customers and the firm through a strong risk and controls environment.
- Cultivating talent to build high-performing, diverse teams where culture is a competitive advantage.

Our strategy is working as evidenced by our results last year.

GROWING AND DEEPENING RELATIONSHIPS

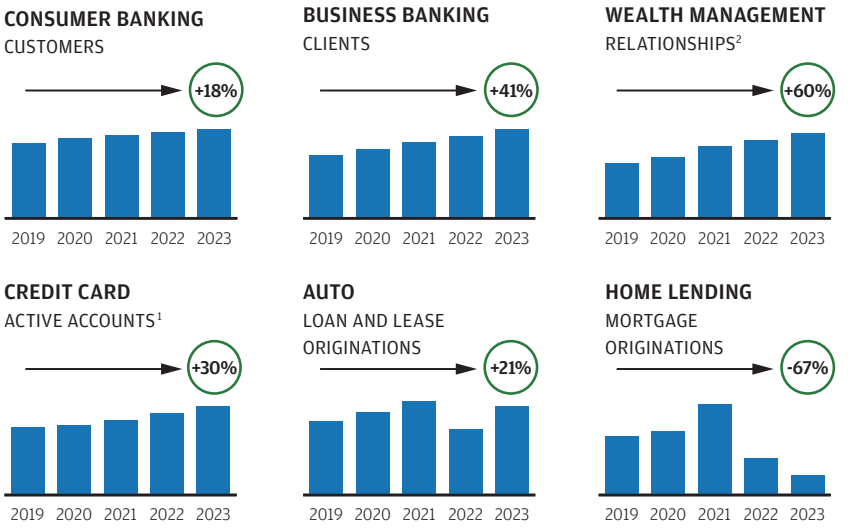
After the pandemic, we accelerated the pace of customer acquisition while lowering attrition. Maintaining that momentum, we now serve over 82 million consumers and 6.4 million small businesses, up 11% and 37%, respectively, since 2019. We're driving that growth across businesses — during the same period, Consumer Banking customers are up 18%, Business Banking clients are up 41% and Card accounts are up 30%[1].

We're engaging customers with our products and services and delivering seamless experiences across digital and branch channels. Our digital banking platform grew to nearly 67 million active customers, up 28% since 2019. Once customers begin to use Chase.com and the Chase mobile app, we make it easy to help them save for the future, make small or big purchases (including a car or home), plan for retirement or a dream vacation, or find the perfect restaurant for a night on the town.

Our branches remain a critical touchpoint as over 900,000 people walk into one every day. We know being local matters and that customers increasingly value personal interaction and advice. In 2023, over 2 million more customers met with a banker than in 2022.

Once we onboard a customer to the franchise, we focus on earning the right to deepen that relationship and serve more of their financial needs. Last year was a banner year for deepening as we ended 2023 with over 24 million multi-line of business (LOB) customers — up 9% from 2022 and 30% from 2019[3]. We have prioritized growing multi-LOB relationships as it helps us address more of our customers' needs while driving higher retention and engagement with our products and services. We constantly focus on improving the customer experience, which we measure in many ways. We're proud to have all-time-high satisfaction

2019 TO 2023 GROWTH



1 Defined as average sales debit active accounts.

2 Unique families with primary and joint account owners for open and funded accounts.

3 Reflects consumers and small businesses that have relationships with two or more CCB lines of business.

ratings across branch and digital channels, while our complaint rate per account is down nearly 10% year-over-year. Customer attrition is below historic levels, and CCB's overall net promoter score remains very healthy.

DELIVERING FINANCIAL PERFORMANCE THAT IS CONSISTENTLY BEST-IN-CLASS

While we recognize that favorable macro conditions contributed to overearning in net interest income and credit, we still outperformed as we delivered strong returns and grew market share across businesses. With a 38% return on equity, we exceeded our 25% target for the third straight year and would have done so even when normalized to reflect through-the-cycle credit and rate assumptions. Net income was $21.2 billion, up 42% over 2022. Revenue of $70.1 billion was up 28% from 2022, and CCB's overhead ratio was 50%. Average deposits were $1.1 trillion, and although down 3% from 2022, we outperformed the industry average. Average loans were up 20% over the prior year to $526 billion, including the First Republic acquisition.

EXTENDING OUR #1 POSITION ACROSS INDUSTRY-LEADING BUSINESSES

Our momentum is driven by successful execution across all lines of business in CCB. We're the clear market leader in Consumer Banking, Business Banking and Card and continue to grow.

Consumer Banking

We extended our #1 position in 2023 with an 11.3% deposit market share, up 40 basis points from 2022. Excluding First Republic, share growth was up 10 basis points. Since 2019, we've increased our share by 220 basis points. We'll continue to drive growth by expanding branches and evolving products to meet customer needs by segment.

Branches remain the hub for our local team of experts – over 50,000 bankers, advisors and business relationship managers – and a key distribution channel for all parts of the firm. We continue to optimize our network of over 4,800 branches as we aim to be within a 10-minute drive for 70% of the U.S. population. This will help us grow share in major metropolitan areas like Boston, Philadelphia and Washington, D.C., as well as states with mostly rural populations such as Alabama and Iowa, where we are also expanding our presence.

We've added more than 650 new branches in the last five years, by far the most of any bank in the U.S. We're doubling down on that investment and will add 500+ branches over the next three years. The result is a significantly younger branch network, which creates embedded growth that already has driven share gains and will continue to do so for years to come. Newer or "unseasoned" branches represent more than $150 billion in incremental deposit upside as they mature. At the same time, we are consolidating older branches in certain markets in response to shifting customer behavior.

We aim to be the bank for all, so tailoring products, services and experiences for each customer segment and community is central to our strategy. We're increasingly focused on supporting the financial health of customers and communities through digital and in-person resources, such as our nearly 150 dedicated Community Managers. We now have 16 Community Center branches and plan to open three more in 2024.

We started 2023 with a goal of maintaining primary bank relationships and capturing money in motion, and we did both. We retained over 95% of our primary bank customers and succeeded in deepening with investments and an enhanced, higher-yield product set – including competitive-rate CDs and the new J.P. Morgan Premium Deposit account. As a result, we successfully captured more than 80% of yield-seeking flows in 2023.

Business Banking

We offer small business owners a comprehensive product suite to help them start, run and grow their businesses. We're #1 in small business primary bank share with 9.5% of a fragmented market and plan to grow by:

- Increasing banker capacity to better cover large clients, which drives higher retention, cross-product deepening and client satisfaction. In 2023, we added more than 350 bankers against our target of 1,000 incremental bankers.
- Rolling out value-added services like payroll, broadening our payment acceptance suite with new offerings such as invoicing (currently in pilot) and launching Tap-to-Pay, which enables merchants to accept card payments on their mobile devices.
- Continuing to expand support for small business owners in underserved communities through special purpose credit programs, one-on-one mentoring and local events.

Card

In 2023, we extended our #1 position in credit card, with sales and outstandings market share up approximately 50 and 30 basis points, respectively, compared with 2019[4].

We drove growth by leveraging our marketing capabilities to get the right products in the right customers' hands. In 2023, we invested nearly $7 billion in

4 Card outstandings market share has been revised to reflect a restatement to the 2022 reported total industry outstandings disclosed by Nilson, which impacted annual share growth in 2023.

#1

#1 in U.S. retail deposit market share

#1

#1 U.S. credit card issuer based on sales and outstandings[4]

#1

#1 primary bank for U.S. small businesses

#1

#1 in total combined U.S. credit and debit payments volume

#1

#1 banking portal in the United States[5]

5 #1 most-visited banking portal in the U.S. (Chase.com) based on Similarweb.

gross marketing to generate 10 million new credit card accounts and deliver benefits to existing cardholders. The continued demand for our leading products has fueled portfolio growth, enabling us to deliver more value and drive engagement with our customer base.

In 2023, we focused on enhancing our Card product continuum to effectively serve the unique needs of each customer segment and:

- Launched Chase Freedom Rise℠ for younger, new-to-credit customers, which has shown strong adoption using our branches as its primary distribution.
- Launched DoorDash Rewards Mastercard®, adding a new strategic partner to our co-brand portfolio.
- Scaled Ink Business Premier℠, launched in late 2022, to grow share with small businesses.
- Continued to enhance the Sapphire value proposition by opening lounges in five airports to date and leveraging the travel, dining and shopping experiences we're building in Connected Commerce.

SCALING GROWTH BUSINESSES

In Connected Commerce and Wealth Management, we have the assets to win and outsized opportunity to grow to what we view is our fair share, given the breadth of CCB relationships. These businesses are natural adjacencies to banking and credit card, with scale and distribution that will fuel their growth.

Connected Commerce

We continue building out a powerful two-sided platform to connect Chase customers with top brands, helping them book travel, discover new dining experiences and save money while shopping. We expect to drive approximately $30 billion in volume and about $2 billion in revenue through the platform in 2025. We've nearly doubled volume over two years, driving more than $18 billion in 2023. Going forward, we're focused on:

- Scaling Travel. We are a top 5 consumer leisure travel provider with $10 billion in booked volume last year, up more than 25% from 2022. We've just relaunched ChaseTravel.com to help customers dream, discover and book travel, including a new collection of more than 600 of the world's finest hotels.
- Expanding Shopping through Chase Offers. In 2023, we generated more than $8 billion in attributed spend volume, up over 30% from 2022. We're accelerating growth by launching Chase Media Solutions℠, a new digital media business aimed at merchants that allows them to target and connect with Chase customers.
- Innovating payments and lending capabilities. To provide customers with innovative, convenient ways to pay and borrow, last year we began to roll out Pay in 4℠, which has scaled to more than 20 million customers. We also saw more than 50% year-over-year growth in card-linked installment originations through My Chase Plan®.

Wealth Management

In 2023, we grew client investment assets by 25% to $800 billion before accounting for the First Republic acquisition. In total, we ended the year with $950 billion in assets, up $450 billion since 2019, as we close in on our goal of reaching $1 trillion in assets under supervision. We now have 2.5 million client relationships – up 60% from 2019 – with a record 120,000 first-time investors in 2023.

This momentum stems from the investments we've made in products, channels and talent in the last four years since we established J.P. Morgan Wealth Management. In 2023, we:

- Added more than 400 total advisors, ending the year with nearly 5,500 on a path to 6,000.
- Scaled Wealth Plan, an omnichannel financial planning experience that customers start digitally and can finish with an advisor. Customers have created more than 1 million financial plans since the experience launched in December 2022.

SECURED LENDING

Auto and Home Lending

In Auto and Home Lending, our objective is not market share but to be there for customers during key moments and to create franchise value while continuing to maximize the strength of the firm's balance sheet, capital and liquidity. Given the cyclical nature of both businesses, we manage returns on a through-the-cycle basis.

Despite recent market headwinds, Auto and Home Lending delivered a return on equity of 17% and 15%, respectively, averaged over the last five years[6]. While the acquisition of First Republic's mortgage portfolio helped bolster Home Lending returns last year, CCB's mortgage business was key to enabling the transaction.

Across both businesses, we continue to leverage data and artificial intelligence (AI)-enabled techniques to enhance and optimize our underwriting and credit decisioning.

We also remain committed to increasing homeownership among underserved communities. Our Chase Homebuyer Grant program has scaled to over 15,000 communities since its launch in 2021, and we recently increased the grant amount to $7,500 in select markets.

LEVERAGING DATA AND TECHNOLOGY TO DELIVER CUSTOMER VALUE AND DRIVE SPEED TO MARKET

Data and technology make everything we do better — our products, channels and experiences. In 2023, CCB spent over $3 billion on technology investments spanning both product development and modernization.

A little over half of our annual investment is focused on product development, helping ensure we have the best products, services and channels to meet customers' evolving needs. From paying a bill and checking a balance to replacing a card and disputing a transaction, we're making processes more seamless, taking friction out of customers' everyday financial lives. At the same time, customers are increasingly engaging with our advice-oriented digital and omnichannel experiences to meet their more complex needs, like buying a home or planning for retirement. Engaged online activity — beyond viewing balances — is up 25% since 2019.

The rest of our technology investment is focused on modernization, which is both offensive and defensive. We need to deliver new products and experiences more quickly while executing with resiliency at massive scale to stay competitive and avoid being disrupted. We've made significant progress and are on track to substantially complete data center migration by the end of 2024. We've also migrated almost 90% of our data to the public cloud. Looking ahead, we'll continue to focus on modernizing our core banking infrastructure, which will enable us to launch products faster, improve platform stability and reduce run-the-bank expenses over time.

Our data migration efforts help us take full advantage of our extraordinary data assets to deliver personalization at scale and accelerate existing and future AI initiatives. We've been using AI for years and have a strong foundation in place. Initially, we focused on using AI to drive cost reduction and risk avoidance, but we've pivoted to focus more on revenue growth. We'll continue to invest where we will realize the greatest benefit, including:

- Optimizing marketing efforts to better target profitable prospects.
- Identifying unmet customer needs, then addressing them in the moment with digital nudges and personalized offers.
- Increasing the productivity and efficiency of our sales force through lead management and propensity models.
- Predicting in real time the likelihood of fraud to better protect customers and the firm.
- Supporting specialists with AI advancements like call prediction, real-time insights and intelligent routing to drive customer and employee satisfaction.

PROTECTING OUR CUSTOMERS AND THE FIRM

Risk management is core to our culture and a key competitive advantage, helping us build trust and providing security to customers. We are focused on protecting shareholders, customers and the firm by maintaining our fortress balance sheet, strong controls environment and through-the-cycle decision-making approach.

CULTIVATING TALENT

The work we do matters to customers, communities and the economy overall. Our goal is always to attract and retain great talent and create a culture where everyone's voice matters. We help employees build a long-term career at the firm and have a workforce that reflects the communities we serve. Our high-performance culture rewards the hard work, heart and humanity that our more than 140,000 employees deliver every day. All of this leads to the best business outcomes.

ACQUIRING FIRST REPUBLIC

In the midst of widespread instability in the banking sector, it was the strength and breadth of our franchise and the dedication of thousands of employees that enabled us to complete the acquisition of virtually all of First Republic's assets in one weekend.

We had long admired First Republic's capabilities and culture of client service, which complement our existing affluent

6 Excluding loan loss reserves.

strategy. We already serve customers across the wealth spectrum, but the acquisition will help us deepen relationships with the affluent segment. In 2023, we prioritized stabilizing First Republic's existing business. We retained the vast majority of customers, and deposits have increased approximately 20% since the acquisition. While we are on track against key integration milestones, 2024 will be critical as we aim to largely complete integration efforts by year-end.

2024 LOOK AHEAD

Macro factors

The macro environment going forward will likely look very different from 2023. While we anticipate the Federal Reserve will lower rates this year, the trajectory is still uncertain. Lower rates will be a headwind for deposit margins but a tailwind for businesses such as Home Lending. The diversification of our franchise provides natural offsets and hedges and creates resiliency in earnings and performance.

We are rigorous in monitoring our portfolios at a granular level using multiple data sources to assess direct risk and the overall health of consumers and small businesses. Based on what we're seeing, consumers and small businesses both still remain generally healthy. Although consumers have largely spent the excess cash reserves built up from the fiscal response to the pandemic, balance sheets remain strong. Spending on a per account basis is largely flat year-over-year. Delinquencies played out as expected in 2023, and credit card losses should fully normalize later this year.

Regulatory environment

The banking industry is facing an unprecedented barrage of untested and unstudied proposed regulations and legislation targeting multiple aspects of our business. The combined impact of all of these – Basel III, Regulation II (Debit Card Interchange Fees), overdraft and late fee changes, the Consumer Financial Protection Bureau's Sections 1033 and 1071, and the Credit Card Competition Act – will meaningfully disrupt the economics of consumer financial products and services. This level of intervention will lead to some combination of the following:

- Fewer financial products and services available, and the remaining ones will become more expensive and harder to access, especially for lower-income consumers.
- Less investment and innovation in the financial services industry, leading to an erosion of the customer experience.
- More consolidation across the industry, which will limit consumer choice.
- More financial activity handled by nonbanks outside of the regulatory perimeter, increasing risk for consumers.

Of course, we will comply with the final rules and regulations and are relatively well-positioned to do so. However, consumers and small businesses will likely bear the largest burden.

Our hand

We continue to operate from a position of strength with a relentless focus on the customer, a proven strategy and the best team. We recognize headwinds on the horizon and will adapt accordingly, taking a through-the-cycle approach to managing our business. Moving forward, we'll continue to:

- Execute with excellence and a focus on efficiency and flexibility as the environment around us changes.
- Engage with regulators on how current proposals will negatively impact consumers and the industry.
- Reshape our business where necessary in response to new regulations, balancing impacts to shareholders, customers and the communities we serve.

I remain very confident about the future of our franchise, yet approach the opportunities and challenges we'll face with great humility.

Marianne

Marianne Lake

CEO, Consumer & Community Banking

Commercial & Investment Bank

When Jamie asked me to lead a new organization 12 years ago, I was thrilled. The firm was combining its traditional Investment Bank with the Treasury & Securities Services division.

The rationale was clear. The merger would create a massive franchise encompassing the industry's most diverse and comprehensive solutions for the world's largest and most prominent companies, governments and institutions. From capital raising and M&A advice to payments, trading and custody, the combined franchise would enable us to deliver a full range of products and solutions to clients around the world.

As others retrenched, we believed growth would come from being global and diversified, having scale and providing a complete client offering. So we merged two divisions, identified gaps and invested in global capabilities. To this day, I believe the decisions we made then set us up for the success that we've had for the last decade. The proof is in the revenue, returns, rankings and market share that we've discussed with you over the years.

This January, we announced the latest evolution of our corporate structure by merging two divisions once again: Commercial Banking (CB) with the Corporate & Investment Bank (CIB).

As we integrate these top-notch franchises, I am delighted to hand the keys of this incredible organization to Jenn Piepszak and Troy Rohrbaugh. They are exceptional leaders in every way, and I know they will continue to work hard each day, leading our employees and serving our clients with heart, integrity and excellence.

I am equally thrilled to spend more of my time in my role as President and Chief Operating Officer, helping Jamie with firmwide, strategic priorities that will provide growth and opportunities for years to come.

My focus will be on driving synergies across our lines of business, accelerating our investments in growth and innovation, and optimizing our resources across the firm. Priorities include harnessing data and modernizing our technology infrastructure so we can apply artificial intelligence (AI) to our businesses. This will help identify efficiencies and areas of opportunity. I also want to make sure we continue to manage and deploy capital in ways that best serve our clients, particularly when they need it most.

In 2023, we made significant strides in key areas:

In March, teams across our Consumer Banking, Private Banking, Commercial Banking and Investment Banking businesses joined forces to deliver the firm's full support to the venture ecosystem in the aftermath of the regional banking turmoil. We are now exploring new ways to better serve this community, including tapping opportunities in the booming private markets so that we can compete effectively in this rapidly evolving area.

Our payments capabilities also continue to strengthen and advance as we prioritize innovation and resiliency. We are unique in that we can compete with fintechs on customer experience and digital solutions while also offering the stability, expansive network and services of a global bank.

Technology is reshaping the financial services landscape, and we are channeling its transformative power. Among our efforts, we are already using AI to onboard customers faster, combat fraud and serve up more insights to clients.

We are pushing into new markets both at home and internationally. Whether it's growing our presence in emerging markets, deepening our relationships with multinational corporations, or expanding our U.S. branch network and wealth management business, our strategy is guided by a commitment to clients, communities and long-term value creation.

The leadership positions we have today are the result of hard work and investment over many years. We know also how hard it is to stay ahead of the pack. My promise to you, our shareholders, is that we will not be complacent. We will stay humble and hungry and strive always to be the best, most respected financial firm in the world.

Daniel E. Pinto
President and Chief Operating Officer,
JPMorgan Chase & Co.

In January 2024, we announced an exciting new chapter in our decade-long growth story.

The decision to bring together the firm's major wholesale businesses to form the Commercial & Investment Bank continues a journey we have been on for a while as we seek to better support clients from their early stages of growth through to international expansion, acquisitions and beyond.

The new combined business has the scale, business diversity and financial firepower to offer complete solutions across banking, trading, payments and custody to middle market businesses, global companies and governments in more than 100 markets.

We are deeply indebted to Daniel Pinto, who built the Corporate & Investment Bank over the last 12 years with leadership positions across products and regions[1,2]. In his time as CEO, the CIB grew revenue from $34 billion in 2011 to $49 billion in 2023 and increased net income by more than 75% during the same period, and its Investment Banking and Markets businesses have been #1 franchises for over a decade[1,2].

It is a privilege to lead this remarkable business, and we are thrilled about the opportunities still to come. But let us first reflect on the key events and highlights of our performance in 2023.

OUR PERFORMANCE IN 2023

In 2023, the CIB generated net income of $14 billion on $49 billion in revenue, mirroring 2022's solid performance but down from 2021's record highs. Strong trading results and record years for our deposit-taking businesses cushioned the impact of industrywide weakness in investment banking activity, underscoring the benefits of our diversified business model.

The year included central banks hiking rates at the fastest pace in decades, a second year of war in Ukraine and the outbreak of conflict in the Middle East, the collapse of several U.S. regional banks and recession in parts of Europe. Throughout, J.P. Morgan offered its expertise and balance sheet, helping companies, financial institutions and governments weather the storm.

During the regional bank turmoil and resulting economic stress, the firm helped shore up the financial system and the economy, stepping in with billions of dollars in liquidity to help banks, their clients and investors navigate the crisis. This was complemented by the firm helping to raise $155 billion for financial institutions in 2023.

Worldwide investment banking activity was hit by the uncertain economic outlook and market conditions. Industry-wide fees shrank to a 10-year low[1], and dealmaking remained subdued, causing our own investment banking revenue to dip slightly, to $6.2 billion from $6.5 billion in 2022. Even so, the business maintained its #1 ranking in global investment banking fees with a wallet share of 8.8%[1]. We also ranked #1 in debt capital markets, #2 in mergers and acquisitions (M&A), and rose to #1 in equity capital markets[1].

Our M&A franchise advised on nearly 350 deals totaling more than $700 billion in volume[1], including some of the year's largest announced transactions: the $42 billion separation of Johnson & Johnson's consumer health business, agricultural supplier Viterra's $17 billion merger with U.S. oilseed and grain processor Bunge, and sandwich chain Subway's $10 billion sale to Roark Capital, one of the biggest transactions in fast food history.

A decline in M&A dealmaking and the higher interest rate environment led to subdued debt capital markets and a drop in our debt underwriting fees to $2.6 billion in 2023 compared with $2.8 billion in 2022. A standout deal was the $31 billion bond deal for Pfizer to fund its acquisition of cancer drug pioneer Seagen, in which the firm had a lead role.

In 2023, our equity underwriting fees were up 11% compared with 2022, and we gained market share year-over-year[1]. While market uncertainty dented confidence in initial public offerings (IPO), the franchise led two of the year's biggest offerings, including the $5 billion IPO of British chip designer Arm Holdings and consumer health company Kenvue's $4 billion debut.

It was another strong year for our Markets business, which generated $28 billion in revenue. Some of the uncertainty that plagued investment banking activity kept trading desks busy as clients hedged and positioned themselves accordingly. Fixed Income Markets revenue was up 1% from 2022, driven by the Securitized Products Group and Credit, mainly offset by normalization in Currencies & Emerging Markets, while Equity Markets revenue dipped after a relatively strong performance in 2022.

Clients also voted J.P. Morgan the #1 global research firm in *Institutional Investor*'s annual survey for the fourth year in a row. Our analysis of economies and markets, including research on some 5,200 companies across more than 80 countries, is particularly sought after during turbulent times.

CIB Payments reported a record $9.3 billion in revenue in 2023, up from $7.6 billion in 2022, as it benefited from the higher interest rate environment.

1 Dealogic as of January 2, 2024

2 Coalition Greenwich Competitor Analytics (preliminary for FY23). Market share is based on JPMorgan Chase's internal business structure and revenue. Ranks are based on Coalition Index Banks.

Securities Services, our fourth major line of business in the CIB, also had a record year, reporting $4.8 billion in revenue. Sitting adjacent to the industry's largest Markets business, it provides post-trade services to institutional asset-manager and asset-owner clients, providing safekeeping, settlement and related services for securities in approximately 100 markets around the world. Since the CIB was formed in 2012, the Securities Services business has nearly doubled assets under custody from $17 trillion at the end of 2011 to $32 trillion at the end of 2023[3]. In recent years, investments in technology have enhanced the scale and resiliency of its platforms, enabling the business to grow revenue and secure major new mandates.

SIZING UP THE OPPORTUNITIES AHEAD

J.P. Morgan has an exceptional blend of strengths that have continued to deliver value over time. The completeness of our products and services, talent, ongoing investments in digital technology and tools, client focus and fortress balance sheet have given the CIB strong share positions across almost all areas[1,2].

We are not complacent about these leadership positions. The competitive landscape for our businesses is intensifying, driven by both traditional banks as well as further growth of nonbank financial institutions. Core to our strategy is looking very closely at all areas of the business and pinpointing where there are weaknesses and opportunities to grow.

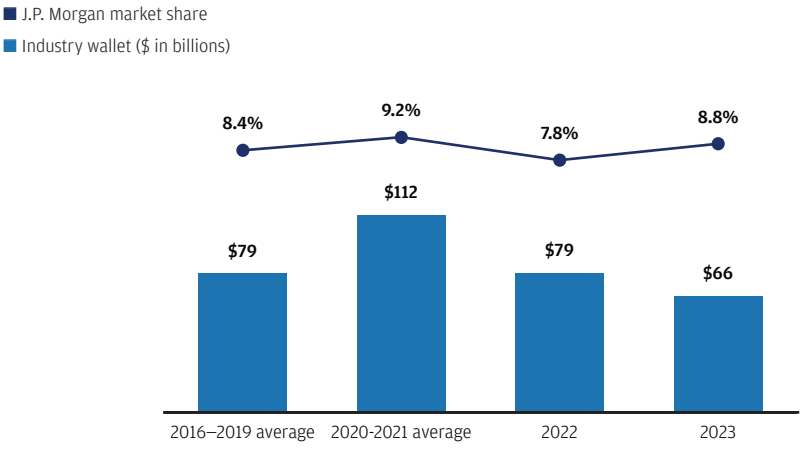
Here are some of our target areas:

The benefits of integration

This year we are integrating our major wholesale businesses Commercial Banking and the Corporate & Investment Bank. There are more connections between the

INVESTMENT BANKING

Investment banking wallet trend and J.P. Morgan market share and rank



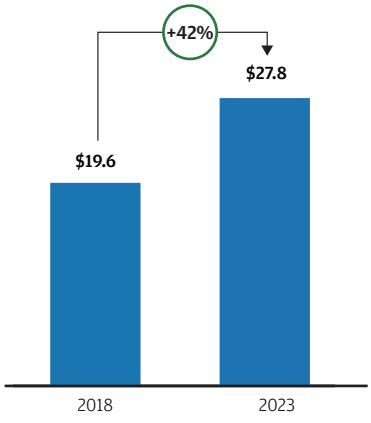
	2016–2019 average	2020-2021 average	2022	2023
J.P. Morgan rank	#1 (all years)	#1 (all years)	#1	#1

Source: Dealogic as of January 2, 2024

MARKETS

Markets revenue[4] and J.P. Morgan market share and rank[5]

($ in billions)



	2018	2023
Market share[5]	11.4%	11.4%
Rank[5]	#1	#1

3 Represents assets held directly or indirectly on behalf of clients under safekeeping, custody and servicing arrangements.

4 Revenue reflects J.P. Morgan reported revenue.

5 Coalition Greenwich Competitor Analytics (preliminary for FY23). Market share is based on JPMorgan Chase's internal business structure and revenue. Ranks are based on Coalition Index Banks for Markets.

two businesses than ever before. In 2023, over $3 billion in gross Investment Banking and Markets revenue[6] and more than $8 billion in firmwide Payments revenue, almost half, came from Commercial Banking clients[7]. With our extensive footprint in the middle market, combined with our Investment Banking franchise, we are uniquely positioned to support middle market clients as they grow in size and complexity.

At the same time, our biggest multinational and asset manager clients are navigating an increasingly complex set of challenges and need a banking partner with the scale, global reach and full-service offering to resolve them. With employees around the world supporting clients in more than 100 countries, the newly enlarged business is among the most complete institutional client franchises in the industry. Wherever companies are on their growth journey, the newly combined business will have the resources and coverage to help.

Trading at scale

Our trading business operates at huge scale.

In 2023, in the U.S. alone, it handled more than 42 billion client orders and helped investors buy and sell nearly $11 trillion in 12,000 equity securities.

Our strategy of being a complete counterparty is paying off, with our biggest institutional clients choosing to do more business with us. Accordingly, the bank's share of the institutional client wallet has grown from 11.1% in 2018 to 13.9% in 2023[8].

Being there for clients in all markets and conditions, however, demands a significant amount of capital. Although this is a headwind, the business continues to provide solid returns, and we remain focused on the disciplined allocation of capital while preparing for updated U.S. capital requirements.

As assets and international trade flows increase, we are modernizing platforms by moving to the cloud and increasing automation to handle greater volumes at lower cost.

To capture market share, institutional trading needs to be easy and intuitive. We are investing to enhance the trading experience for clients across the life cycle of their trades, from onboarding to pre-trade services like research, execution, post-trade settlement and data services.

We are investing heavily in the electronification of our credit business, bringing across some of the technology and approach behind our Equities business. Among other initiatives in 2023, J.P. Morgan launched a new algorithmic trading offering to U.S. Treasury investors to capture share in the world's most important bond market.

Private capital markets

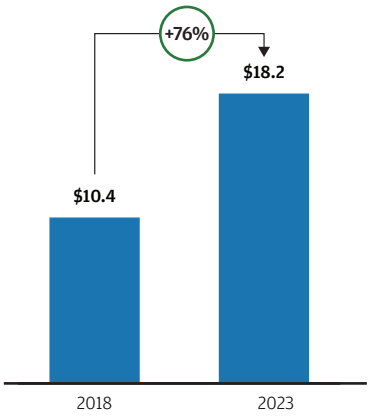
Private markets – both credit and equity – have grown significantly over the past decade. The private credit market has grown nearly fourfold over the last 10 years to more than $1.6 trillion[9], while money raised in venture capital and private equity growth deals has more than doubled over the same period[10].

Our borrower and investor clients are on both sides of this growth, and we are well-positioned to serve the full range of their needs. We are growing our solution-agnostic credit strategy, deploying balance sheet where it makes sense for direct lending, in addition to our existing financing and structured solutions. We are also enhancing our offering for asset managers and financial sponsors looking to deploy capital. As the private markets continue to evolve, we will remain a significant player with a goal of providing clients with a full range of financing options.

PAYMENTS AND SECURITIES SERVICES

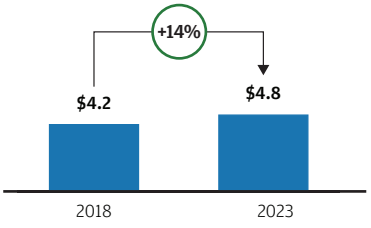
Firmwide Payments revenue[7, 11]

($ in billions)



Securities Services revenue[12]

($ in billions)



6 Includes gross revenues earned by the firm that are subject to a revenue sharing arrangement between CB and the CIB for Investment Banking and Markets products sold to CB clients. This includes revenues related to fixed income and equity markets products. Refer to page 65 of the firm's 2023 Form 10-K for discussion of revenue sharing.

7 Firmwide Payments revenues (predominantly in the CIB and CB) includes certain revenues that are reported as investment banking product revenue in CB and excludes the net impact of equity investments.

8 Coalition Greenwich Institutional Client Analytics. 2023 based on 3Q23 year-to-date analysis.

9 Preqin

10 PitchBook

11 2018 firmwide Payments revenue adjusted down by $0.2 billion for data processing accounting re-class.

12 2018 Securities Services revenue adjusted down by $0.1 billion to exclude the impact of past business simplification, exit actions and accounting changes.

With the acquisition of First Republic Bank and collapse of Silicon Valley Bank, we have a unique opportunity to expand our support for the Innovation Economy – the ecosystem of venture-backed companies, founders and investors, who rely on the private markets. In the past, these efforts were led largely by Commercial Banking. With our new combined franchise, we can now better serve this dynamic, fast-growing client base. We want to make clients-for-life out of the legions of tech companies and their founders by supporting them from the earliest stages of growth up to IPO and beyond.

Capital for the climate

In 2023, we continued to help clients with their sustainability goals as well as scaling green solutions. Since 2021, the CIB has financed and facilitated $230 billion for green activities toward our firmwide target of $1 trillion by 2030, primarily by supporting clients with green bond underwriting and financing for renewable and clean energy. From financing and capital raising to strategic advice, we are working closely with clients across industries as they aim to meet their own long-term sustainability targets.

Investing for the future

We are investing to scale and enhance the resiliency of our core platforms and are pioneering new technologies to move faster and improve the client experience.

Across the business, we are exploring use cases for artificial intelligence. In Markets, our AI-powered Client Intelligence platform is starting to use data from across the business to create recommendations based on client interactions, and our Prime Finance team is harnessing AI to better manage the inventory of securities we have on hand for clients while optimizing our balance sheet for capital efficiency. Elsewhere, AI has improved the onboarding experience for clients, speeding up and improving the accuracy of our Know Your Customer procedures, while in Investment Banking, the technology is helping coverage teams to pinpoint when companies might need to tap the equity markets.

Our Payments business moves nearly $10 trillion[13] each day, with capabilities to send payments in more than 120 currencies across 160 countries. We are future-proofing its platforms and investing to help businesses across industries, such as healthcare and e-commerce accept and make payments more seamlessly. In Securities Services, an increasing focus is to provide better data services to help investor clients improve the performance of their portfolios and the operational efficiency of their businesses. In 2023, we launched the first commercial offerings on our Fusion platform, giving clients access to their custody, fund accounting and middle office data via API or the cloud. We also rolled out a tool that helps clients gather, cleanse and organize ESG data from different sources.

LOOKING AHEAD

The start of 2024 has brought some early encouraging signs for investment banking activity but a more mixed outlook for our Markets business.

Several risks remain. Economies are still adjusting to life after the pandemic and the injection of trillions of dollars in monetary and fiscal stimulus; geopolitical challenges continue to flare; and the competitive threat is intensifying. The outcome of these is inherently unknown – they could provide both headwinds and opportunities for our business.

The consistent returns created by the scale and diversity of our franchise allow us to keep investing through economic cycles.

13 Based on firmwide data using regulatory reporting guidelines prescribed by the Federal Reserve for US Title 1 planning purposes; includes internal settlements, global payments to and through third-party processors and banks, and other internal transfers.

We are global with capabilities at scale, and now combined with Commercial Banking, we have the ability to become even more client-centric.

Our products, services and reach coupled with incredible people and our winning culture make us especially hopeful about the future of our business.

It is an honor for both of us to lead this world-class franchise, and we are excited for the opportunities in front of us.

Jennifer Piepszak
Co-CEO, Commercial & Investment Bank

Troy Rohrbaugh
Co-CEO, Commercial & Investment Bank

COMMERCIAL BANKING

2023 was a dynamic and complex year, marked by geopolitical tensions, stubborn inflation, rapidly rising interest rates and a regional banking crisis. Through it all, Commercial Banking (CB) served as a source of stability for our clients and communities and remained focused on executing our strategic priorities.

Amidst this market disruption, our team rose to the occasion to support thousands of new clients, expand into key markets and accelerate growth across our business. CB's exceptional performance reflects the strength of our franchise, ongoing client focus, and sustained investments in our platforms and capabilities:

- **Record revenue of $15.5 billion**, up 35% year-over-year, reflecting higher net interest income, client acquisition and expansion into new markets
- **Record net income of $6.1 billion**, up 46% year-over-year, and a **20% return on equity**
- **Record Payments revenue of $8.3 billion**, a 45% increase year-over-year
- **Gross Investment Banking revenue of $3.4 billion**, a 14% increase year-over-year
- **Strong credit performance**, with net charge-offs of 12 basis points

I'm incredibly proud of our outstanding operational and financial performance. Our team's steadfast commitment, consistent investments and market discipline drove our success.

Moments that mattered

Given the challenges several key competitors faced in 2023, the banking landscape changed dramatically and greatly accelerated the expansion of our franchise.

Supporting the Innovation Economy: The collapse of Silicon Valley Bank in March of last year was a profound moment. Thousands of founders, companies and investors needed to protect their liquidity and make payroll. Many came to us, and we were ready. Because of our focus and significant investments to serve the Innovation Economy (IE) over the past decade, we were prepared.

In 2023, we accelerated our strategy to support this important segment of our economy by:

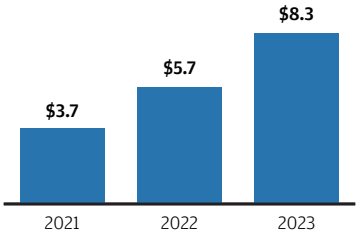
- **Adding approximately two years' worth of clients** in just two months, with our team working around the clock for weeks to assist clients and open thousands of new accounts
- **Hiring more than 200 experienced bankers** and senior leaders across key markets
- **Expanding our IE presence in eight countries**, including Australia, China, Germany, Ireland, Israel, Nordics and the United Kingdom
- **Establishing Startup and Climate Tech Banking teams** to provide deep sector expertise
- **Providing tailored capabilities**, such as early-stage venture lending and capital raising
- **Investing in platforms** that deliver seamless digital experiences and integrated payments offerings specifically designed for startups and high-growth companies

Acquiring First Republic Bank: JPMorgan Chase's acquisition of First Republic Bank (FRB) was another notable highlight of 2023. Given the overlap with CB, FRB offers a tremendous opportunity to

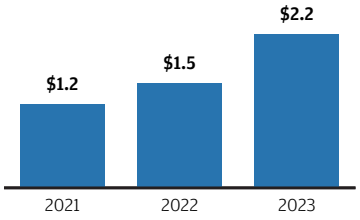
SELECT FINANCIAL HIGHLIGHTS

($ in billions)

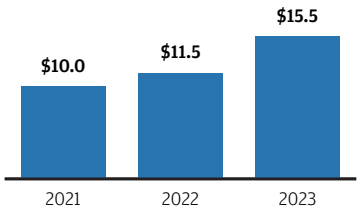
TOTAL PAYMENTS REVENUE[1]



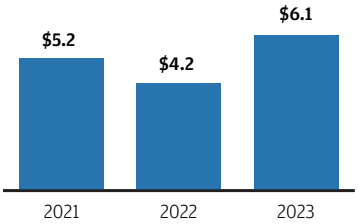
MIDDLE MARKET EXPANSION



TOTAL REVENUE



NET INCOME



1 In the third quarter of 2023, certain revenue from CIB Markets products was reclassified from Payments to Investment Banking. Prior period amounts have been revised to conform with current presentation.

deepen our presence in high-growth markets, expand our client franchise and build upon our team. CB added more than 5,000 Commercial Real Estate clients and approximately 2,000 Middle Market clients along with high-quality loans and deposits. We're making steady progress on the integration and are excited about the synergies between our businesses and strength of our combined teams.

Executing a proven strategy

Despite these unexpected events, we made tremendous progress executing against our long-term, through-the-cycle strategy.

Building deep, enduring relationships: CB provides local expertise to nearly 70,000 clients across markets and sectors around the world. We welcomed close to 5,000[2] businesses last year and added roughly 500 bankers to build these relationships. In addition to supporting clients in all 50 states, we established a presence in Israel, Malaysia and Singapore, increasing our coverage of non-U.S. headquartered clients across 27 countries.

Developing powerful solutions: Our firm delivers end-to-end solutions to help our clients run their businesses more efficiently and fuel their growth. Through firmwide partnerships, CB offers customized capabilities, such as bundled services for startups and specialized payments offerings for segments like healthcare, real estate and government. These broad-based global offerings serve our clients through every stage of their life cycle.

Delivering an exceptional experience: CB is making great progress to optimize our clients' journey across every touchpoint, including faster onboarding times, streamlined documentation and intuitive, self-service tools. As an example, we've been able to reduce our onboarding time to under 48 hours for a number of new clients, and we're working to scale this experience. Informed by our clients' needs and expectations, we'll continue to invest in our operations and platforms to offer simple, efficient and digital-first experiences to our clients of all sizes.

Harnessing the power of our data: CB has invested in tools and capabilities to harness the full power of our data. We've worked to combine our proprietary data with third-party sources to form an integrated, comprehensive data asset that enables us to better understand our clients' needs, manage risk and drive operational efficiency.

Empowering our team: One of CB's key differentiators is – and always has been – our people. We provide our team with specialized training, collaboration and workflow tools, and content targeted to seamlessly address clients' needs. Access to personalized data and analytics helps our team develop deep sector expertise and insights to serve clients in a highly differentiated manner.

Focus on community impact

CB has played an instrumental role in supporting the neighborhoods where we live and work. Our purpose-driven business helps to create an inclusive economy, narrow the racial wealth gap and drive sustainable economic growth. We're a pivotal part of the firm's community impact, but our work is more than that – it's essential to uplifting the places we call home.

In 2023 alone, CB extended more than $18 billion to help communities thrive, including:

- **$6 billion** to vital institutions, such as hospitals, governments and schools
- **$3 billion** in loans to emerging middle market businesses
- **$5 billion** to create and preserve over 41,000 affordable housing units
- **$580 million** in New Markets Tax Credit financing to support community development projects
- **$240 million** to community development financial institutions

NOTABLE #1 RECOGNITIONS IN 2023

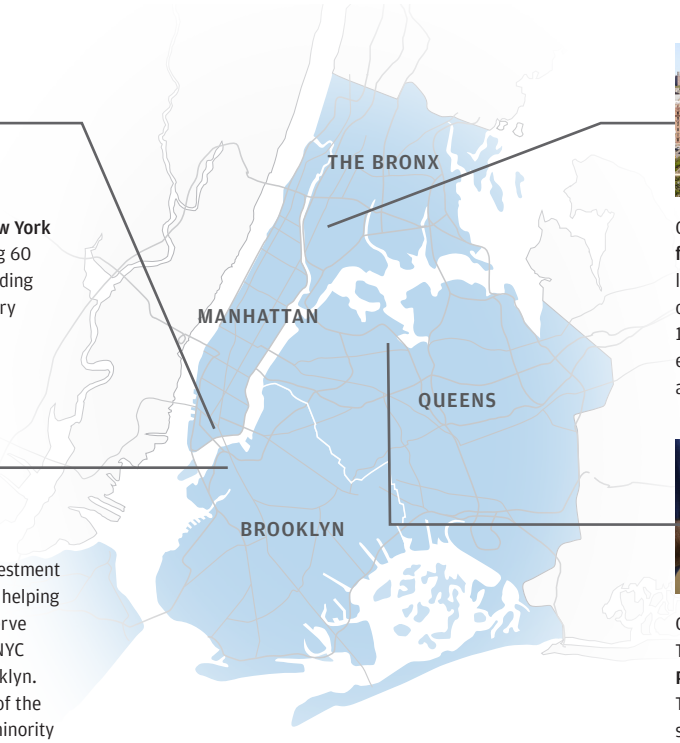
2 Excludes First Republic Bank.
3 S&P Global Market Intelligence.
4 Coalition Greenwich.
5 Barlow Research Associates.
6 London Stock Exchange Group.

SPOTLIGHT ON NEW YORK CITY

For over 200 years, JPMorgan Chase has proudly served clients and communities across New York City (NYC). CB supports over 7,000 clients in NYC and has extended nearly $9 billion in financing to affordable housing developers, vital institutions and local businesses since 2019.

CB has supported **The City of New York** for more than 50 years, providing 60 NYC agencies with services, including lending, fraud prevention, treasury services, and more.

Through a multimillion-dollar investment and a dedicated team, the firm is helping **Carver Federal Savings Bank** serve communities through its seven NYC branches, including four in Brooklyn. Founded in 1948, Carver is one of the nation's largest Black-managed minority depository institutions and a community development financial institution.



NEW YORK CITY

CB provided **Bronx Pro Group and Services for the Underserved** with a $51 million standby letter of credit to support the new construction of Melrose North. This development includes 170 units of affordable housing, improved energy efficiency and tenant amenities, and a youth training and employment center.

CB invested in $10.6 million of New Markets Tax Credit allocation to expand **Urban Health Plan's** Plaza Del Sol Family Health Center. This facility provides access to primary and specialty care, behavioral health, nutrition, telehealth, and social services, such as the Women, Infants and Children (WIC) program.

Our future is bright

By all measures, 2023 was a standout year with our success driven 100% by our people. I'd like to extend my heartfelt gratitude to my extraordinary CB colleagues and partners across the firm whose unwavering commitment not only contributed to our performance but also supported our clients throughout this remarkable year.

My continued confidence in our future reflects our proven strategy, as well as our commitment to being our clients' most important financial partner. An ambitious agenda awaits, and we're not standing still. To build upon our strong momentum, we'll remain disciplined as we accelerate our investments to drive our business forward.

As announced earlier this year, we're excited to bring together the strengths and capabilities of CB and the Corporate & Investment Bank. This strategic combination further solidifies our strong partnerships across wholesale banking and creates the most global, complete and diversified Commercial & Investment Bank in the world. With an incredible team, extraordinary client franchise, iconic brand and unmatched capabilities, one thing is abundantly clear: Our future is bright.

Douglas B. Petno
Co-Head, Global Banking,
Former CEO, Commercial Banking

Asset & Wealth Management

A landmark year setting the stage for future success

RECORD NEW CLIENTS AND FLOWS

Nearly half a trillion dollars – $490 billion to be precise. That sum represents how much net new money clients entrusted to J.P. Morgan Asset & Wealth Management (AWM) last year. During times of financial crises or market uncertainty, J.P. Morgan shines even brighter as a port in the storm – and 2023 was no exception. The U.S. regional banking crises served as a stark reminder that banking and lending are not to be treated as a commodity. As a reflection of this awareness, AWM drew an influx of client flows last year at a rate nearly twice that of our closest publicly listed competitor.

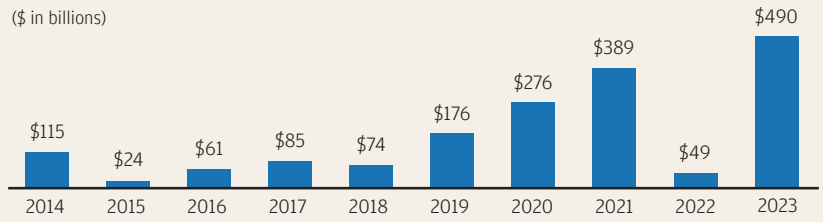
STRONG INVESTMENT PERFORMANCE AND LEADING SOLUTIONS FOR CLIENTS

As a fiduciary, delivering strong, long-term investment performance is our foremost priority. Approximately 80% of J.P. Morgan Asset Management assets under management (AUM) outperformed the peer median over a 10-year time period. This exceptional investment performance is an outcome of decades of refinement and involves close to 1,300 investment professionals along with one of the industry's largest research budgets, which enables us to actively cover nearly 2,500 public companies, with over 5,000 company visits annually. This has resulted in 93% of our equity assets outperforming their peers over the past decade.

Achieving outstanding investment results is never easy, but after several years of extensive quantitative easing – which often led to undifferentiated asset moves in concert with one another – we are returning to a market that prioritizes fundamentals in valuing companies and securities, giving us plenty of reasons to be optimistic about the future for our investors across asset classes.

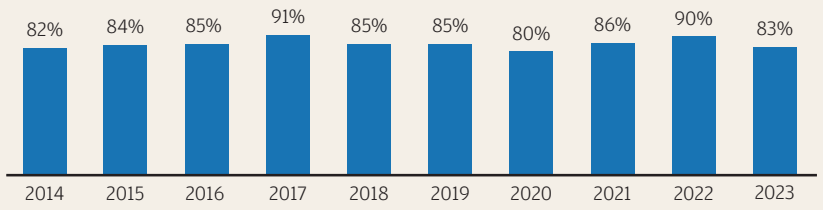
We provide our clients with expertise and effective solutions to support them through all market cycles and prepare them for the future. Equipped with state-of-the-art technology and artificial intelligence (AI)-enhanced tools and capabilities, our advisors stand ready to guide our clients and deliver more personalized offerings – from the first dollar they

RECORD 2023 FLOWS[1]



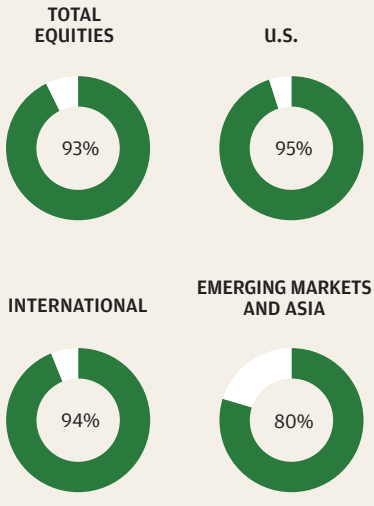
LONG-TERM FUNDS AUM OUTPERFORMING PEER MEDIAN

J.P. Morgan Asset Management Long-Term Funds AUM Outperforming Peer Median Over 10 Years[2]



INVESTMENT PERFORMANCE

2023 % of J.P. Morgan Equity Long-Term Funds AUM Outperforming Peer Median Over 10 Years[2]



1 In the fourth quarter of 2020, the firm realigned certain wealth management clients from AWM to CCB. Prior periods have been revised to conform with the current presentation.

2 For footnote, refer to page 60 footnote 29 in this Annual Report.

invest in the markets to the decisions they make about their long-term retirement planning. Simultaneously, to assist our clients in navigating the intricacies of retirement, we offer robust strategies through our SmartRetirement solutions.

Our dedication to research is at the heart of everything we do, from stock selection to unique market and asset allocation insights. For example, we deliver exclusive insights to our clients through our proprietary, industry-leading *Eye on the Market* and *J.P. Morgan Guide to the Markets*, viewed by hundreds of thousands of financial advisors and millions of clients every year. And we draw on the depth and breadth of our market and economic expertise to provide insights into investment themes to enable more confident portfolio decisions. Clients rely on us to help them distinguish the signals from the noise.

IMPRESSIVE RESULTS FOR SHAREHOLDERS

Our success across our preeminent diversified investment and client franchises drives our consistent growth. This year, our total client assets grew to a record $5 trillion, our revenue to a record $20 billion and our pre-tax income to a record $7 billion – resulting in a return on equity of 31%. These results underscore the power of a global, highly diversified platform with exceptional investment performance and dedicated client service.

PERSONALIZATION, GOVERNANCE AND STEWARDSHIP

I have never in my time running the AWM franchise found two clients alike in their needs, goals and risk tolerances for their assets. For a sovereign wealth fund or a first-time individual investor, investing is deeply nuanced in terms of volatility tolerances, income and distribution requirements, taxes, preferences and passions. The proprietary technologies we gained from our acquisitions of 55ip and OpenInvest, for example, enable us to combine over 600 different investment strategies to create highly customized portfolios in a smart, efficient way. We know our clients have a choice – not only in managers and investment styles but also in preferences around sectors or tilts and, where appropriate, in a tax-optimized way. We do not believe it is J.P. Morgan's job to tell clients what to include or exclude inside their portfolio sectors or stock selection. Instead, we empower clients to guide us and drive their own decisions.

And because preferences are often personal in nature, we are steadfast in focusing our stewardship on voting matters that maximize long-term shareholder value and good governance. With the increased prevalence of outsourcing proxy voting, by the end of 2024, generally we will have eliminated third-party proxy advisor voting recommendations from our internally developed voting systems. We believe these enhancements will allow companies to better understand our independent rationale regarding voting issues.

INVESTING FOR THE FUTURE

Active ETFs and SMAs

Innovation forms the core of our business. Having launched our active exchange-traded fund (ETF) platform less than 10 years ago, we have emerged as a global leader – ranking #2 in AUM and net flows, led by having the #1, #3 and #5 largest actively managed ETFs

A Record Year Delivering Strong Results

$20B ✓	**$7B ✓**
Revenue	**Pre-tax Income**
$5B ✓	**$228B ✓**
Net Income	**Loans (EOP)**
$5T ✓	**$490B ✓**
Client Assets	**Flows**

✓ = record

EOP = End of period

GLOBAL ACTIVE ETF RANKING

No.	Fund Name	Ticker	Total Assets
1	**JPMorgan Equity Premium Income ETF**	**JEPI**	**$32.8**
2	Dimensional US Core Equity 2 ETF	DFAC	$26.1
3	**JPMorgan Ultra-Short Income ETF**	**JPST**	**$22.5**
4	PIMCO Enhanced Short Maturity Active ETF	MINT	$10.8
5	**JPMorgan Nasdaq Equity Premium Income ETF**	**JEPQ**	**$10.8**

($ in billions)

Source: Morningstar as of February 29, 2024, excludes GBTC

in the world (JPMorgan Equity Premium Income, JPMorgan Ultra-Short Income and JPMorgan Nasdaq Equity Premium Income). We persist in our efforts to innovate, expanding our offerings by launching 17 new solutions (12 U.S. and five UCITS) in the past year. We are equally enthusiastic about our separately managed account (SMA) platform. Acquiring 55ip enabled us to provide our clients with improved tax management and portfolio customization, and our clients now have greater control over their investments and taxes. Since the acquisition, our AUM increased 16-fold in this area.

Alternatives

As a top 10 manager and investor, with more than $400 billion in assets and a 60-year legacy, we continue to invest in scaling and expanding our alternatives capabilities across private equity, hedge funds, private credit, real estate and infrastructure. After launching J.P. Morgan Private Capital two years ago, we successfully introduced technology, consumer and life sciences strategies. As access to alternatives continues to widen, we launched J.P. Morgan Real Estate Income Trust (JPMREIT) and JPMorgan Private Markets Fund (JPMF), which is one of the industry's first private equity funds available to individual investors. Overall, alternatives across AWM continue to grow.

Acquisitions

Global Shares, a share plan administrator of both public and private companies around the world, is one of our most recent acquisitions. As we build out our broader J.P. Morgan Workplace offering, we are leveraging Global Shares as the foundation to help new companies accelerate growth and encourage employees and owners to invest. With plan participants from over 100 countries, the number continues to grow – up 15% this past year. Just as impressive, client assets are up 32% since the acquisition. We also completed the acquisition of China International Fund Management (CIFM), rebranding it as J.P. Morgan Asset Management (China). We commemorated this pivotal rebrand by moving 400 new onshore colleagues into Shanghai Tower. This served not only as a celebration but also as a testament to our shared heritage, global strengths and deep-rooted expertise in the local market, as J.P. Morgan's history in China dates back more than 100 years.

J.P. Morgan Asset Management (China)'s headquarters in the heart of downtown Shanghai.

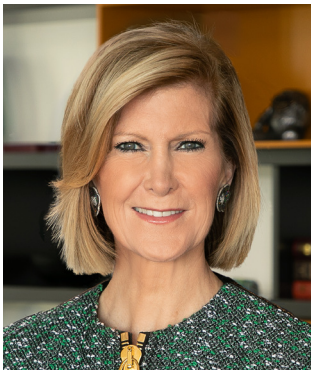
A rigorously controlled environment

To ensure scalable growth, we are committed to operational excellence – from enhancing trades, client transactions and money movement to simplifying interactions and implementing robust controls and safeguards. Some of these efforts are being further enhanced using AI to streamline our processes, manage risk and make informed decisions to protect our clients. Additionally, these investments in our infrastructure help us – as fiduciaries – perform optimized stress testing of client portfolios on a consistent basis.

CONCLUSION

As I have said from the beginning of my tenure as CEO of AWM, our focus is on being the best in the industry, not the biggest. And by best, I mean the best performer for clients. Advice is not a simple commodity. Strong investment performance across a broad, diversified offering paired with best-in-class advice and thought leadership are critical elements. I am confident that our capabilities and commitment to future-focused investments, as well as enhancements using technology and AI, will bolster our ability to serve our clients and empower them to attain their future success. By achieving optimal results through these efforts, clients reward us with their flows, and future growth will follow. Furthermore, we hold a unique advantage that sets us apart from all of our competitors: Being part of JPMorgan Chase provides us with unmatched resources, opportunities and scale.

I am so proud of how we helped our clients and shareholders navigate the challenges of 2023 and previous market cycles. Our industry-leading growth of client assets is a testament to our unwavering commitment to delivering on our fiduciary responsibilities and dedication to serving clients' best interests. We are deeply grateful for this trust and will continue to strive for excellence in all we do, each and every day.



Mary Callahan Erdoes
CEO, Asset & Wealth Management

Corporate Responsibility

Across the firm, we believe that the strength of our company is inextricably linked to the vitality of our communities.

When families do well, we do well. When communities thrive, we thrive.

In Corporate Responsibility (CR), we put this philosophy into action by operating at the nexus of business, policy and community. We understand that complex problems aren't solved with a single grant or meeting but rather require multifaceted solutions. This is why we have brought together our philanthropy, government relations, research and policy, sustainability and community engagement functions to tackle inclusive economic growth as one team. Our integrated model allows us to tap a wide-ranging set of tools and perspectives to address societal issues impacting our clients, customers and employees and drive favorable conditions for the firm's continued success.

We are not just committed to delivering for communities – we are built for it. With team members around the globe, we partner with local residents to understand what's happening on the ground and how JPMorgan Chase can use its unique expertise and resources to maximize impact. Recognizing that there is no one-size-fits-all approach, our local strategies are informed by global insights yet intentionally tailored to the local context, whether that is a region, neighborhood or even city block.

To me, there is nothing more rewarding than seeing our impact up close. In that spirit, I invite you to learn about our work in Washington, D.C., Maryland and Virginia (Greater Washington); the United Kingdom (U.K.); Dallas-Fort Worth; and Chicago. These place-based case studies showcase the breadth and depth of our engagements in hundreds of communities around the world – and show that working in lockstep with communities is critical to promoting a strong business environment.

GREATER WASHINGTON

Landscape

While the firm has operated in Greater Washington for more than 50 years, over the past decade we have made a concerted effort to advance our business footprint by opening new branches, hiring local employees, lending to small businesses and contributing in other ways. We have intentionally invested in areas where we can grow alongside communities and help residents achieve financial security, especially in Washington, D.C., and Baltimore, two cities with significant racial wealth divides.

Our approach

We have pursued initiatives to address these disparities and lift up the region's residents and workforce.

- In D.C., we provided $3 million to help launch the Congress Heights Community Training and Development Corporation's (CHCTDC) small business career and skills building incubator in Wards 7 and 8.
- We partnered with Baltimore's Mayor's Office of Employment Development to launch our Baltimore Virtual Call Center, hiring 40 Baltimore-based customer service specialists and leaders.
- Working with the Greater Washington Partnership and Education Strategy Group – and with support from local government leaders in D.C., Maryland and Virginia – we recommitted $5.4 million to the TalentReady initiative to support the preparation of high school students across the region for in-demand careers, building on our previous commitment that engaged more than 25,000 students across five school districts.

Our impact in action

We first worked with Monica Ray at CHCTDC, where she had served as the organization's executive director for more than two decades. Monica has devoted her career to her community, attracting investment to help improve Wards 7 and 8's low homeownership and high poverty and unemployment rates. After years of collaborating on CHCTDC initiatives and the opening of Chase's Community Center Branch in Skyland Town Center, Monica shared her vision about helping to launch a small business career and skills building incubator.

"We are providing support and coaching for promising new businesses, as well as for entrepreneurs still in the idea stage," she says. "Our JPMorgan Chase partnership helps us arm these socially and economically disadvantaged women entrepreneurs with the processes and systems they need to succeed in their business ventures."

Monica and her team have already helped launch 83 new businesses and are growing 47 more, creating jobs and building individual and community wealth.

THE UNITED KINGDOM

Landscape

The U.K. has long been an important market for our firm. With over 22,000 employees, our offerings have continued to grow with the 2021 launch of the Chase digital consumer bank and the expansion in the U.K. of our commercial banking, investment banking and asset management businesses. While our presence has evolved, the country's economic landscape has experienced historic changes, with ongoing income inequality and nearly 22% of U.K. residents living in poverty .

Our approach

To address some of the challenges facing the U.K., we have focused on helping businesses succeed, supporting individuals as they build a strong financial future and connecting people to job opportunities. This has included committing $64 million in philanthropic capital over the past five years, alongside the firm's active employee volunteerism programs, civic partnerships, and close engagements with government and nonprofits. We have also promoted efforts to boost the U.K.'s leadership in sustainable finance, providing input on a report offering recommendations the U.K. can take to unlock capital at scale to transition to a more sustainable energy system.

Examples of our work to benefit local communities and economic growth include:

- The Aspiring Professionals Program (APP), run in collaboration with the Social Mobility Foundation, works to connect talented young people from low-income backgrounds with work and mentorship experiences at JPMorgan Chase.
- The Founders Forward mentoring program pairs women entrepreneurs in the U.K. with JPMorgan Chase mentors, who provide business strategy and leadership development guidance.

Our impact in action

Over the past five years, our collective work with nonprofits has helped more than 33,000 people reduce their debts and improve their financial health. We have also provided resources to support the growth of over 10,000 small businesses and place 9,000+ individuals into apprenticeships or full- or part-time positions.

Since launching in 2012, the APP has supported more than 800 young people, 86% of whom began full-time employment at JPMorgan Chase or other firms within 15 months of graduation. Radhika, currently a vice president with the firm's Global Rates team, enrolled in APP. She credits the program with helping her build the skills she needed for the interview process and now in her sales role at the firm.

Featured above: Elle

Founders Forward is also changing lives. Approximately 240 women entrepreneurs in the U.K. have participated in the program. This includes Elle, whose business won a startup accelerator competition and expanded to the United States. In addition to the U.K., we are proud to offer Founders Forward in France and Germany, further embedding our commitment to fostering entrepreneurship into the fabric of our global company.

DALLAS-FORT WORTH

Landscape

Texas is home to our largest employee base in the United States. With many companies like ours recognizing Texas as a great place to do business, the state is currently experiencing a skilled-labor shortage, specifically in the Dallas-Fort Worth area. This local challenge will persist: Although 85% of living-wage jobs in Dallas County require education beyond a high school degree, as of 2017, 73% of Texas' students were not able to receive postsecondary credentials within six years, largely due to financial obstacles.

Our approach

To help young people access educational and skills training opportunities, we began advising and funding data-driven nonprofits, including the Commit Partnership and Tarrant To & Through (T3) Partnership, coalitions of school systems, higher education institutions, local and state governments, foundations, employers and workforce agencies, among others.

While these organizations work to address compounding issues that impact student success and graduation rates, our commitments are deliberately focused on initiatives where we have expertise and insights to add the greatest value. In 2023, we committed:

- $1.5 million to The Commit Partnership's Opportunity 2040 Plan Phase 1 to support a comprehensive 18-year investment plan to help improve the long-term financial health of 150,000 current students by 2040.
- $750,000 to the T3 Pathways to Careers (P2C) platform to provide a virtual college-to-career resource to help parents and students understand what's needed to pursue industry-based credentials, degrees, certifications and job opportunities.

We also promote policies at the local, state and federal levels that align with our goals. Since 2022, we have been a vocal champion of Texas's House Bill 8 legislation that creates a new funding model that incentivizes community colleges in Texas to ensure that more students complete certificates and other credentials or transfer to a four-year university to complete their undergraduate degree.

Our impact in action

Halfway through the first year, Commit-2Dallas's Opportunity 2040 Plan has already met 87% of its year 1 goal: to help an additional 7,700 students reach educational benchmarks that put them on a pathway to well-paying jobs. This work is touching Dallas County families like the Donjuans, whose oldest daughter Annahi will graduate from the University of North Texas at Dallas this spring. "I'm the first on both sides of my family … to obtain higher education," says Annahi. "I decided to attend college in order to start saving and serve as a role model for my siblings."

We are seeing a similar impact from our T3 P2C commitment. Over the next six months, T3 will integrate its platform with the registration process for all Fort Worth Independent School District middle school students, which will give approximately 15,000 students valuable information about educational opportunities at various high schools and careers they can pursue as an adult.

CHICAGO

Landscape

For more than 160 years, our firm has served Chicago, a city ripe with business opportunities – along with its share of challenges. Between 2017 and 2019, several reports captured the stark segregation and inequities among communities in Chicago, underscoring devastating impacts on economic vitality.

Our approach

Looking at this research and findings from the JPMorgan Chase Institute, we recognized an opportunity to change the decades-long trajectory of the city's South and West Sides from disinvestment to revitalization. Following conversations with policymakers and residents, we focused on addressing the city's affordable home shortage as an opportunity to catalyze wealth building.

To leverage vacant city-owned land, CR deepened partnerships with nonprofits building affordable homes in coordination with local government, including The Resurrection Project, Reclaiming Chicago and the Chicago Community Trust. These organizations target city blocks to acquire and build homes, supporting individual and community wealth. They also connect people with affordable mortgages and help them plan for costs like maintenance and repairs. Additionally, our businesses combined expertise to make one of our largest-ever affordable housing investments in redeveloping the Lawson YMCA into 400+ affordable housing units.

Our impact in action

We see returns on our commitments in the pride and promise of new homeowners, including Janay, a public school teacher. Janay saved part of every paycheck to purchase her first home and put down roots.

Featured above: Janay

"As a teacher, building a sense of community is one of the first things I do with my students at the beginning of the year. It is a way of making students feel safe, valued and supported. This home does the same for me," she reports.

Janay's inspiring story is one of many. Housing production from a collaborative of organizations – funded in part through grants from JPMorgan Chase – surged from 19 homes in 2022 to 79 homes in 2023, demonstrating significant progress toward the collaborative's goal of scaling production to more than 100 homes per year through 2030.

This is just the beginning. In addition to deploying $1.1 million in home loans and raising $50 million toward lending and home construction, our grantees have leveraged our philanthropic support to secure another 500 city-owned vacant lots and gain funding from the state of Illinois focused on assisting with down payments and closing appraisal gaps.

LOOKING AHEAD

The essence of our work outlined above can be captured in three words: **We show up**. As listeners, learners and community partners, we come to the table – real, tangible tables – ready to create avenues to economic opportunity.

At these various tables, we ask: "What's working?" We examine our investments with our colleagues across the firm and external partners, gaining an understanding of how winning approaches can be scaled to markets around the world. Our team's work ensuring that policymakers know the value we bring to communities becomes all the more important as we seek to scale solutions during this uncertain political moment. It is in tandem with elected officials and other stakeholders that we have brought, and will continue to bring, the right products and services to our clients and customers.

And when we show up, in good and in tough times, we will bring our holistic model, positioning ourselves to grow and truly be the bank for the place we are in, in every market we serve. We take this responsibility seriously. It is a privilege to bank more than 88 million customers and small businesses. It is a privilege to support schools, hospitals and other community institutions. But perhaps most of all, it is a privilege to lead by example, demonstrating through our business success that the private sector has a role to play in shaping a stronger, more inclusive economy for everyone.

Tim Berry

Global Head of Corporate Responsibility, Chairman of the Mid-Atlantic Region

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THREE-YEAR SUMMARY OF CONSOLIDATED FINANCIAL HIGHLIGHTS (unaudited)

As of or for the year ended December 31, (in millions, except per share, ratio, employee data and where otherwise noted)	2023	2022	2021
Selected income statement data			
Total net revenue	**$ 158,104**	$ 128,695	$ 121,649
Total noninterest expense	**87,172**	76,140	71,343
Pre-provision profit[a]	**70,932**	52,555	50,306
Provision for credit losses	**9,320**	6,389	(9,256)
Income before income tax expense	**61,612**	46,166	59,562
Income tax expense	**12,060**	8,490	11,228
Net income	**$ 49,552**	$ 37,676	$ 48,334
Earnings per share data			
Net income: Basic	**$ 16.25**	$ 12.10	$ 15.39
Diluted	**16.23**	12.09	15.36
Average shares: Basic	**2,938.6**	2,965.8	3,021.5
Diluted	**2,943.1**	2,970.0	3,026.6
Market and per common share data			
Market capitalization	**489,320**	393,484	466,206
Common shares at period-end	**2,876.6**	2,934.2	2,944.1
Book value per share	**104.45**	90.29	88.07
Tangible book value per share ("TBVPS")[a]	**86.08**	73.12	71.53
Cash dividends declared per share	**4.10**	4.00	3.80
Selected ratios and metrics			
Return on common equity ("ROE")	**17 %**	14 %	19 %
Return on tangible common equity ("ROTCE")[a]	**21**	18	23
Return on assets ("ROA")	**1.30**	0.98	1.30
Overhead ratio	**55**	59	59
Loans-to-deposits ratio	**55**	49	44
Firm Liquidity coverage ratio ("LCR") (average)[b]	**113**	112	111
JPMorgan Chase Bank, N.A. LCR (average)[b]	**129**	151	178
Common equity Tier 1 ("CET1") capital ratio[c][d]	**15.0**	13.2	13.1
Tier 1 capital ratio[c][d]	**16.6**	14.9	15.0
Total capital ratio[c][d]	**18.5**	16.8	16.8
Tier 1 leverage ratio[b][c]	**7.2**	6.6	6.5
Supplementary leverage ratio ("SLR")[b][c]	**6.1**	5.6	5.4
Selected balance sheet data (period-end)			
Trading assets	**$ 540,607**	$ 453,799	$ 433,575
Investment securities, net of allowance for credit losses	**571,552**	631,162	672,232
Loans	**1,323,706**	1,135,647	1,077,714
Total assets	**3,875,393**	3,665,743	3,743,567
Deposits	**2,400,688**	2,340,179	2,462,303
Long-term debt	**391,825**	295,865	301,005
Common stockholders' equity	**300,474**	264,928	259,289
Total stockholders' equity	**327,878**	292,332	294,127
Employees[e]	**309,926** [f]	293,723	271,025
Credit quality metrics			
Allowances for credit losses	**$ 24,765**	$ 22,204	$ 18,689
Allowance for loan losses to total retained loans	**1.75 %**	1.81 %	1.62 %
Nonperforming assets	**$ 7,597**	$ 7,247	$ 8,346
Net charge-offs	**6,209**	2,853	2,865
Net charge-off rate	**0.52 %**	0.27 %	0.30 %

As of and for the period ended December 31, 2023, the results of the Firm include the impact of First Republic. Refer to Business Segment Results on page 67 and Note 34 for additional information.

(a) Pre-provision profit, TBVPS and ROTCE are each non-GAAP financial measures. Tangible common equity ("TCE") is also a non-GAAP financial measure. Refer to Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 62–64 for a discussion of these measures.

(b) For the years ended December 31, 2023, 2022 and 2021, the percentage represents average ratios for the three months ended December 31, 2023, 2022 and 2021.

(c) The ratios reflect the Current Expected Credit Losses ("CECL") capital transition provisions. Refer to Note 27 for additional information.

(d) Reflects the Firm's ratios under the Basel III Standardized approach. Refer to Capital Risk Management on pages 91-101 for additional information.

(e) This metric, which was formerly Headcount, has been renamed Employees but is otherwise unchanged. Refer to Part I, Item 1, Business section on pages 2-3 of this Form 10-K for a further discussion of Human Capital.

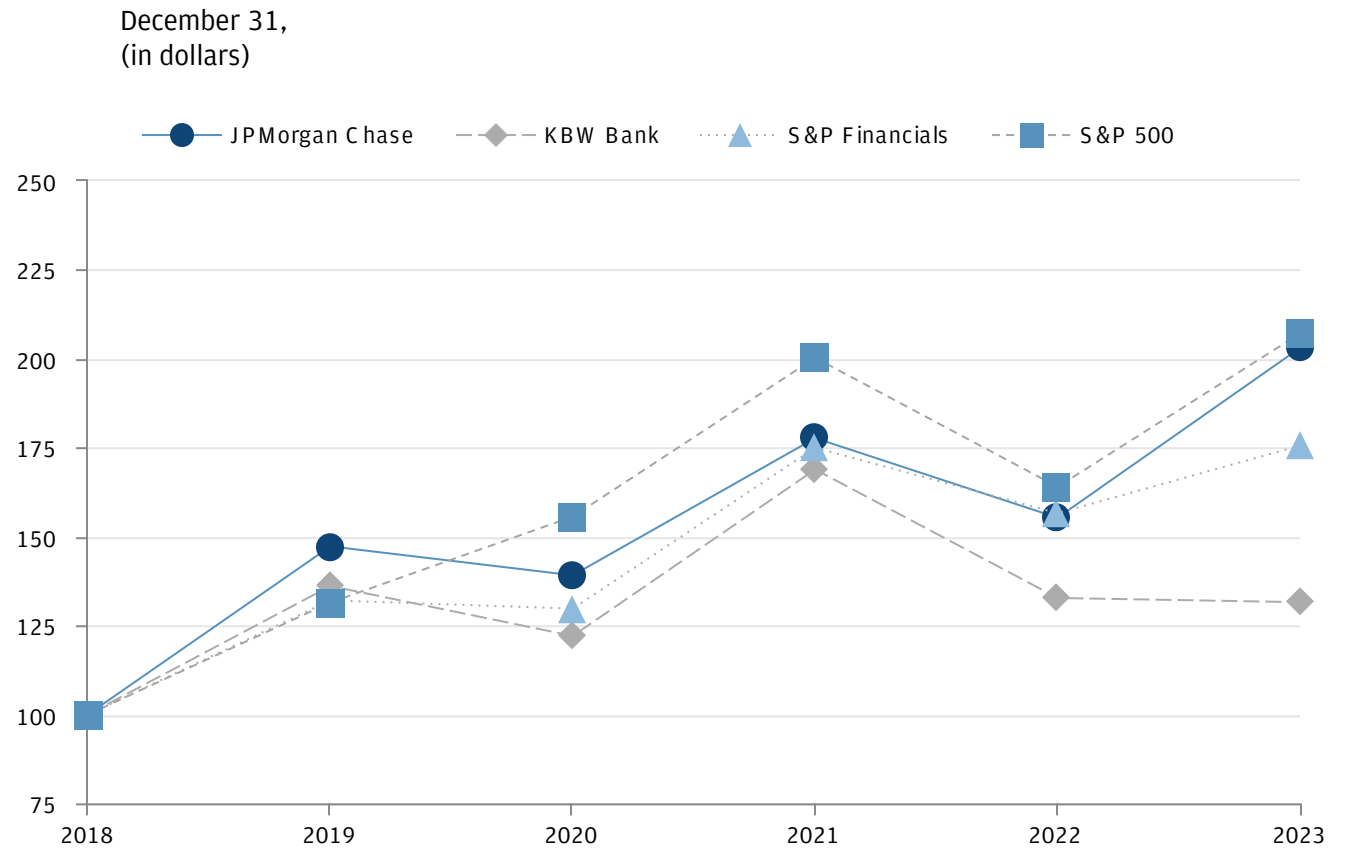
(f) Included approximately 4,500 individuals associated with First Republic who became employees effective July 2, 2023.

FIVE-YEAR STOCK PERFORMANCE

The following table and graph compare the five-year cumulative total return for JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm") common stock with the cumulative return of the S&P 500 Index, the KBW Bank Index and the S&P Financials Index. The S&P 500 Index is a commonly referenced equity benchmark in the United States of America ("U.S."), consisting of leading companies from different economic sectors. The KBW Bank Index seeks to reflect the performance of banks and thrifts that are publicly traded in the U.S. and is composed of leading national money center and regional banks and thrifts. The S&P Financials Index is an index of financial companies, all of which are components of the S&P 500. The Firm is a component of all three industry indices.

The following table and graph assume simultaneous investments of $100 on December 31, 2018, in JPMorgan Chase common stock and in each of the above indices. The comparison assumes that all dividends were reinvested.

December 31, (in dollars)	2018	2019	2020	2021	2022	**2023**
JPMorgan Chase	$ 100.00	$ 147.27	$ 139.14	$ 177.72	$ 155.33	**$ 203.09**
KBW Bank Index	100.00	136.12	122.09	168.90	132.76	**131.58**
S&P Financials Index	100.00	132.09	129.77	175.02	156.59	**175.61**
S&P 500 Index	100.00	131.48	155.65	200.29	164.02	**207.13**



Management's discussion and analysis

The following is Management's discussion and analysis of the financial condition and results of operations ("MD&A") of JPMorgan Chase for the year ended December 31, 2023. The MD&A is included in both JPMorgan Chase's Annual Report for the year ended December 31, 2023 ("Annual Report") and its Annual Report on Form 10-K for the year ended December 31, 2023 ("2023 Form 10-K" or "Form 10-K") filed with the Securities and Exchange Commission ("SEC"). Refer to the Glossary of terms and acronyms on pages 315-321 for definitions of terms and acronyms used throughout the Annual Report and the 2023 Form 10-K.

This Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on the current beliefs and expectations of JPMorgan Chase's management, speak only as of the date of this Form 10-K and are subject to significant risks and uncertainties. Refer to Forward-looking Statements on page 161 and Part 1, Item 1A: Risk factors in this Form 10-K on pages 9-33 for a discussion of certain of those risks and uncertainties and the factors that could cause JPMorgan Chase's actual results to differ materially because of those risks and uncertainties. There is no assurance that actual results will be in line with any outlook information set forth herein, and the Firm does not undertake to update any forward-looking statements.

INTRODUCTION

JPMorgan Chase & Co. (NYSE: JPM), a financial holding company incorporated under Delaware law in 1968, is a leading financial services firm based in the United States of America ("U.S."), with operations worldwide. JPMorgan Chase had $3.9 trillion in assets and $327.9 billion in stockholders' equity as of December 31, 2023. The Firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. Under the J.P. Morgan and Chase brands, the Firm serves millions of customers, predominantly in the U.S., and many of the world's most prominent corporate, institutional and government clients globally.

JPMorgan Chase's principal bank subsidiary is JPMorgan Chase Bank, National Association ("JPMorgan Chase Bank, N.A."), a national banking association with U.S. branches in 48 states and Washington, D.C. JPMorgan Chase's principal non-bank subsidiary is J.P. Morgan Securities LLC ("J.P. Morgan Securities"), a U.S. broker-dealer. The bank and non-bank subsidiaries of JPMorgan Chase operate nationally as well as through overseas branches and subsidiaries, representative offices and subsidiary foreign banks. The Firm's principal operating subsidiaries outside the U.S. are J.P. Morgan Securities plc and J.P. Morgan SE ("JPMSE"), which are subsidiaries of JPMorgan Chase Bank, N.A. and are based in the United Kingdom ("U.K.") and Germany, respectively.

For management reporting purposes, the Firm's activities are organized into four major reportable business segments, as well as a Corporate segment. The Firm's consumer business is the Consumer & Community Banking ("CCB") segment. The Firm's wholesale businesses are the Corporate & Investment Bank ("CIB"), Commercial Banking ("CB"), and Asset & Wealth Management ("AWM") segments. Refer to Business Segment Results on pages 65-85, and Note 32 for a description of the Firm's business segments, and the products and services they provide to their respective client bases. On May 1, 2023, JPMorgan Chase acquired certain assets and assumed certain liabilities of First Republic Bank (the "First Republic acquisition") from the Federal Deposit Insurance Corporation ("FDIC"). All references in this Form 10-K to "excluding First Republic," "including First Republic," "associated with First Republic" or "attributable to First Republic" refer to excluding or including the relevant effects of the First Republic acquisition, as well as subsequent related business and activities, as applicable. Refer to Note 34 for additional information.

The Firm's website is www.jpmorganchase.com. JPMorgan Chase makes available on its website, free of charge, annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934, as soon as reasonably practicable after it electronically files or furnishes such material to the U.S. Securities and Exchange Commission (the "SEC") at www.sec.gov. JPMorgan Chase makes new and important information about the Firm available on its website at https://www.jpmorganchase.com, including on the Investor Relations section of its website at https://www.jpmorganchase.com/ir. Information on the Firm's website, including documents on the website that are referenced in this Form 10-K, is not incorporated by reference into this 2023 Form 10-K or the Firm's other filings with the SEC.

This executive overview of the MD&A highlights selected information and does not contain all of the information that is important to readers of the Firm's 2023 Form 10-K. For a complete description of the trends and uncertainties, as well as the risks and critical accounting estimates affecting the Firm, the 2023 Form 10-K should be read in its entirety.

Financial performance of JPMorgan Chase

Year ended December 31, (in millions, except per share data and ratios)	2023	2022	Change
Selected income statement data			
Noninterest revenue	**$ 68,837**	$ 61,985	11%
Net interest income	**89,267**	66,710	34
Total net revenue	**158,104**	128,695	23
Total noninterest expense	**87,172**	76,140	14
Pre-provision profit	**70,932**	52,555	35
Provision for credit losses	**9,320**	6,389	46
Net income	**49,552**	37,676	32
Diluted earnings per share	**16.23**	12.09	34
Selected ratios and metrics			
Return on common equity	**17 %**	14 %	
Return on tangible common equity	**21**	18	
Book value per share	**$ 104.45**	$ 90.29	16
Tangible book value per share	**86.08**	73.12	18
Capital ratios[a][b]			
CET1 capital	**15.0 %**	**13.2 %**	
Tier 1 capital	**16.6**	**14.9**	
Total capital	**18.5**	**16.8**	
Memo:			
NII excluding Markets[c]	**$ 90,041**	$ 62,355	44
NIR excluding Markets[c]	**44,533**	40,938	9
Markets[c]	**27,792**	28,984	(4)
Total net revenue - managed basis	**$ 162,366**	$ 132,277	23

As of and for the year ended December 31, 2023, the results of the Firm include the impact of First Republic. Refer to page 67 and Note 34 for additional information.

(a) The ratios reflect the CECL capital transition provisions. Refer to Note 27 for additional information.
(b) Reflects the Firm's ratios under the Basel III Standardized approach. Refer to Capital Risk Management on pages 91-101 for additional information.
(c) NII and NIR refer to net interest income and noninterest revenue, respectively. Markets consists of CIB's Fixed Income Markets and Equity Markets businesses.

Comparisons noted in the sections below are for the full year of 2023 versus the full year of 2022, unless otherwise specified.

Firmwide overview

JPMorgan Chase reported net income of $49.6 billion for 2023, up 32%, earnings per share of $16.23, ROE of 17% and ROTCE of 21%.

- **Total net revenue** was $158.1 billion, up 23%, reflecting:
  - **Net interest income** ("NII") of $89.3 billion, up 34%, driven by higher rates, the impact of First Republic, and higher revolving balances in Card Services, partially offset by lower Markets net interest income and lower average deposit balances. NII excluding Markets was $90.0 billion, up 44%.
  - **Noninterest revenue** ("NIR") was $68.8 billion, up 11%, driven by the impact of First Republic, including the $2.8 billion estimated bargain purchase gain, higher Markets noninterest revenue, and higher asset management fees, partially offset by the absence of the gain on the sale of Visa B shares in the prior year, higher net securities losses in Treasury and CIO, and lower auto operating lease income.
- **Noninterest expense** was $87.2 billion, up 14%, predominantly driven by higher compensation expense, reflecting an increase in employees, primarily in technology and front office, as well as wage inflation. The increase in expense also includes the $2.9 billion FDIC special assessment and costs associated with the First Republic acquisition.
- The **provision for credit losses** was $9.3 billion, reflecting $6.2 billion of net charge-offs and a net addition to the allowance for credit losses of $3.1 billion. Net charge-offs increased $3.3 billion, predominantly driven by Card Services, and to a lesser extent single name exposures in wholesale. The net addition to the allowance for credit losses included:
  - a net addition of $1.3 billion in **consumer**, predominantly driven by CCB, reflecting $1.4 billion in Card Services driven by loan growth, including an increase in revolving balances, partially offset by a net reduction of $200 million in Home Lending, and
  - a net addition of $657 million in **wholesale**, driven by net downgrade activity and a deterioration in the outlook for commercial real estate in CB.

  The net addition also included $1.2 billion to establish the allowance for First Republic loans and lending-related commitments in the second quarter of 2023.

  The provision in the prior year included a $3.5 billion net addition to the allowance for credit losses and net charge-offs of $2.9 billion.
- The total **allowance for credit losses** was $24.8 billion at December 31, 2023. The Firm had an allowance for loan losses to retained loans coverage ratio of 1.75%, compared with 1.81% in the prior year.
- The Firm's **nonperforming assets** totaled $7.6 billion at December 31, 2023, up 5%, predominantly driven by wholesale nonaccrual loans, which reflected the impact of downgrades. Refer to Wholesale Credit Portfolio and Consumer Credit Portfolio on pages 120–130 and pages 114–119, respectively, for additional information.

- Firmwide **average loans** of $1.2 trillion were up 13%, predominantly driven by higher loans in CCB and CB, primarily as a result of First Republic.
- Firmwide **average deposits** of $2.4 trillion were down 4%, driven by
  - continued migration into higher-yielding investments in AWM, the impact of higher customer spending in CCB, continued deposit attrition in CB, and a net decline in CIB, which included actions taken to reduce certain deposits,

  partially offset by
  - the increase in deposits associated with First Republic, and growth related to the Firm's international consumer initiatives in Corporate.

  Refer to Liquidity Risk Management on pages 102–109 for additional information.

Selected capital and other metrics

- **CET1 capital** was $251 billion, and the Standardized and Advanced CET1 ratios were both 15.0%.
- **SLR** was 6.1%.
- **TBVPS** grew 18%, ending 2023 at $86.08.
- As of December 31, 2023, the Firm had eligible end-of-period **High Quality Liquid Assets** ("HQLA") of approximately $798 billion and unencumbered **marketable securities** with a fair value of approximately $649 billion, resulting in approximately $1.4 trillion of liquidity sources. Refer to Liquidity Risk Management on pages 102–109 for additional information.

Refer to Consolidated Results of Operations and Consolidated Balance Sheets Analysis on pages 54–57 and pages 58–60, respectively, for a further discussion of the Firm's results, including the provision for credit losses; and Business Segment Results on page 67 and Note 34 for additional information on the First Republic acquisition.

Pre-provision profit, ROTCE, TCE, TBVPS, NII and NIR excluding Markets, and total net revenue on a managed basis are non-GAAP financial measures. Refer to Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 62–64 for a further discussion of each of these measures.

Business segment highlights

Selected business metrics for each of the Firm's four lines of business ("LOB") are presented below for the full year of 2023, and include the impact of First Republic, unless otherwise specified.

CCB ROE 38%	• Average deposits down 3%; client investment assets up 47%, or up 25% excluding First Republic • Average loans up 20%, or up 6% excluding First Republic; Card Services net charge-off rate of 2.45% • Debit and credit card sales volume[(a)] up 8% • Active mobile customers[(b)] up 8%
CIB ROE 13%	• #1 ranking for Global Investment Banking fees with 8.8% wallet share for the year • Total Markets revenue of $27.8 billion, down 4%, with Fixed Income Markets up 1% and Equity Markets down 13%
CB ROE 20%	• Gross Investment Banking and Markets revenue of $3.4 billion, up 14% • Average loans up 20%, or up 8% excluding First Republic; average deposits down 9%
AWM ROE 31%	• Assets under management ("AUM") of $3.4 trillion, up 24% • Average loans up 2%, or down 2% excluding First Republic; average deposits down 17%

(a) Excludes Commercial Card.
(b) Users of all mobile platforms who have logged in within the past 90 days. As of December 31, 2023, excludes First Republic.

Refer to the Business Segment Results on pages 65-85 for a detailed discussion of results by business segment.

Credit provided and capital raised

JPMorgan Chase continues to support consumers, businesses and communities around the globe. The Firm provided new and renewed credit and raised capital for wholesale and consumer clients during 2023, consisting of:

$2.3 trillion	Total credit provided and capital raised (including loans and commitments)
$239 billion	Credit for consumers
$36 billion	Credit for U.S. small businesses
$1.0 trillion	Credit for corporations
$915 billion	Capital for corporate clients and non-U.S. government entities
$47 billion	Credit and capital for nonprofit and U.S. government entities[(a)]

(a) Includes states, municipalities, hospitals and universities.

Recent events

- On February 6, 2024, JPMorgan Chase announced that it plans to open more than 500 new branches, renovate approximately 1,700 locations and hire 3,500 employees over the next three years.
- On January 25, 2024, JPMorgan Chase announced new responsibilities for several key executives:
  - Jennifer Piepszak, formerly the Co-Chief Executive Officer ("CEO") of CCB, and Troy Rohrbaugh, formerly the Co-head of Markets and Securities Services, became Co-CEOs of the expanded Commercial & Investment Bank, which brings together the Firm's major wholesale businesses consisting of Global Investment Banking, Commercial Banking and Corporate Banking, as well as Markets, Securities Services and Global Payments.
  - Marianne Lake, the former Co-CEO of CCB, became the sole CEO of that business.
  - James Dimon, Chairman and CEO, and Daniel Pinto, President and Chief Operating Officer, will continue to jointly manage the company, with Mr. Pinto focusing on the execution of the Firm's LOB priorities.

  As a result of these organizational changes, the Firm will be reorganizing its business segments to reflect the manner in which the segments will be managed. The reorganization of the business segments is expected to be effective in the second quarter of 2024.
- On January 16, 2024, JPMorgan Chase announced that Mark Weinberger, 62, had been elected to its Board of Directors, effective immediately. He will also serve as a member of the Board's Audit Committee. Mr. Weinberger served as the Global Chairman and Chief Executive Officer of Ernst & Young from 2013 to 2019.

Outlook

These current expectations are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements are based on the current beliefs and expectations of JPMorgan Chase's management, speak only as of the date of this Form 10-K, and are subject to significant risks and uncertainties. Refer to Forward-Looking Statements on page 161 and Part I, Item 1A, Risk Factors section on pages 9-33 of this Form 10-K for a further discussion of certain of those risks and uncertainties and the other factors that could cause JPMorgan Chase's actual results to differ materially because of those risks and uncertainties. There is no assurance that actual results in 2024 will be in line with the outlook information set forth below, and the Firm does not undertake to update any forward-looking statements.

JPMorgan Chase's current outlook for full-year 2024 should be viewed against the backdrop of the global and U.S. economies, financial markets activity, the geopolitical environment, the competitive environment, client and customer activity levels, and regulatory and legislative developments in the U.S. and other countries where the Firm does business. Each of these factors will affect the performance of the Firm. The Firm will continue to make appropriate adjustments to its businesses and operations in response to ongoing developments in the business, economic, regulatory and legal environments in which it operates.

Full-year 2024

- Management expects net interest income to be approximately $90 billion, market dependent.
- Management expects net interest income excluding Markets to be approximately $88 billion, market dependent.
- Management expects adjusted expense to be approximately $90 billion, market dependent.
- Management expects the net charge-off rate in Card Services to be less than 3.50%.

Net interest income excluding Markets and adjusted expense are non-GAAP financial measures. Refer to Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 62-64.

Business Developments

First Republic acquisition

On May 1, 2023, JPMorgan Chase acquired certain assets and assumed certain liabilities of First Republic Bank (the "First Republic acquisition") from the Federal Deposit Insurance Corporation (“FDIC”), as receiver.

JPMorgan Chase’s Consolidated Financial Statements as of and for the period ended December 31, 2023 reflect the impact of First Republic. Where meaningful to the disclosure, the impact of the First Republic acquisition, as well as subsequent related business and activities, are disclosed in various sections of this Form 10-K. The Firm continues to convert certain operations, and to integrate clients, products and services, associated with the First Republic acquisition to align with the Firm’s businesses and operations.

Refer to Note 34 and page 67 for additional information related to First Republic.

Interbank Offered Rate (“IBOR”) transition

The publication of the remaining principal tenors of U.S. dollar LIBOR (i.e., overnight, one-month, three-month, six-month and 12-month LIBOR) ceased on June 30, 2023 (“LIBOR Cessation”). The one-month, three-month and six-month tenors of U.S. dollar LIBOR will continue to be published on a "synthetic" basis, which will allow market participants to use such rates for certain legacy LIBOR-linked contracts through September 30, 2024.

As part of the Firm’s overall transition efforts which culminated in the second quarter of 2023, the Firm successfully completed the conversion of predominantly all of its remaining cleared derivatives contracts linked to U.S. dollar LIBOR to the Secured Overnight Financing Rate (“SOFR”) as part of initiatives by the principal central counterparties (“CCPs”) to convert cleared derivatives prior to LIBOR Cessation. Nearly all of the Firm’s other U.S. dollar LIBOR-linked products that remained outstanding at LIBOR Cessation have been remediated through contractual fallback provisions or through the framework provided by the Adjustable Interest Rate (LIBOR) Act (“LIBOR Act”). The Firm expects that the limited number of contracts remaining that reference “synthetic” U.S. dollar LIBOR will be remediated by September 30, 2024.

CONSOLIDATED RESULTS OF OPERATIONS

This section provides a comparative discussion of JPMorgan Chase's Consolidated Results of Operations on a reported basis for the two-year period ended December 31, 2023, unless otherwise specified. Refer to Consolidated Results of Operations on pages 51-54 of the Firm's Annual Report on Form 10-K for the year ended December 31, 2022 (the "2022 Form 10-K") for a discussion of the 2022 versus 2021 results. Factors that relate primarily to a single business segment are discussed in more detail within that business segment's results. Refer to pages 155–158 for a discussion of the Critical Accounting Estimates Used by the Firm that affect the Consolidated Results of Operations.

Revenue

Year ended December 31, (in millions)	2023	2022	2021
Investment banking fees	**$ 6,519**	$ 6,686	$ 13,216
Principal transactions	**24,460**	19,912	16,304
Lending- and deposit-related fees	**7,413**	7,098	7,032
Asset management fees	**15,220**	14,096	14,405
Commissions and other fees	**6,836**	6,581	6,624
Investment securities losses	**(3,180)**	(2,380)	(345)
Mortgage fees and related income	**1,176**	1,250	2,170
Card income	**4,784**	4,420	5,102
Other income[a]	**5,609** [b]	4,322	4,830
Noninterest revenue	**68,837**	61,985	69,338
Net interest income	**89,267**	66,710	52,311
Total net revenue	**$ 158,104**	$ 128,695	$ 121,649

(a) Included operating lease income of $2.8 billion, $3.7 billion and $4.9 billion for the years ended December 31, 2023, 2022 and 2021, respectively. Also includes losses on tax-oriented investments. Refer to Note 6 for additional information.

(b) Included the estimated bargain purchase gain of $2.8 billion for the year ended December 31, 2023, in Corporate associated with the First Republic acquisition. Refer to Business Segment Results on page 67, and Notes 6 and 34 for additional information.

2023 compared with 2022

Investment banking fees decreased, reflecting in CIB:

- lower advisory fees due to a lower number of completed transactions, reflecting the lower level of announced deals in the current and the prior year amid a challenging environment, and
- lower debt underwriting fees as challenging market conditions, primarily in the first half of the year, resulted in lower issuance activity across leveraged loans, investment-grade loans and high-grade bonds. This was largely offset by higher issuance activity in high-yield bonds driven by higher industry-wide issuance,

partially offset by

- higher equity underwriting fees driven by a higher level of follow-on offerings due to lower equity market volatility and a higher level of convertible securities offerings, which benefited from higher rates, partially offset by lower activity in private placements amid a challenging environment.

Refer to CIB segment results on pages 72–77 and Note 6 for additional information.

Principal transactions revenue increased, reflecting in CIB:

- higher Equity Markets principal transactions revenue in Prime Finance and Equity Derivatives,
- higher Fixed Income Markets principal transactions revenue in Securitized Products and Fixed Income Financing, largely offset by lower revenue in Rates and Currencies & Emerging Markets;
  - the net increase in Markets principal transactions revenue was more than offset by a decline in Markets net interest income, primarily due to higher funding costs; and
- losses of $280 million in Credit Adjustments & Other compared with $836 million in the prior year.

The prior year included net markdowns on held-for-sale positions, primarily unfunded commitments, in the bridge financing portfolio in CIB and CB.

The increase in principal transactions revenue also included the impact of higher short-term cash deployment activities in Treasury and CIO, reflective of the current interest rate environment.

Principal transactions revenue in CIB generally has offsets across other revenue lines, including net interest income. The Firm assesses the performance of its Markets business on a total net revenue basis.

Refer to CIB and Corporate segment results on pages 72–77 and pages 84–85, respectively, and Note 6 for additional information.

Lending- and deposit-related fees increased, reflecting:

- higher lending-related revenue driven by the amortization of the purchase discount on certain acquired lending-related commitments associated with First Republic, primarily in AWM and CB,

predominantly offset by

- lower deposit-related fees in CB and CIB driven by the higher level of client credits that reduce such fees.

Refer to CIB, CB and AWM segment results on pages 72–77, pages 78–80 and pages 81–83, respectively, and Note 6 for additional information.

Asset management fees increased driven by strong net inflows and the removal of most money market fund fee waivers in the prior year in AWM, and in CCB the impact of First Republic, as well as higher average market levels and strong net inflows. Refer to CCB and AWM segment results on pages 68–71 and pages 81–83, respectively, and Note 6 for additional information.

Commissions and other fees increased due to higher commissions on annuity sales and travel-related services in CCB. Refer to CCB segment results on pages 68–71 and Note 6 for additional information.

Investment securities losses reflected higher net losses on higher sales of U.S. Treasuries and U.S. GSE and government agency MBS, associated with repositioning the investment securities portfolio in both periods in Treasury and CIO. Refer to Corporate segment results on pages 84–85 and Note 10 for additional information.

Mortgage fees and related income: refer to CCB segment results on pages 68–71, Note 6 and 15 for further information.

Card income increased in CIB and CB, reflecting growth in merchant processing volume and Commercial Card transactions in J.P. Morgan Payments; and in CCB, driven by higher net interchange income on increased debit and credit card sales volume. Refer to Business Segment Results, CCB, CIB and CB segment results on pages 65–85, pages 68–71, pages 72–77 and pages 78–80, respectively, and Note 6 for further information.

Other income increased, reflecting:

- the $2.8 billion estimated bargain purchase gain in Corporate associated with the First Republic acquisition,
- the impact of net investment hedges in Treasury and CIO, and
- a gain of $339 million recognized in the first quarter of 2023 in AWM on the original minority interest in China International Fund Management ("CIFM") upon the Firm's acquisition of the remaining 51% interest in the entity,

partially offset by

- lower auto operating lease income in CCB due to a decline in volume,
- lower net gains related to certain other Corporate investments, and
- the net impact of equity investments in CIB, including impairment losses in the second half of 2023,

The prior year included:

- a gain of $914 million on the sale of Visa B shares and proceeds from an insurance settlement in Corporate, and
- a gain on an equity-method investment received in partial satisfaction of a loan in CB.

Refer to Business Segment Results on page 67 and Note 34 for additional information on the First Republic acquisition; Note 5 for additional information on net investment hedges; and Note 6 for further information.

Net interest income increased driven by higher rates, the impact of First Republic, and higher revolving balances in Card Services, partially offset by lower Markets net interest income and lower average deposit balances.

The Firm's average interest-earning assets were $3.3 trillion, down $23 billion, and the yield was 5.14%, up 236 basis points ("bps"). The net yield on these assets, on an FTE basis, was 2.70%, an increase of 70 bps. The net yield excluding Markets was 3.85%, up 125 bps.

Refer to the Consolidated average balance sheets, interest and rates schedule on pages 310-314 for further information. Net yield excluding Markets is a non-GAAP financial measure. Refer to Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 62–64 for a further discussion of Net yield excluding Markets.

Provision for credit losses

Year ended December 31, (in millions)	2023	2022	2021
Consumer, excluding credit card	**$ 935**	$ 506	$ (1,933)
Credit card	**6,048**	3,353	(4,838)
Total consumer	**6,983**	3,859	(6,771)
Wholesale	**2,299**	2,476	(2,449)
Investment securities	**38**	54	(36)
Total provision for credit losses	**$ 9,320**	$ 6,389	$ (9,256)

2023 compared with 2022

The **provision for credit losses** was $9.3 billion, reflecting $6.2 billion of net charge-offs and a net addition of $3.1 billion to the allowance for credit losses.

Net charge-offs increased $3.3 billion, consisting of $2.6 billion in consumer, predominantly driven by Card Services, as the portfolio continued to normalize to pre-pandemic levels, and $698 million in wholesale.

The net addition to the allowance for credit losses included $1.9 billion, consisting of:

- $1.3 billion in **consumer**, predominantly driven by CCB, reflecting a $1.4 billion net addition in Card Services, partially offset by a net reduction of $200 million in Home Lending. The net addition in Card Services was driven by loan growth, including an increase in revolving balances, partially offset by reduced borrower uncertainty. The net reduction in Home Lending was driven by improvements in the outlook for home prices; and
- $657 million in **wholesale**, driven by net downgrade activity and the net effect of changes in the Firm's weighted average macroeconomic outlook, including a deterioration in the outlook for commercial real estate in CB, partially offset by the impact of changes in the loan and lending-related commitment portfolios.

The net addition also included $1.2 billion to establish the allowance for the First Republic loans and lending-related commitments in the second quarter of 2023.

The provision in the prior year included a $3.5 billion net addition to the allowance for credit losses, consisting of $2.3 billion in wholesale and $1.2 billion in consumer, driven by loan growth and deterioration in the Firm's macroeconomic outlook, partially offset by a reduction in the allowance related to a decrease in uncertainty associated with borrower behavior as the effects of the pandemic gradually receded, and net charge-offs of $2.9 billion.

Refer to the segment discussions of CCB on pages 68–71, CIB on pages 72–77, CB on pages 78–80, AWM on pages 81–83, the Allowance for Credit Losses on pages 131–133, and Notes 1, 10 and 13 for further discussion of the credit portfolio and the allowance for credit losses.

Noninterest expense

Year ended December 31, (in millions)	2023	2022	2021
Compensation expense	**$ 46,465**	$ 41,636	$ 38,567
Noncompensation expense:			
Occupancy	**4,590**	4,696	4,516
Technology, communications and equipment[(a)]	**9,246**	9,358	9,941
Professional and outside services	**10,235**	10,174	9,814
Marketing	**4,591**	3,911	3,036
Other[(b)]	**12,045**	6,365	5,469
Total noncompensation expense[(c)]	**40,707**	34,504	32,776
Total noninterest expense	**$ 87,172**	$ 76,140	$ 71,343

(a) Includes depreciation expense associated with auto operating lease assets.

(b) Included Firmwide legal expense of $1.4 billion, $266 million and $426 million, as well as FDIC-related expense of $4.2 billion, $860 million and $730 million for the years ended December 31, 2023, 2022 and 2021, respectively. Refer to Note 6 for additional information.

(c) Reflected the impact of First Republic of $1.5 billion, which included expenses recorded in the second quarter of 2023 with respect to individuals associated with First Republic who did not become employees of the Firm until July 2, 2023. Refer to Business Segment Results on page 67 for additional information.

2023 compared with 2022

Compensation expense increased driven by:

- an increase in employees, primarily in technology and front office, as well as wage inflation,
- the impact of First Republic in the second half of 2023, predominantly in CCB and Corporate, and
- higher volume- and revenue-related compensation predominantly in AWM and CCB.

Noncompensation expense increased as a result of:

- higher FDIC-related expense, which included the $2.9 billion special assessment recognized in Corporate,
- the impact of First Republic in Corporate and CCB,
- higher legal expense in CIB, Corporate and CCB,
- higher investments in the business, including marketing and technology, and
- higher other expenses, including higher indirect tax expense in CIB, and higher travel and entertainment expense across the segments,

partially offset by

- lower depreciation expense on lower auto lease assets.

Refer to Business Segment Results on page 67 and Note 34 for additional information on the First Republic acquisition; Note 6 for further information;

Income tax expense

Year ended December 31, (in millions, except rate)	2023	2022	2021
Income before income tax expense	**$ 61,612**	$ 46,166	$ 59,562
Income tax expense	**12,060**	8,490	11,228
Effective tax rate	**19.6 %**	18.4 %	18.9 %

2023 compared with 2022

The **effective tax rate** increased predominantly driven by:

- the higher level of pre-tax income and changes in the mix of income and expenses subject to U.S. federal, state and local taxes,
- lower benefits associated with tax audit settlements, and
- vesting of employee stock based awards,

largely offset by

- the impact of the income tax expense associated with the First Republic acquisition that was reflected in the estimated bargain purchase gain, which resulted in a reduction in the Firm's effective tax rate, and
- an income tax benefit related to the finalization of certain income tax regulations.

Refer to Note 25 for further information.

Consolidated balance sheets analysis

The following is a discussion of the significant changes between December 31, 2023 and 2022. Refer to pages 155–158 for a discussion of the Critical Accounting Estimates Used by the Firm that affect the Consolidated Balance Sheets.

Selected Consolidated balance sheets data

December 31, (in millions)	2023	2022	Change
Assets			
Cash and due from banks	**$ 29,066**	$ 27,697	5 %
Deposits with banks	**595,085**	539,537	10
Federal funds sold and securities purchased under resale agreements	**276,152**	315,592	(12)
Securities borrowed	**200,436**	185,369	8
Trading assets	**540,607**	453,799	19
Available-for-sale securities	**201,704**	205,857	(2)
Held-to-maturity securities	**369,848**	425,305	(13)
Investment securities, net of allowance for credit losses	**571,552**	631,162	(9)
Loans	**1,323,706**	1,135,647	17
Allowance for loan losses	**(22,420)**	(19,726)	14
Loans, net of allowance for loan losses	**1,301,286**	1,115,921	17
Accrued interest and accounts receivable	**107,363**	125,189	(14)
Premises and equipment	**30,157**	27,734	9
Goodwill, MSRs and other intangible assets	**64,381**	60,859	6
Other assets	**159,308**	182,884	(13)
Total assets	**$ 3,875,393**	$ 3,665,743	6 %

Cash and due from banks and deposits with banks increased reflecting the higher level of excess cash placed with the Federal Reserve Banks. The Firm's excess cash primarily resulted from:

- the net issuance of long-term debt, and
- the impact of maturities and paydowns of investment securities in Treasury and CIO,

partially offset by

- the impacts associated with the First Republic acquisition in the first half of 2023.

Federal funds sold and securities purchased under resale agreements decreased, reflecting a reduction in client-driven market-making activities, partially offset by higher cash deployment in Treasury and CIO.

Securities borrowed increased driven by Markets, reflecting a higher demand for securities to cover short positions and client-driven activities.

Refer to Note 11 for additional information on securities purchased under resale agreements and securities borrowed.

Trading assets increased, reflecting in Markets higher debt and equity instruments on client-driven market-making activities, partially offset by lower derivative receivables, primarily as a result of market movements. Refer to Notes 2 and 5 for additional information.

Investment securities decreased due to:

- lower available-for-sale ("AFS") securities driven by maturities and paydowns, predominantly offset by the impact of First Republic, net purchases, and the transfer of securities from held-to-maturity ("HTM") in the first quarter of 2023, and
- lower HTM securities driven by maturities and paydowns, and the transfer of securities to AFS.

Refer to Corporate segment results on pages 84–85, Investment Portfolio Risk Management on page 134 and Notes 2 and 10 for additional information on investment securities.

Loans increased, reflecting:

- $146 billion of loans associated with First Republic,
- growth in new accounts in Card Services, as well as higher revolving balances, which continued to normalize to pre-pandemic levels, and
- growth in Auto loans due to net originations.

The **allowance for loan losses** increased, reflecting:

- a net addition to the allowance for loan losses of $2.2 billion, consisting of:
  - $1.3 billion in **consumer**, predominantly driven by CCB, reflecting $1.4 billion in Card Services driven by loan growth, including an increase in revolving balances, partially offset by a net reduction of $176 million in Home Lending, and
  - $930 million in **wholesale**, driven by net downgrade activity and the net effect of changes in the Firm's weighted average macroeconomic outlook, and
- $1.1 billion to establish the allowance for the First Republic loans in the second quarter of 2023.

The allowance for loan losses also reflected a reduction of $587 million, on January 1, 2023, as a result of the adoption of the Financial Instruments - Credit Losses: Troubled Debt Restructurings accounting guidance.

References in this Form 10-K to "changes to the TDR accounting guidance" pertain to the Firm's adoption of this guidance.

There was also a $408 million net reduction in the allowance for lending-related commitments recognized in other liabilities on the Consolidated balance sheets.

Refer to Consolidated Results of Operations and Credit and Investment Risk Management on pages 54–57 and pages 111–134, respectively, and Notes 2, 3, 12 and 13 for additional information on loans and the total allowance for credit losses; and Business Segment Results on page 67 and Note 34 for additional information on the First Republic acquisition.

Accrued interest and accounts receivable decreased due to lower client receivables related to client-driven activities in Markets.

Premises and equipment increased as a result of the construction-in-process associated with the Firm's headquarters, the First Republic acquisition, largely lease right-of-use assets, and higher capitalized software. Refer to Note 16 and 18 for additional information.

Goodwill, MSRs and other intangibles increased predominantly due to:

- other intangibles and goodwill related to the acquisition of the remaining 51% interest in CIFM,
- core deposit intangibles associated with the First Republic acquisition, and
- higher MSRs as a result of net additions primarily from purchases, and the impact of higher interest rates, partially offset by the realization of expected cash flows.

Refer to Note 15 and 34 for additional information.

Other assets decreased reflecting the impact of the change in the type of collateral placed with CCPs from cash to securities.

Selected Consolidated balance sheets data

December 31, (in millions)	2023	2022	Change
Liabilities			
Deposits	**$ 2,400,688**	$ 2,340,179	3
Federal funds purchased and securities loaned or sold under repurchase agreements	**216,535**	202,613	7
Short-term borrowings	**44,712**	44,027	2
Trading liabilities	**180,428**	177,976	1
Accounts payable and other liabilities	**290,307**	300,141	(3)
Beneficial interests issued by consolidated variable interest entities ("VIEs")	**23,020**	12,610	83
Long-term debt	**391,825**	295,865	32
Total liabilities	**3,547,515**	3,373,411	5
Stockholders' equity	**327,878**	292,332	12
Total liabilities and stockholders' equity	**$ 3,875,393**	$ 3,665,743	6 %

Deposits increased, reflecting the net impact of:

- higher balances in CIB due to net issuances of structured notes as a result of client demand, as well as deposit inflows from client-driven activities in Payments and Securities Services, partially offset by deposit attrition, including actions taken to reduce certain deposits,
- growth in Corporate related to the Firm's international consumer initiatives,
- lower balances in CCB reflecting higher customer spending,
- a decline in AWM due to continued migration into higher-yielding investments driven by the higher interest rate environment, predominantly offset by growth from new and existing customers as a result of new product offerings, and
- a decrease in CB due to continued deposit attrition as clients seek higher-yielding investments, predominantly offset by the retention of inflows associated with disruptions in the market in the first quarter of 2023.

The net increase also included $61 billion of deposits associated with First Republic, primarily reflected in CCB, AWM and CB.

Federal funds purchased and securities loaned or sold under repurchase agreements increased, reflecting the impact of a lower level of netting on reduced repurchase activity.

Refer to Liquidity Risk Management on pages 102–109 for additional information on deposits, federal funds purchased and securities loaned or sold under repurchase agreements, and **short-term borrowings**; Notes 2 and 17 for deposits and Note 11 for federal funds purchased and securities loaned or sold under repurchase agreements; Business Segment Results on page 67 and Note 34 for additional information on the First Republic acquisition.

Trading liabilities increased due to client-driven market-making activities in Fixed Income Markets, which resulted in higher levels of short positions in debt instruments, partially offset by lower derivative payables primarily as a result of market movements. Refer to Notes 2 and 5 for additional information.

Accounts payable and other liabilities decreased primarily due to lower client payables related to client-driven activities in Markets, partially offset by higher accounts payable and accrued liabilities, including the $2.9 billion payable related to the FDIC special assessment. Refer to Note 19 for additional information.

Beneficial interests issued by consolidated VIEs increased in CIB primarily driven by higher levels of Firm-administered multi-seller conduit commercial paper held by third parties, reflecting changes in the Firm's short-term liquidity management. Refer to Liquidity Risk Management on pages 102–109; and Notes 14 and 28 for additional information on Firm-sponsored VIEs and loan securitization trusts.

Long-term debt increased, reflecting the impact of First Republic, which included the Purchase Money Note issued to the FDIC and additional FHLB advances, as well as net issuance consistent with the Firm's long-term funding plans. The increase was also attributable to net issuances of structured notes in Markets due to client demand and an increase in fair value. Refer to Liquidity Risk Management on pages 102–109 and Note 34 for additional information on the First Republic acquisition.

Stockholders' equity: refer to Consolidated Statements of changes in stockholders' equity on page 169, Capital Actions on page 99, and Note 24 for additional information.

Consolidated cash flows analysis

The following is a discussion of cash flow activities during the years ended December 31, 2023 and 2022. Refer to Consolidated cash flows analysis on page 57 of the Firm's 2022 Form 10-K for a discussion of the 2021 activities.

	Year ended December 31,		
(in millions)	**2023**	2022	2021
Net cash provided by/(used in)			
Operating activities	**$ 12,974**	$ 107,119	$ 78,084
Investing activities	**67,643**	(137,819)	(129,344)
Financing activities	**(25,571)**	(126,257)	275,993
Effect of exchange rate changes on cash	**1,871**	(16,643)	(11,508)
Net increase/(decrease) in cash and due from banks and deposits with banks	**$ 56,917**	$(173,600)	$ 213,225

Operating activities

JPMorgan Chase's operating assets and liabilities primarily support the Firm's lending and capital markets activities. These assets and liabilities can vary significantly in the normal course of business due to the amount and timing of cash flows, which are affected by client-driven and risk management activities and market conditions. The Firm believes that cash flows from operations, available cash and other liquidity sources, and its capacity to generate cash through secured and unsecured sources, are sufficient to meet its operating liquidity needs.

- In 2023, cash provided primarily reflected net income, lower other assets, and accrued interest and accounts receivable, predominantly offset by higher trading assets, lower accounts payable and other liabilities, and higher securities borrowed.
- In 2022, cash provided resulted from higher accounts payable and other liabilities, lower securities borrowed, and net proceeds from sales, securitizations, and paydowns of loans held-for-sale, partially offset by higher trading assets.

Investing activities

The Firm's investing activities predominantly include originating held-for-investment loans, investing in the investment securities portfolio and other short-term instruments.

- In 2023, cash provided resulted from net proceeds from investment securities, proceeds from sales and securitizations of loans held-for-investment and lower securities purchased under resale agreements, largely offset by net originations of loans and net cash used in the First Republic Bank acquisition.
- In 2022, cash used resulted from net originations of loans and higher securities purchased under resale agreements, partially offset by net proceeds from investment securities.

Financing activities

The Firm's financing activities include acquiring customer deposits and issuing long-term debt and preferred stock.

- In 2023, cash used reflected lower deposits, which included the impact of the repayment of the deposits provided to First Republic Bank by the consortium of large U.S. banks that the Firm assumed as part of the First Republic acquisition, partially offset by higher securities loaned under repurchase agreements and net proceeds from long- and short-term borrowings.
- In 2022, cash used reflected lower deposits, partially offset by net proceeds from long- and short-term borrowings.
- For both periods, cash was used for repurchases of common stock and cash dividends on common and preferred stock.

* * *

Refer to Consolidated Balance Sheets Analysis on pages 58–60, Capital Risk Management on pages 91-101, and Liquidity Risk Management on pages 102–109, and the Consolidated Statements of Cash Flows on page 170 for a further discussion of the activities affecting the Firm's cash flows.

EXPLANATION AND RECONCILIATION OF THE FIRM'S USE OF NON-GAAP FINANCIAL MEASURES

Non-GAAP financial measures

The Firm prepares its Consolidated Financial Statements in accordance with U.S. GAAP; these financial statements appear on pages 166–170. That presentation, which is referred to as "reported" basis, provides the reader with an understanding of the Firm's results that can be tracked consistently from year-to-year and enables a comparison of the Firm's performance with the U.S. GAAP financial statements of other companies.

In addition to analyzing the Firm's results on a reported basis, management reviews Firmwide results, including the overhead ratio, on a "managed" basis; these Firmwide managed basis results are non-GAAP financial measures. The Firm also reviews the results of the LOBs on a managed basis. The Firm's definition of managed basis starts, in each case, with the reported U.S. GAAP results and includes certain reclassifications to present total net revenue for the Firm (and each of the reportable business segments) on an FTE basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in the managed results on a basis comparable to taxable investments and securities. These financial measures allow management to assess the comparability of revenue from year-to-year arising from both taxable and tax-exempt sources. The corresponding income tax impact related to tax-exempt items is recorded within income tax expense. These adjustments have no impact on net income as reported by the Firm as a whole or by the LOBs.

Management also uses certain non-GAAP financial measures at the Firm and business-segment level because these other non-GAAP financial measures provide information to investors about the underlying operational performance and trends of the Firm or of the particular business segment, as the case may be, and therefore facilitate a comparison of the Firm or the business segment with the performance of its relevant competitors. Refer to Business Segment Results on pages 65–85 for additional information on these non-GAAP measures. Non-GAAP financial measures used by the Firm may not be comparable to similarly named non-GAAP financial measures used by other companies.

The following summary table provides a reconciliation from the Firm's reported U.S. GAAP results to managed basis.

	2023			2022			2021		
Year ended December 31, (in millions, except ratios)	Reported	Fully taxable-equivalent adjustments[a]	Managed basis	Reported	Fully taxable-equivalent adjustments[a]	Managed basis	Reported	Fully taxable-equivalent adjustments[a]	Managed basis
Other income	**$ 5,609**	**$ 3,782**	**$ 9,391**	$ 4,322	$ 3,148	$ 7,470	$ 4,830	$ 3,225	$ 8,055
Total noninterest revenue	**68,837**	**3,782**	**72,619**	61,985	3,148	65,133	69,338	3,225	72,563
Net interest income	**89,267**	**480**	**89,747**	66,710	434	67,144	52,311	430	52,741
Total net revenue	**158,104**	**4,262**	**162,366**	128,695	3,582	132,277	121,649	3,655	125,304
Total noninterest expense	**87,172**	**NA**	**87,172**	76,140	NA	76,140	71,343	NA	71,343
Pre-provision profit	**70,932**	**4,262**	**75,194**	52,555	3,582	56,137	50,306	3,655	53,961
Provision for credit losses	**9,320**	**NA**	**9,320**	6,389	NA	6,389	(9,256)	NA	(9,256)
Income before income tax expense	**61,612**	**4,262**	**65,874**	46,166	3,582	49,748	59,562	3,655	63,217
Income tax expense	**12,060**	**4,262**	**16,322**	8,490	3,582	12,072	11,228	3,655	14,883
Net income	**$49,552**	**NA**	**$49,552**	$37,676	NA	$37,676	$48,334	NA	$48,334
Overhead ratio	**55 %**	**NM**	**54 %**	59 %	NM	58 %	59 %	NM	57 %

(a) Predominantly recognized in CIB, CB and Corporate.

Net interest income, net yield, and noninterest revenue excluding Markets

In addition to reviewing net interest income, net yield, and noninterest revenue on a managed basis, management also reviews these metrics excluding Markets, as shown below. Markets consists of CIB's Fixed Income Markets and Equity Markets. These metrics, which exclude Markets, are non-GAAP financial measures. Management reviews these metrics to assess the performance of the Firm's lending, investing (including asset-liability management) and deposit-raising activities, apart from any volatility associated with Markets activities. In addition, management also assesses Markets business performance on a total revenue basis as offsets may occur across revenue lines. Management believes that these measures provide investors and analysts with alternative measures to analyze the revenue trends of the Firm.

Year ended December 31, (in millions, except rates)	2023	2022	2021
Net interest income – reported	**$ 89,267**	$ 66,710	$ 52,311
Fully taxable-equivalent adjustments	**480**	434	430
Net interest income – managed basis[(a)]	**$ 89,747**	$ 67,144	$ 52,741
Less: Markets net interest income[(b)]	**(294)**	4,789	8,243
Net interest income excluding Markets[(a)]	**$ 90,041**	$ 62,355	$ 44,498
Average interest-earning assets	**$3,325,708**	$3,349,079	$3,215,942
Less: Average Markets interest-earning assets[(b)]	**985,777**	953,195	888,238
Average interest-earning assets excluding Markets	**$2,339,931**	$2,395,884	$2,327,704
Net yield on average interest-earning assets – managed basis	**2.70 %**	2.00 %	1.64 %
Net yield on average Markets interest-earning assets[(b)]	**(0.03)**	0.50	0.93
Net yield on average interest-earning assets excluding Markets	**3.85 %**	2.60 %	1.91 %
Noninterest revenue – reported	**$ 68,837**	$ 61,985	$ 69,338
Fully taxable-equivalent adjustments	**3,782**	3,148	3,225
Noninterest revenue – managed basis	**$ 72,619**	$ 65,133	$ 72,563
Less: Markets noninterest revenue[(b)]	**28,086**	24,195	19,151
Noninterest revenue excluding Markets	**$ 44,533**	$ 40,938	$ 53,412
Memo: Total Markets net revenue[(b)]	**$ 27,792**	$ 28,984	$ 27,394

(a) Interest includes the effect of related hedges. Taxable-equivalent amounts are used where applicable.
(b) Refer to pages 75-76 for further information on Markets.

Calculation of certain U.S. GAAP and non-GAAP financial measures

Certain U.S. GAAP and non-GAAP financial measures are calculated as follows:

Book value per share ("BVPS")
Common stockholders' equity at period-end / Common shares at period-end

Overhead ratio
Total noninterest expense / Total net revenue

ROA
Reported net income / Total average assets

ROE
Net income* / Average common stockholders' equity

ROTCE
Net income* / Average tangible common equity

TBVPS
Tangible common equity at period-end / Common shares at period-end

* Represents net income applicable to common equity

In addition, the Firm reviews other non-GAAP measures such as:

- Adjusted expense, which represents noninterest expense excluding Firmwide legal expense, and
- Pre-provision profit, which represents total net revenue less total noninterest expense.

Management believes that these measures help investors understand the effect of these items on reported results and provide an alternative presentation of the Firm's performance.

The Firm also reviews the allowance for loan losses to period-end loans retained excluding trade finance and conduits, a non-GAAP financial measure, to provide a more meaningful assessment of CIB's allowance coverage ratio.

TCE, ROTCE and TBVPS

TCE, ROTCE and TBVPS are each non-GAAP financial measures. TCE represents the Firm's common stockholders' equity (i.e., total stockholders' equity less preferred stock) less goodwill and identifiable intangible assets (other than MSRs), net of related deferred tax liabilities. ROTCE measures the Firm's net income applicable to common equity as a percentage of average TCE. TBVPS represents the Firm's TCE at period-end divided by common shares at period-end. TCE, ROTCE and TBVPS are utilized by the Firm, as well as investors and analysts, in assessing the Firm's use of equity.

The following summary table provides a reconciliation from the Firm's common stockholders' equity to TCE.

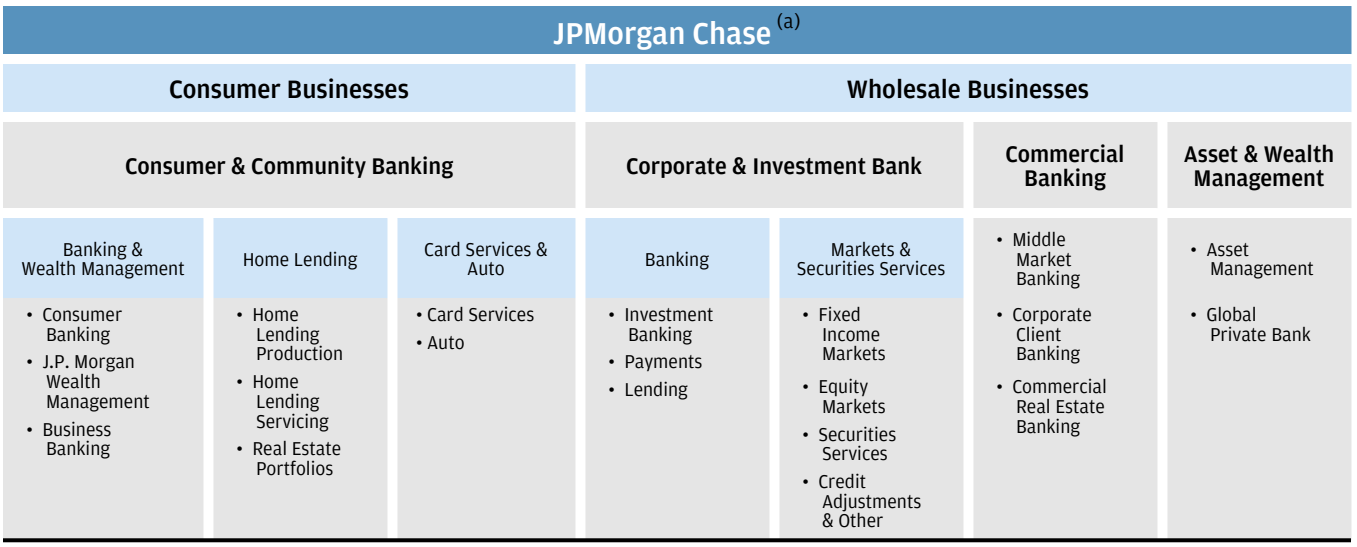
	Period-end		Average		
			Year ended December 31,		
(in millions, except per share and ratio data)	**Dec 31, 2023**	Dec 31, 2022	**2023**	2022	2021
Common stockholders' equity	**$ 300,474**	$ 264,928	**$ 282,056**	$ 253,068	$ 250,968
Less: Goodwill	**52,634**	51,662	**52,258**	50,952	49,584
Less: Other intangible assets	**3,225**	1,224	**2,572**	1,112	876
Add: Certain deferred tax liabilities[(a)]	**2,996**	2,510	**2,883**	2,505	2,474
Tangible common equity	**$ 247,611**	$ 214,552	**$ 230,109**	$ 203,509	$ 202,982
Return on tangible common equity	**NA**	NA	**21 %**	18 %	23 %
Tangible book value per share	**$ 86.08**	$ 73.12	**NA**	NA	NA

(a) Represents deferred tax liabilities related to tax-deductible goodwill and to identifiable intangibles created in nontaxable transactions, which are netted against goodwill and other intangibles when calculating TCE.

BUSINESS SEGMENT RESULTS

The Firm is managed on an LOB basis. There are four major reportable business segments - Consumer & Community Banking, Corporate & Investment Bank, Commercial Banking and Asset & Wealth Management. In addition, there is a Corporate segment.

The business segments are determined based on the products and services provided, or the type of customer served, and they reflect the manner in which financial information is evaluated by the Firm's Operating Committee. Segment results are presented on a managed basis. Refer to Explanation and Reconciliation of the Firm's use of Non-GAAP Financial Measures, on pages 62-64 for a definition of managed basis.



(a) As a result of the organizational changes that were announced on January 25, 2024, the Firm will be reorganizing its business segments to reflect the manner in which the segments will be managed. The reorganization of the business segments is expected to be effective in the second quarter of 2024. Refer to Recent events on page 52 for additional information.

Description of business segment reporting methodology

Results of the business segments are intended to present each segment as if it were a stand-alone business. The management reporting process that derives business segment results includes the allocation of certain income and expense items. The Firm periodically assesses the assumptions, methodologies and reporting classifications used for segment reporting, and therefore further refinements may be implemented in future periods. The Firm also assesses the level of capital required for each LOB on at least an annual basis. The Firm's LOBs also provide various business metrics which are utilized by the Firm and its investors and analysts in assessing performance.

Revenue sharing

When business segments join efforts to sell products and services to the Firm's clients and customers, the participating business segments may agree to share revenue from those transactions. Revenue is generally recognized in the segment responsible for the related product or service, with allocations to the other segment(s) involved in the transaction. The segment results reflect these revenue-sharing agreements.

Expense allocation

Where business segments use services provided by corporate support units, or another business segment, the costs of those services are allocated to the respective business segments. The expense is generally allocated based on the actual cost and use of services provided. In contrast, certain costs and investments related to corporate support units, technology and operations that are not currently utilized by any LOB are not allocated to the business segments and are retained in Corporate. Expense retained in Corporate generally includes costs that would not be incurred if the segments were stand-alone businesses, and other items not solely aligned with a particular business segment.

Funds transfer pricing

Funds transfer pricing ("FTP") is the process by which the Firm allocates interest income and expense to the LOBs and Other Corporate and transfers the primary interest rate risk and liquidity risk to Treasury and CIO.

The funds transfer pricing process considers the interest rate and liquidity risk characteristics of assets and liabilities and off-balance sheet products. Periodically, the methodology and assumptions utilized in the FTP process are adjusted to reflect economic conditions and other factors, which may impact the allocation of net interest income to the segments.

As a result of the higher interest rate environment, the cost of funds for assets and the credits earned for liabilities have generally increased, impacting the business segments' net interest income. During the period ended December 31, 2023, this has resulted in higher cost of funds for loans and

Markets activities, and contributed to margin expansion on deposits.

Foreign exchange risk
Foreign exchange risk is transferred from the LOBs and Other Corporate to Treasury and CIO for certain revenues and expenses. Treasury and CIO manages these risks centrally and reports the impact of foreign exchange rate movements related to the transferred risk in its results. Refer to Market Risk Management on page 143 for additional information.

Debt expense and preferred stock dividend allocation
As part of the funds transfer pricing process, almost all of the cost of the credit spread component of outstanding unsecured long-term debt and preferred stock dividends is allocated to the reportable business segments, while the balance of the cost is retained in Corporate. The methodology to allocate the cost of unsecured long-term debt and preferred stock dividends to the business segments is aligned with the relevant regulatory capital requirements and funding needs of the LOBs, as applicable. The allocated cost of unsecured long-term debt is included in a business segment's net interest income, and net income is reduced by preferred stock dividends, to arrive at a business segment's net income applicable to common equity.

Refer to Capital Risk Management on pages 91-101 for additional information.

Capital allocation
The amount of capital assigned to each business segment is referred to as equity. The Firm's current allocation methodology incorporates Basel III Standardized risk-weighted assets ("RWA") and the global systemically important banks ("GSIB") surcharge, both under rules currently in effect, as well as a simulation of capital in a severe stress environment. At least annually, the assumptions, judgments and methodologies used to allocate capital are reassessed and, as a result, the capital allocated to the LOBs may change.

Refer to Line of business equity on page 98 for additional information on capital allocation.

Segment Results – Managed Basis

The following tables summarize the Firm's results by segment for the periods indicated.

Year ended December 31,	Consumer & Community Banking			Corporate & Investment Bank			Commercial Banking		
(in millions, except ratios)	**2023**	2022	2021	**2023**	2022	2021	**2023**	2022	2021
Total net revenue	**$ 70,148**	$ 54,814 [a]	$49,879 [a]	**$48,807**	$ 48,102 [a]	$51,943 [a]	**$ 15,546**	$ 11,533	$ 10,008
Total noninterest expense	**34,819**	31,208 [a]	29,028 [a]	**28,594**	27,350 [a]	25,553 [a]	**5,378**	4,719	4,041
Pre-provision profit/(loss)	**35,329**	23,606	20,851	**20,213**	20,752	26,390	**10,168**	6,814	5,967
Provision for credit losses	**6,899**	3,813	(6,989)	**121**	1,158	(1,174)	**1,970**	1,268	(947)
Net income/(loss)	**21,232**	14,916 [a]	20,957 [a]	**14,129**	14,925 [a]	21,107 [a]	**6,143**	4,213	5,246
Return on equity ("ROE")	**38 %**	29 %	41 %	**13 %**	14 %	25 %	**20 %**	16 %	21 %

Year ended December 31,	Asset & Wealth Management			Corporate			Total		
(in millions, except ratios)	**2023**	2022	2021	**2023**	2022	2021	**2023**	2022	2021
Total net revenue	**$ 19,827**	$ 17,748	$ 16,957	**$ 8,038**	$ 80	$ (3,483)	**$162,366**	$132,277	$125,304
Total noninterest expense	**12,780**	11,829	10,919	**5,601**	1,034	1,802	**87,172**	76,140	71,343
Pre-provision profit/(loss)	**7,047**	5,919	6,038	**2,437**	(954)	(5,285)	**75,194**	56,137	53,961
Provision for credit losses	**159**	128	(227)	**171**	22	81	**9,320**	6,389	(9,256)
Net income/(loss)	**5,227**	4,365	4,737	**2,821**	(743)	(3,713)	**49,552**	37,676	48,334
Return on equity ("ROE")	**31 %**	25 %	33 %	**NM**	NM	NM	**17 %**	14 %	19 %

(a) In the first quarter of 2023, the allocations of revenue and expense to CCB associated with a Merchant Services revenue sharing agreement were discontinued and are now retained in Payments in CIB. Prior-period amounts have been revised to conform with the current presentation.

Selected Firmwide Metrics

The following tables present key metrics for Wealth Management, which consists of the Global Private Bank in AWM and J.P. Morgan Wealth Management in CCB; and total revenue and key metrics for J.P. Morgan Payments, which consists of payments activities in CIB and CB. This presentation is intended to provide investors with additional information concerning Wealth Management and J.P. Morgan Payments, each of which consists of similar business activities conducted across LOBs to serve different types of clients and customers.

Selected metrics - Wealth Management

Year ended December 31,	2023		2022	2021
Client assets (in billions)[a]	**$ 3,177**	[b]	$ 2,438	$ 2,456
Number of client advisors	**8,971**		8,166	7,463

(a) Consists of Global Private Bank in AWM and client investment assets in J.P. Morgan Wealth Management in CCB.
(b) At December 31, 2023, included $144.6 billion of client investment assets associated with First Republic.

Selected metrics - J.P. Morgan Payments

(in millions, except where otherwise noted)			
Year ended December 31,	**2023**	2022	2021
Total net revenue[a]	**$18,248**	$13,909	$ 9,861
Merchant processing volume (in billions)	**2,408**	2,158	1,887
Average deposits (in billions)	**715**	779	800

(a) Includes certain revenues that are reported as investment banking product revenue in CB, and excludes the net impact of equity investments.

Segment information related to First Republic

The following table presents selected impacts to CCB, CB, AWM and Corporate associated with First Republic from the acquisition date of May 1, 2023.

	As of or for the year ended December 31, 2023					
(in millions)	Consumer & Community Banking	Commercial Banking	Asset & Wealth Management	Corporate		Total	
Selected Income Statement Data							
Revenue							
Asset management fees	**$ 387**	**$ –**	**$ –**	**$ –**		**$ 387**	
All other income	**489**	**201**	**503**	**2,862**	[b]	**4,055**	
Noninterest revenue	**876**	**201**	**503**	**2,862**		**4,442**	
Net interest income	**2,401**	**704**	**668**	**(55)**		**3,718**	
Total net revenue	**3,277**	**905**	**1,171**	**2,807**		**8,160**	
Provision for credit losses	**421**	**731**	**128**	**–**		**1,280**	
Noninterest expense	**1,219**	**45**	**50**	**1,033**	[c]	**2,347**	
Net income	**1,244**	**98**	**753**	**2,015**		**4,110**	
Selected Balance Sheet Data (period-end)							
Loans	**$ 94,671**	**$ 38,495**	**$ 11,436**	**$ –**		**$ 144,602**	[d]
Deposits[a]	**42,710**	**6,163**	**12,098**	**–**		**60,971**	[d]

(a) In the fourth quarter of 2023, CCB transferred certain deposits associated with First Republic to AWM, CB and CIB.
(b) Included the preliminary estimated bargain purchase gain of $2.7 billion recorded in other income. For the year ended December 31, 2023, reflects measurement period adjustments of $63 million, resulting in an estimated bargain purchase gain of $2.8 billion for the year ended December 31, 2023. Refer to Note 34 for additional information.
(c) Included $360 million of restructuring and integration costs.
(d) Excluded $1.9 billion of loans and $508 million of deposits allocated to CIB.

The following sections provide a comparative discussion of the Firm's results by segment as of or for the years ended December 31, 2023 and 2022, unless otherwise specified.

Consumer & Community Banking offers products and services to consumers and small businesses through bank branches, ATMs, digital (including mobile and online) and telephone banking. CCB is organized into Banking & Wealth Management (including Consumer Banking, J.P. Morgan Wealth Management and Business Banking), Home Lending (including Home Lending Production, Home Lending Servicing and Real Estate Portfolios) and Card Services & Auto. Banking & Wealth Management offers deposit, investment and lending products, cash management, payments and services. Home Lending includes mortgage origination and servicing activities, as well as portfolios consisting of residential mortgages and home equity loans. Card Services issues credit cards and offers travel services. Auto originates and services auto loans and leases.

Selected income statement data

Year ended December 31, (in millions, except ratios)	2023		2022		2021	
Revenue						
Lending- and deposit-related fees	**$ 3,356**		$ 3,316		$ 3,034	
Asset management fees	**3,282**	(d)	2,734		2,794	
Mortgage fees and related income	**1,175**		1,236		2,159	
Card income	**2,532**		2,469	(f)	3,364	(f)
All other income[a]	**4,773**	(d)	5,131	(f)	5,741	(f)
Noninterest revenue	**15,118**		14,886		17,092	
Net interest income	**55,030**	(d)	39,928		32,787	
Total net revenue	**70,148**		54,814		49,879	
Provision for credit losses	**6,899**	(d)	3,813		(6,989)	
Noninterest expense						
Compensation expense	**15,171**		13,092		12,142	
Noncompensation expense[b]	**19,648**		18,116	(f)	16,886	(f)
Total noninterest expense	**34,819**	(d)	31,208		29,028	
Income before income tax expense	**28,430**		19,793		27,840	
Income tax expense	**7,198**		4,877	(f)	6,883	(f)
Net income	**$21,232**		$14,916		$20,957	
Revenue by line of business						
Banking & Wealth Management	**$43,199**	(e)	$30,059	(f)	$23,786	(f)
Home Lending	**4,140**	(e)	3,674		5,291	
Card Services & Auto	**22,809**		21,081		20,802	
Mortgage fees and related income details:						
Production revenue	**421**		497		2,215	
Net mortgage servicing revenue[c]	**754**		739		(56)	
Mortgage fees and related income	**$ 1,175**		$ 1,236		$ 2,159	
Financial ratios						
Return on equity	**38**	%	29	%	41	%
Overhead ratio	**50**		57		58	

(a) Primarily includes operating lease income and commissions and other fees. Operating lease income was $2.8 billion, $3.6 billion and $4.8 billion for the years ended December 31, 2023, 2022 and 2021, respectively.

(b) Included depreciation expense on leased assets of $1.7 billion, $2.4 billion and $3.3 billion for the years ended December 31, 2023, 2022 and 2021, respectively.

(c) Included MSR risk management results of $131 million, $93 million and $(525) million for the years ended December 31, 2023, 2022 and 2021, respectively.

(d) Includes First Republic. Refer to page 67 for additional information.

(e) Banking & Wealth Management and Home Lending included revenue associated with First Republic of $2.3 billion and $932 million, respectively, for the year ended December 31, 2023.

(f) In the first quarter of 2023, the allocations of revenue and expense to CCB associated with a Merchant Services revenue sharing agreement were discontinued and are now retained in Payments in CIB. Prior-period amounts have been revised to conform with the current presentation.

2023 compared with 2022

Net income was $21.2 billion, up 42%.

Net revenue was $70.1 billion, up 28%.

Net interest income was $55.0 billion, up 38%, driven by:

- deposit margin expansion on higher rates, partially offset by lower average deposits and the impact of lower PPP loan forgiveness in Banking & Wealth Management ("BWM"),
- higher Card Services NII, reflecting an increase in revolving balances, and
- the impact of First Republic in Home Lending.

Noninterest revenue was $15.1 billion, up 2%, driven by:

- higher asset management fees due to the impact of First Republic as well as higher market levels and strong net inflows, higher commissions on annuity sales in BWM and higher other service fees associated with First Republic,
- higher net interchange income on increased debit and credit card sales volume, and
  - In Card Services, higher annual fees and the higher net interchange income were more than offset by an increase in amortization related to new account origination costs, reflecting continued growth. Net interchange income in Card Services also reflected the impact of a reduction in rewards costs and partner payments in the first quarter of 2023 related to a periodic tax refund on airline miles redeemed and an increase to the rewards liability due to adjustments to certain reward program terms in the second quarter of 2023;
- higher travel-related commissions in Card Services,

predominantly offset by

- lower auto operating lease income as a result of a decline in volume, and
- lower mortgage fees and related income in Home Lending.

Refer to Note 6 for additional information on card income, asset management fees, and commissions and other fees; and Critical Accounting Estimates on pages 155–158 for credit card rewards liability.

Refer to Note 15 for further information regarding changes in the value of the MSR asset and related hedges, and mortgage fees and related income.

Refer to Note 34 for additional information on the First Republic acquisition.

Noninterest expense was $34.8 billion, up 12%, reflecting:

- higher compensation expense, driven by an increase in employees, including the impact of First Republic in the second half of 2023 and additions primarily in bankers, advisors and technology, wage inflation and higher revenue-related compensation, as well as
- higher noncompensation expense, driven by the impact of First Republic, investments in marketing and technology, the increase in the FDIC assessment announced in the prior year as well as higher legal expense, partially offset by lower auto lease depreciation on lower auto lease assets.

The provision for credit losses was $6.9 billion, reflecting:

- net charge-offs of $5.3 billion, up $2.6 billion, predominantly driven by Card Services, as the portfolio continued to normalize to pre-pandemic levels,
- a $1.2 billion net addition to the allowance for credit losses, which included $1.4 billion in Card Services, partially offset by a net reduction of $200 million in Home Lending. The net addition in Card Services was driven by loan growth, including an increase in revolving balances, partially offset by reduced borrower uncertainty. The net reduction in Home Lending was driven by improvements in the outlook for home prices; and
- $408 million to establish the allowance for the First Republic loans and lending-related commitments in the second quarter of 2023.

The provision in the prior year was $3.8 billion, driven by net charge-offs of $2.7 billion and a $1.1 billion net addition to the allowance for credit losses across CCB.

Refer to Credit and Investment Risk Management on pages 111–134 and Allowance for Credit Losses on pages 131–133 for a further discussion of the credit portfolios and the allowance for credit losses.

Selected metrics

As of or for the year ended December 31, (in millions, except employees)	2023		2022	2021
Selected balance sheet data (period-end)				
Total assets	**$ 642,951**		$ 514,085	$ 500,370
Loans:				
Banking & Wealth Management[a]	**31,142**	[d]	29,008	35,095
Home Lending[b]	**259,181**	[d]	172,554	180,529
Card Services	**211,175**		185,175	154,296
Auto	**77,705**		68,191	69,138
Total loans	**579,203**		454,928	439,058
Deposits	**1,094,738**	[e]	1,131,611	1,148,110
Equity	**55,500**		50,000	50,000
Selected balance sheet data (average)				
Total assets	**$ 584,367**		$ 497,263	$ 489,771
Loans:				
Banking & Wealth Management	**30,142**	[f]	31,545	44,906
Home Lending[c]	**232,115**	[f]	176,285	181,049
Card Services	**191,424**		163,335	140,405
Auto	**72,674**		68,098	67,624
Total loans	**526,355**		439,263	433,984
Deposits	**1,126,552**	[g]	1,162,680	1,054,956
Equity	**54,349**		50,000	50,000
Employees	**141,640**		135,347	128,863

(a) At December 31, 2023, 2022 and 2021, included $94 million, $350 million and $5.4 billion of loans, respectively, in Business Banking under the PPP.
(b) At December 31, 2023, 2022 and 2021, Home Lending loans held-for-sale and loans at fair value were $3.4 billion, $3.0 billion and $14.9 billion, respectively.
(c) Average Home Lending loans held-for sale and loans at fair value were $4.8 billion, $7.3 billion and $15.4 billion for the years ended December 31, 2023, 2022 and 2021, respectively.
(d) At December 31, 2023, included $4.0 billion and $90.7 billion for Banking & Wealth Management and Home Lending, respectively, associated with First Republic.
(e) Includes First Republic. In the fourth quarter of 2023, CCB transferred certain deposits associated with First Republic to AWM, CB, and CIB. Refer to page 67 for additional information.
(f) Average Banking & Wealth Management and Home Lending loans associated with First Republic were $2.4 billion and $60.2 billion, respectively, for the year ended December 31, 2023.
(g) Included $39.4 billion associated with First Republic for the year ended December 31, 2023.

Selected metrics

As of or for the year ended December 31, (in millions, except ratio data)	2023		2022		2021	
Credit data and quality statistics						
Nonaccrual loans[a][b]	**$ 3,740**		$ 3,899		$ 4,875	
Net charge-offs/(recoveries)						
Banking & Wealth Management	**340**		370		289	
Home Lending	**(56)**		(229)		(275)	
Card Services	**4,699**		2,403		2,712	
Auto	**357**		144		35	
Total net charge-offs/ (recoveries)	**$ 5,340**		$ 2,688		$ 2,761	
Net charge-off/(recovery) rate						
Banking & Wealth Management[c]	**1.13**	%	1.17	%	0.64	%
Home Lending	**(0.02)**		(0.14)		(0.17)	
Card Services	**2.45**		1.47		1.94	
Auto	**0.49**		0.21		0.05	
Total net charge-off/ (recovery) rate	**1.02**	%	0.62	%	0.66	%
30+ day delinquency rate						
Home Lending[d][e]	**0.66**	%	0.83	%	1.25	%
Card Services	**2.14**		1.45		1.04	
Auto	**1.19**		1.01		0.64	
90+ day delinquency rate - Card Services	**1.05**	%	0.68	%	0.50	%
Allowance for loan losses						
Banking & Wealth Management	**$ 685**		$ 722		$ 697	
Home Lending	**578**	[f]	867		660	
Card Services	**12,453**		11,200		10,250	
Auto	**742**		715		733	
Total allowance for loan losses	**$14,458**	[g]	$13,504		$12,340	

(a) At December 31, 2023, 2022 and 2021, nonaccrual loans excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $123 million, $187 million and $342 million, respectively. These amounts have been excluded based upon the government guarantee. In addition, the Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status as permitted by regulatory guidance.
(b) At December 31, 2023, 2022 and 2021, generally excludes loans that were under payment deferral programs offered in response to the COVID-19 pandemic.
(c) At December 31, 2023, 2022 and 2021, included $94 million, $350 million and $5.4 billion of loans, respectively, in Business Banking under the PPP. The Firm does not expect to realize material credit losses on PPP loans because the loans are guaranteed by the SBA.
(d) At December 31, 2023, 2022 and 2021, the principal balance of loans under payment deferral programs offered in response to the COVID-19 pandemic was $29 million, $449 million and $1.1 billion in Home Lending, respectively. Loans that are performing according to their modified terms are generally not considered delinquent.
(e) At December 31, 2023, 2022 and 2021, excluded mortgage loans insured by U.S. government agencies of $176 million, $258 million and $405 million, respectively, that are 30 or more days past due. These amounts have been excluded based upon the government guarantee.
(f) Includes First Republic.
(g) On January 1, 2023, the Firm adopted changes to the TDR accounting guidance. The adoption of this guidance resulted in a net decrease in the allowance for loan losses of $591 million, driven by residential real estate and credit card. Refer to Note 1 for further information.

Selected metrics

As of or for the year ended December 31, (in billions, except ratios and where otherwise noted)	2023		2022		2021	
Business Metrics						
CCB Consumer customers (in millions)[a]	**82.1**	[g]	79.2		76.5	
CCB Small business customers (in millions)[a]	**6.4**	[g]	5.7		5.3	
Number of branches	**4,897**		4,787		4,790	
Active digital customers (in thousands)[b]	**66,983**	[g]	63,136		58,857	
Active mobile customers (in thousands)[c]	**53,828**	[g]	49,710		45,452	
Debit and credit card sales volume	**$1,678.6**		$1,555.4		$1,360.7	
Total payments transaction volume (in trillions)[d]	**5.9**	[g]	5.6		5.0	
Banking & Wealth Management						
Average deposits	**$1,111.7**	[h]	$1,145.7		$1,035.4	
Deposit margin	**2.84**	**%**	1.71	%	1.27	%
Business Banking average loans	**$ 19.6**		$ 22.3		$ 37.5	
Business Banking origination volume	**4.8**		4.3		13.9	[j]
Client investment assets[e]	**951.1**		647.1		718.1	
Number of client advisors	**5,456**		5,029		4,725	
Home Lending						
Mortgage origination volume by channel						
Retail	**$ 22.4**	[i]	$ 38.5		$ 91.8	
Correspondent	**12.7**		26.9		70.9	
Total mortgage origination volume[f]	**$ 35.1**		$ 65.4		$ 162.7	
Third-party mortgage loans serviced (period-end)	**$ 631.2**		$ 584.3		$ 519.2	
MSR carrying value (period-end)	**8.5**		8.0		5.5	
Card Services						
Sales volume, excluding commercial card	**$1,163.6**		$1,064.7		$ 893.5	
Net revenue rate	**9.72**	**%**	9.87	%	10.51	%
Net yield on average loans	**9.61**		9.77		9.88	
New credit card accounts opened (in millions)	**10.0**		9.6		8.0	
Auto						
Loan and lease origination volume	**$ 41.3**		$ 30.4		$ 43.6	
Average auto operating lease assets	**10.9**		14.3		19.1	

(a) The Consumer and Small business customers metrics include unique individuals, and businesses and legal entities, respectively, that have financial ownership or decision-making power with respect to accounts; these metrics exclude customers under the age of 18. Where a customer uses the same unique identifier as both a Consumer and a Small business, the customer is included in both metrics. For information concerning the Households metric previously disclosed, refer to the Glossary of terms and acronyms on pages 315-321.

(b) Users of all web and/or mobile platforms who have logged in within the past 90 days.

(c) Users of all mobile platforms who have logged in within the past 90 days.

(d) Total payments transaction volume includes debit and credit card sales volume and gross outflows of ACH, ATM, teller, wires, BillPay, PayChase, Zelle, person-to-person and checks.

(e) Includes assets invested in managed accounts and J.P. Morgan mutual funds where AWM is the investment manager. Refer to AWM segment results on pages 81–83 for additional information. At December 31, 2023, included $144.6 billion of client investment assets associated with First Republic.

(f) Firmwide mortgage origination volume was $41.4 billion, $81.8 billion and $182.4 billion for the years ended December 31, 2023, 2022 and 2021, respectively.

(g) Excludes First Republic.

(h) Included $39.4 billion for the year ended December 31, 2023, associated with First Republic.

(i) Included $2.3 billion for the year ended December 31, 2023, associated with First Republic.

(j) Included origination volume under the PPP of $10.6 billion for the year ended December 31, 2021. The program ended on May 31, 2021 for new applications.

The Corporate & Investment Bank, which consists of Banking and Markets & Securities Services, offers a broad suite of investment banking, market-making, prime brokerage, lending, and treasury and securities products and services to a global client base of corporations, investors, financial institutions, merchants, government and municipal entities. Banking offers a full range of investment banking products and services in all major capital markets, including advising on corporate strategy and structure, capital-raising in equity and debt markets, as well as loan origination and syndication. Banking also includes Payments, which provides services, that enable clients to manage payments globally across liquidity and account solutions, commerce solutions, clearing, trade and working capital. Markets & Securities Services includes Markets, a global market-maker across products, including cash and derivative instruments, which also offers sophisticated risk management solutions, prime brokerage, clearing and research. Markets & Securities Services also includes Securities Services, a leading global custodian which provides custody, fund accounting and administration, and securities lending products principally for asset managers, insurance companies and public and private investment funds.

Selected income statement data

Year ended December 31, (in millions)	2023	2022	2021
Revenue			
Investment banking fees[a]	**$ 6,582**	$ 6,929	$13,359
Principal transactions	**23,671**	19,926	15,764
Lending- and deposit-related fees	**2,213**	2,419	2,514
Commissions and other fees	**4,821**	5,058	4,995
Card income	**1,450**	1,249 [c]	1,108 [c]
All other income	**1,578**	621 [c]	663 [c]
Noninterest revenue	**40,315**	36,202	38,403
Net interest income	**8,492**	11,900	13,540
Total net revenue[b]	**48,807**	48,102	51,943
Provision for credit losses	**121**	1,158	(1,174)
Noninterest expense			
Compensation expense	**14,345**	13,918	13,096
Noncompensation expense	**14,249**	13,432 [c]	12,457 [c]
Total noninterest expense	**28,594**	27,350	25,553
Income before income tax expense	**20,092**	19,594	27,564
Income tax expense	**5,963**	4,669 [c]	6,457 [c]
Net income	**$14,129**	$14,925	$21,107

(a) Includes CB's share of revenue from investment banking products sold to CB clients through the CIB that is subject to a revenue sharing arrangement which is reported as a reduction in All other income.

(b) Includes tax-equivalent adjustments, predominantly due to income tax credits and other tax benefits related to alternative energy investments; income tax credits and amortization of the cost of investments in affordable housing projects; and tax-exempt income from municipal bonds of $3.6 billion, $3.0 billion and $3.0 billion for the years ended December 31, 2023, 2022 and 2021, respectively.

(c) In the first quarter of 2023, the allocations of revenue and expense to CCB associated with a Merchant Services revenue sharing agreement were discontinued and are now retained in Payments in CIB. Prior-period amounts have been revised to conform with the current presentation.

Selected income statement data

Year ended December 31, (in millions, except ratios)	2023	2022	2021
Financial ratios			
Return on equity	**13 %**	14 %	25 %
Overhead ratio	**59**	57	49
Compensation expense as percentage of total net revenue	**29**	29	25
Revenue by business			
Investment Banking	**$ 6,243**	$ 6,510	$12,506
Payments	**9,273**	7,579 [b]	6,464 [b]
Lending	**1,007**	1,377	1,001
Total Banking	**16,523**	15,466	19,971
Fixed Income Markets	**18,813**	18,617	16,865
Equity Markets	**8,979**	10,367	10,529
Securities Services	**4,772**	4,488	4,328
Credit Adjustments & Other[a]	**(280)**	(836)	250
Total Markets & Securities Services	**32,284**	32,636	31,972
Total net revenue	**$48,807**	$48,102	$51,943

(a) Consists primarily of centrally managed credit valuation adjustments ("CVA"), funding valuation adjustments ("FVA") on derivatives, other valuation adjustments, and certain components of fair value option elected liabilities, which are primarily reported in principal transactions revenue. Results are presented net of associated hedging activities and net of CVA and FVA amounts allocated to Fixed Income Markets and Equity Markets. Refer to Notes 2, 3 and 24 for additional information.

(b) In the first quarter of 2023, the allocations of revenue and expense to CCB associated with a Merchant Services revenue sharing agreement were discontinued and are now retained in Payments in CIB. Prior-period amounts have been revised to conform with the current presentation.

2023 compared with 2022

Net income was $14.1 billion, down 5%.

Net revenue was $48.8 billion, up 1%.

Banking revenue was $16.5 billion, up 7%.

- Investment Banking revenue was $6.2 billion, down 4%. Excluding $257 million of markdowns on held-for-sale positions, primarily unfunded commitments, in the bridge financing portfolio recorded in the second quarter of 2022, Investment Banking revenue was down 8%. Investment Banking fees were down 5%, driven by lower advisory and debt underwriting fees, partially offset by higher equity underwriting fees. The Firm ranked #1 for Global Investment Banking fees, according to Dealogic.
  - Advisory fees were $2.8 billion, down 8%, due to a lower number of completed transactions, reflecting the lower level of announced deals in the current and the prior year amid a challenging environment.
  - Debt underwriting fees were $2.6 billion, down 8%, as challenging market conditions, primarily in the first half of the year, resulted in lower issuance activity across leveraged loans, investment-grade loans, and high-grade bonds. This was largely offset by higher issuance activity in high-yield bonds driven by higher industry-wide issuance.
  - Equity underwriting fees were $1.2 billion, up 11%, driven by a higher level of follow-on offerings due to lower equity market volatility and a higher level of convertible securities offerings which benefited from higher rates, partially offset by lower activity in private placements amid a challenging environment.
- Payments revenue was $9.3 billion, up 22%, driven by deposit margin expansion on higher rates and fees, partially offset by the higher level of client credits that reduce such fees and lower average deposits. The net impact of equity investments was flat reflecting net markdowns in both periods, including the impact of an impairment in the current year.
- Lending revenue was $1.0 billion, down 27%, driven by $494 million of fair value losses on hedges of retained loans which included an increase in hedging activity, compared to $27 million of gains in the prior year, partially offset by higher net interest income.

Markets & Securities Services revenue was $32.3 billion, down 1%. Markets revenue was $27.8 billion, down 4%.

- Fixed Income Markets revenue was $18.8 billion, up 1%, driven by an increase in finance and trading activity in the Securitized Products Group and improved performance in Credit Trading, predominantly offset by lower revenue in Currencies & Emerging Markets as the business substantially normalized from the prior year's elevated levels of volatility and client activity.
- Equity Markets revenue was $9.0 billion, down 13%, driven by lower revenue in Equity Derivatives and Cash Equities, compared with a stronger performance in the prior year.
- Securities Services revenue was $4.8 billion, up 6%, driven by deposit margin expansion on higher rates, largely offset by lower average deposits and fees.
- Credit Adjustments & Other was a loss of $280 million, compared with a loss of $836 million in the prior year.

Noninterest expense was $28.6 billion, up 5%, driven by higher legal expense, compensation expense, including the impact of wage inflation, and higher indirect tax expense.

The provision for credit losses was $121 million, driven by net charge-offs of $272 million, up $190 million, driven by single name exposures, largely offset by a $151 million net reduction in the allowance for credit losses.

The net reduction in the allowance was driven by the impact of changes in the loan and lending-related commitment portfolios and the net effect of changes in the Firm's weighted average macroeconomic outlook, predominantly offset by an addition for certain accounts receivable and net downgrade activity.

The provision in the prior year was $1.2 billion, predominantly driven by a net addition to the allowance for credit losses.

Selected metrics

As of or for the year ended December 31, (in millions, except employees)	2023	2022	2021
Selected balance sheet data (period-end)			
Total assets	**$1,338,168**	$1,334,296	$1,259,896
Loans:			
Loans retained[a]	**197,523**	187,642	159,786
Loans held-for-sale and loans at fair value[b]	**38,919**	42,304	50,386
Total loans	**236,442**	229,946	210,172
Equity	**108,000**	103,000	83,000
Selected balance sheet data (average)			
Total assets	**$1,428,904**	$1,406,250	$1,334,518
Trading assets-debt and equity instruments	**508,799**	405,916	448,099
Trading assets-derivative receivables	**63,836**	77,802	68,203
Loans:			
Loans retained[a]	**190,601**	172,627	145,137
Loans held-for-sale and loans at fair value[b]	**39,831**	46,846	51,072
Total loans	**230,432**	219,473	196,209
Deposits	**728,537**	739,700	760,048
Equity	**108,000**	103,000	83,000
Employees	**74,404**	73,452	67,546

(a) Loans retained includes credit portfolio loans, loans held by consolidated Firm-administered multi-seller conduits, trade finance loans, other held-for-investment loans and overdrafts.

(b) Loans held-for-sale and loans at fair value primarily reflect lending related positions originated and purchased in CIB Markets, including loans held for securitization.

Selected metrics

As of or for the year ended December 31, (in millions, except ratios)	2023	2022	2021
Credit data and quality statistics			
Net charge-offs/ (recoveries)	**$ 272**	$ 82	$ 6
Nonperforming assets:			
Nonaccrual loans:			
Nonaccrual loans retained[a]	**866**	718	584
Nonaccrual loans held-for-sale and loans at fair value[b]	**828**	848	844
Total nonaccrual loans	**1,694**	1,566	1,428
Derivative receivables	**364**	296	316
Assets acquired in loan satisfactions	**115**	87	91
Total nonperforming assets	**2,173**	1,949	1,835
Allowance for credit losses:			
Allowance for loan losses	**2,321**	2,292	1,348
Allowance for lending-related commitments	**1,048**	1,448	1,372
Total allowance for credit losses	**3,369**	3,740	2,720
Net charge-off/(recovery) rate[c]	**0.14 %**	0.05 %	– %
Allowance for loan losses to period-end loans retained	**1.18**	1.22	0.84
Allowance for loan losses to period-end loans retained, excluding trade finance and conduits[d]	**1.64**	1.67	1.12
Allowance for loan losses to nonaccrual loans retained[a]	**268**	319	231
Nonaccrual loans to total period-end loans	**0.72**	0.68	0.68

(a) Allowance for loan losses of $95 million, $104 million and $58 million were held against these nonaccrual loans at December 31, 2023, 2022 and 2021, respectively.

(b) At December 31, 2023, 2022 and 2021, nonaccrual loans excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $59 million, $115 million and $281 million, respectively. These amounts have been excluded based upon the government guarantee.

(c) Loans held-for-sale and loans at fair value were excluded when calculating the net charge-off/(recovery) rate.

(d) Management uses allowance for loan losses to period-end loans retained, excluding trade finance and conduits, a non-GAAP financial measure, to provide a more meaningful assessment of CIB's allowance coverage ratio. Refer to Explanation and Reconciliation of the Firm's Use of Non-GAAP Financial Measures on pages 62–64.

Investment banking fees

(in millions)	Year ended December 31, 2023	2022	2021
Advisory	**$ 2,814**	$ 3,051	$ 4,381
Equity underwriting	**1,151**	1,034	3,953
Debt underwriting[a]	**2,617**	2,844	5,025
Total investment banking fees	**$ 6,582**	$ 6,929	$ 13,359

(a) Represents long-term debt and loan syndications.

League table results – wallet share

Year ended December 31,	2023 Rank	2023 Share	2022 Rank	2022 Share	2021 Rank	2021 Share
Based on fees[a]						
M&A[b]						
Global	**# 2**	**9.3 %**	# 2	7.9 %	# 2	9.6 %
U.S.	**2**	**11.2**	2	9.0	2	10.7
Equity and equity-related[c]						
Global	**1**	**7.8**	2	5.7	3	8.8
U.S.	**1**	**14.1**	1	13.9	2	11.8
Long-term debt[d]						
Global	**1**	**7.2**	1	6.9	1	8.4
U.S.	**1**	**10.9**	1	12.2	1	12.1
Loan syndications						
Global	**1**	**12.1**	1	11.0	1	10.9
U.S.	**1**	**15.1**	1	12.8	1	12.6
Global investment banking fees[e]	**# 1**	**8.8 %**	# 1	7.8 %	# 1	9.3 %

(a) Source: Dealogic as of January 2, 2024. Reflects the ranking of revenue wallet and market share.
(b) Global M&A excludes any withdrawn transactions. U.S. M&A revenue wallet represents wallet from client parents based in the U.S.
(c) Global equity and equity-related ranking includes rights offerings and Chinese A-Shares.
(d) Long-term debt rankings include investment-grade, high-yield, supranationals, sovereigns, agencies, covered bonds, asset-backed securities ("ABS") and mortgage-backed securities ("MBS"); and exclude money market, short-term debt, and U.S. municipal securities.
(e) Global investment banking fees exclude money market, short-term debt and shelf securities.

Markets revenue

The following table summarizes selected income statement data for the Markets businesses. Markets includes both Fixed Income Markets and Equity Markets. Markets revenue consists of principal transactions, fees, commissions and other income, as well as net interest income. The Firm assesses its Markets business performance on a total revenue basis, as offsets generally occur across revenue line items. For example, securities that generate net interest income may be risk-managed by derivatives that are reflected at fair value in principal transactions revenue. Refer to Notes 6 and 7 for a description of the composition of these income statement line items.

Principal transactions reflects revenue on financial instruments and commodities transactions that arise from client-driven market-making activity. Principal transactions revenue includes amounts recognized upon executing new transactions with market participants, as well as “inventory-related revenue”, which is revenue recognized from gains and losses on derivatives and other instruments that the Firm has been holding in anticipation of, or in response to, client demand, and changes in the fair value of instruments used by the Firm to actively manage the risk exposure arising from such inventory. Principal transactions revenue recognized upon executing new transactions with market participants is affected by many factors including the level of client activity, the bid-offer spread (which is the difference between the price at which a market participant is willing and able to sell an instrument to the Firm and the price at which another market participant is willing and able to buy it from the Firm, and vice versa), market liquidity and volatility. These factors are interrelated and sensitive to the same factors that drive inventory-related revenue, which include general market conditions, such as interest rates, foreign exchange rates, credit spreads, and equity and commodity prices, as well as other macroeconomic conditions.

For the periods presented below, the primary source of principal transactions revenue was the amount recognized upon executing new transactions.

Year ended December 31, (in millions, except where otherwise noted)	2023			2022			2021		
	Fixed Income Markets	Equity Markets	Total Markets	Fixed Income Markets	Equity Markets	Total Markets	Fixed Income Markets	Equity Markets	Total Markets
Principal transactions	**$ 12,064**	**$ 11,514**	**$ 23,578**	$ 11,682	$ 8,846	$ 20,528	$ 7,911	$ 7,519	$ 15,430
Lending- and deposit-related fees	**307**	**40**	**347**	303	22	325	321	17	338
Commissions and other fees	**596**	**1,908**	**2,504**	550	1,975	2,525	545	1,948	2,493
All other income	**1,744**	**(87)**	**1,657**	916	(99)	817	972	(82)	890
Noninterest revenue	**14,711**	**13,375**	**28,086**	13,451	10,744	24,195	9,749	9,402	19,151
Net interest income[a]	**4,102**	**(4,396)**	**(294)**	5,166	(377)	4,789	7,116	1,127	8,243
Total net revenue	**$ 18,813**	**$ 8,979**	**$ 27,792**	$ 18,617	$ 10,367	$ 28,984	$ 16,865	$ 10,529	$ 27,394
Loss days[b]			3			7			4

(a) The decline in Markets net interest income was driven by higher funding costs.

(b) Loss days represent the number of days for which Markets, which consists of Fixed Income Markets and Equity Markets, posted losses to total net revenue. The loss days determined under this measure differ from the measure used to determine backtesting gains and losses. Daily backtesting gains and losses include positions in the Firm's Risk Management value-at-risk ("VaR") measure and exclude certain components of total net revenue, which may more than offset backtesting gains or losses on a particular day. For more information on daily backtesting gains and losses, refer to the VaR discussion on pages 137–139.

Selected metrics

As of or for the year ended December 31, (in millions, except where otherwise noted)	2023	2022	2021
Assets under custody ("AUC") by asset class (period-end) (in billions):			
Fixed Income	**$ 15,543**	$ 14,361	$ 16,098
Equity	**12,927**	10,748	12,962
Other[a]	**3,922**	3,526	4,161
Total AUC	**$ 32,392**	$ 28,635	$ 33,221
Merchant processing volume (in billions)[b]	**$ 2,408**	$ 2,158	$ 1,887
Client deposits and other third party liabilities (average)[c]	**$ 645,074**	$ 687,391	$ 714,910

(a) Consists of mutual funds, unit investment trusts, currencies, annuities, insurance contracts, options and other contracts.

(b) Represents Firmwide merchant processing volume.

(c) Client deposits and other third-party liabilities pertain to the Payments and Securities Services businesses.

International metrics

As of or for the year ended December 31, (in millions, except where otherwise noted)	2023	2022	2021
Total net revenue[a]			
Europe/Middle East/Africa	**$ 13,725**	$ 15,303	$ 13,954
Asia-Pacific	**7,607**	7,846	7,555
Latin America/Caribbean	**2,094**	2,239	1,833
Total international net revenue	**23,426**	25,388	23,342
North America	**25,381**	22,714 [c]	28,601 [c]
Total net revenue	**$ 48,807**	$ 48,102	$ 51,943
Loans retained (period-end)[a]			
Europe/Middle East/Africa	**$ 42,792**	$ 39,424	$ 33,084
Asia-Pacific	**14,333**	15,571	14,471
Latin America/Caribbean	**8,341**	8,599	7,006
Total international loans	**65,466**	63,594	54,561
North America	**132,057**	124,048	105,225
Total loans retained	**$ 197,523**	$ 187,642	$ 159,786
Client deposits and other third-party liabilities (average)[b]			
Europe/Middle East/Africa	**$ 230,225**	$ 247,203	$ 243,867
Asia-Pacific	**126,918**	129,134	132,241
Latin America/Caribbean	**39,134**	39,917	46,045
Total international	**$ 396,277**	$ 416,254	$ 422,153
North America	**248,797**	271,137	292,757
Total client deposits and other third-party liabilities	**$ 645,074**	$ 687,391	$ 714,910
AUC (period-end)[b] **(in billions)**			
North America	**$ 21,792**	$ 19,219	$ 21,655
All other regions	**10,600**	9,416	11,566
Total AUC	**$ 32,392**	$ 28,635	$ 33,221

(a) Total net revenue and loans retained (excluding loans held-for-sale and loans at fair value) are based on the location of the trading desk, booking location, or domicile of the client, as applicable.

(b) Client deposits and other third-party liabilities pertaining to the Payments and Securities Services businesses, and AUC, are based on the domicile of the client.

(c) In the first quarter of 2023, the allocations of revenue and expense to CCB associated with a Merchant Services revenue sharing agreement were discontinued and are now retained in Payments in CIB. Prior-period amounts have been revised to conform with the current presentation.

Commercial Banking provides comprehensive financial solutions, including lending, payments, investment banking and asset management products across three primary client segments: Middle Market Banking, Corporate Client Banking and Commercial Real Estate Banking. Other includes amounts not aligned with a primary client segment.

Middle Market Banking covers small and midsized companies, local governments and nonprofit clients.

Corporate Client Banking covers large corporations.

Commercial Real Estate Banking covers investors, developers, and owners of multifamily, office, retail, industrial and affordable housing properties.

Selected income statement data

Year ended December 31, (in millions)	2023		2022	2021
Revenue				
Lending- and deposit-related fees	**$ 1,210**	(b)	$ 1,243	$ 1,392
Card income	**763**		685	624
All other income	**1,521**		1,408	1,913
Noninterest revenue	**3,494**		3,336	3,929
Net interest income	**12,052**	(b)	8,197	6,079
Total net revenue[a]	**15,546**		11,533	10,008
Provision for credit losses	**1,970**	(b)	1,268	(947)
Noninterest expense				
Compensation expense	**2,760**	(b)	2,296	1,973
Noncompensation expense	**2,618**		2,423	2,068
Total noninterest expense	**5,378**		4,719	4,041
Income before income tax expense	**8,198**		5,546	6,914
Income tax expense	**2,055**		1,333	1,668
Net income	**$ 6,143**		$ 4,213	$ 5,246

(a) Total net revenue included tax-equivalent adjustments from income tax credits related to equity investments in designated community development entities and in entities established for rehabilitation of historic properties, as well as tax-exempt income related to municipal financing activities of $382 million, $322 million and $330 million for the years ended December 31, 2023, 2022 and 2021, respectively.

(b) Includes First Republic. Refer to page 67 for additional information.

2023 compared with 2022

Net income was $6.1 billion, up 46%.

Net revenue was $15.5 billion, up 35%.

Net interest income was $12.1 billion, up 47%, driven by:

- deposit margin expansion on higher rates, partially offset by lower average deposits, and
- higher average loans, including the impact from First Republic.

Noninterest revenue was $3.5 billion, up 5%, driven by:

- higher lending-related revenue predominantly driven by the amortization of the purchase discount on certain acquired lending-related commitments associated with First Republic,
- net markups on held-for-sale positions, primarily unfunded commitments, in the bridge financing portfolio, compared with net markdowns in the prior year, and
- higher investment banking revenue and card income,

predominantly offset by

- lower deposit-related fees due to the higher level of client credits that reduce such fees, and
- the absence of a gain on an equity-method investment received in partial satisfaction of a loan.

Noninterest expense was $5.4 billion, up 14%, driven by higher compensation expense, reflecting an increase in employees including front office and technology, as well as higher volume-related expense, including the impact of new client acquisitions.

The provision for credit losses was $2.0 billion, reflecting:

- a $1.0 billion net addition to the allowance for credit losses, driven by the net effect of changes in the Firm's weighted average macroeconomic outlook, including a deterioration in the outlook for commercial real estate and net downgrade activity, partially offset by the impact of changes in the loan and lending-related commitment portfolios,
- $608 million to establish the allowance for the First Republic loans and lending-related commitments in the second quarter of 2023; and
- net charge-offs of $316 million, up $232 million, primarily driven by Real Estate, predominantly concentrated in Office.

The provision in the prior year was $1.3 billion, reflecting a net addition to the allowance for credit losses.

CB product revenue consists of the following:

Lending includes a variety of financing alternatives, which are primarily provided on a secured basis; collateral includes receivables, inventory, equipment, real estate or other assets. Products include term loans, revolving lines of credit, bridge financing, asset-based structures, leases, and standby letters of credit.

Payments includes services that enable CB clients to manage payments globally across liquidity and account solutions, commerce solutions, clearing, trade and working capital.

Investment banking includes revenue from a range of products providing CB clients with sophisticated capital-raising alternatives, as well as balance sheet and risk management tools through advisory, equity underwriting, and loan syndications. Revenue from fixed income and equity markets products used by CB clients is also included.

Other revenue primarily includes tax-equivalent adjustments generated from Community Development Banking and activity derived from principal transactions.

Selected income statement data (continued)

Year ended December 31, (in millions, except ratios)	2023		2022	2021
Revenue by product				
Lending	**$ 5,993**	(d)	$ 4,524	$ 4,629
Payments[a]	**8,250**		5,691	3,653
Investment banking[a][b]	**1,167**		1,064	1,611
Other	**136**		254	115
Total net revenue	**$ 15,546**		$ 11,533	$ 10,008
Investment Banking and Markets revenue, gross[c]	**$ 3,393**		$ 2,978	$ 5,092
Revenue by client segment				
Middle Market Banking	**$ 7,371**	(e)	$ 5,134	$ 4,004
Corporate Client Banking	**4,777**		3,918	3,508
Commercial Real Estate Banking	**3,308**	(e)	2,461	2,419
Other	**90**		20	77
Total net revenue	**$ 15,546**		$ 11,533	$ 10,008
Financial ratios				
Return on equity	**20 %**		16 %	21 %
Overhead ratio	**35**		41	40

(a) In the third quarter of 2023, certain revenue from CIB Markets products was reclassified from payments to investment banking. Prior-period amounts have been revised to conform with the current presentation.
(b) Includes CB's share of revenue from Investment Banking and Markets' products sold to CB clients through the CIB which is reported in All other income.
(c) Includes gross revenues earned by the Firm that are subject to a revenue sharing arrangement between CB and the CIB for Investment Banking and Markets' products sold to CB clients. This includes revenues related to fixed income and equity markets products. Refer to Business Segment Results on page 65 for a discussion of revenue sharing.
(d) Includes First Republic. Refer to page 67 for additional information.
(e) Middle Market Banking and Commercial Real Estate Banking included $216 million and $687 million, respectively, for the year ended December 31, 2023, associated with First Republic.

Selected metrics

As of or for the year ended December 31, (in millions, except employees)	2023		2022	2021
Selected balance sheet data (period-end)				
Total assets	**$ 300,325**		$ 257,106	$ 230,776
Loans:				
Loans retained	**277,663**	(b)	233,879	206,220
Loans held-for-sale and loans at fair value	**545**		707	2,223
Total loans	**$ 278,208**		$ 234,586	$ 208,443
Equity	**30,000**		25,000	24,000
Period-end loans by client segment				
Middle Market Banking[a]	**$ 78,043**	(c)	$ 72,625	$ 61,159
Corporate Client Banking	**56,132**		53,840	45,315
Commercial Real Estate Banking	**143,507**	(c)	107,999	101,751
Other	**526**		122	218
Total loans[a]	**$ 278,208**		$ 234,586	$ 208,443
Selected balance sheet data (average)				
Total assets	**$ 287,851**		$ 243,108	$ 225,548
Loans:				
Loans retained	**267,285**	(d)	222,388	201,920
Loans held-for-sale and loans at fair value	**1,060**		1,350	3,122
Total loans	**$ 268,345**		$ 223,738	$ 205,042
Deposits	**267,758**	(e)	294,180	301,343
Equity	**29,507**		25,000	24,000
Average loans by client segment				
Middle Market Banking	**$ 77,130**	(f)	$ 67,830	$ 60,128
Corporate Client Banking	**58,770**		50,281	44,361
Commercial Real Estate Banking	**132,114**	(f)	105,459	100,331
Other	**331**		168	222
Total loans	**$ 268,345**		$ 223,738	$ 205,042
Employees	**17,867**		14,687	12,902

(a) As of December 31, 2023, 2022 and 2021, total loans included $36 million, $132 million, and $1.2 billion of loans, respectively, under the PPP, of which $32 million, $123 million and $1.1 billion were in Middle Market Banking, respectively.
(b) Includes First Republic. Refer to page 67 for additional information.
(c) As of December 31, 2023, included $5.9 billion and $32.6 billion for Middle Market Banking and Commercial Real Estate Banking, respectively, associated with First Republic.
(d) Average loans retained associated with First Republic were $26.8 billion for the year ended December 31, 2023.
(e) In the fourth quarter of 2023, certain deposits associated with First Republic were transferred from CCB. Refer to page 67 for additional information.
(f) Average Middle Market Banking and Commercial Real Estate Banking loans associated with First Republic were $4.2 billion and $22.5 billion, respectively, for the year ended December 31, 2023.

Selected metrics

As of or for the year ended December 31, (in millions, except ratios)	2023	2022	2021
Credit data and quality statistics			
Net charge-offs/(recoveries)	**$ 316**	$ 84	$ 71
Nonperforming assets			
Nonaccrual loans:			
Nonaccrual loans retained[a]	**$ 809**	$ 766	$ 740
Nonaccrual loans held-for-sale and loans at fair value	**—**	—	—
Total nonaccrual loans	**$ 809**	$ 766	$ 740
Assets acquired in loan satisfactions	**54**	—	17
Total nonperforming assets	**$ 863**	$ 766	$ 757
Allowance for credit losses:			
Allowance for loan losses	**$ 5,005**	$ 3,324	$ 2,219
Allowance for lending-related commitments	**801**	830	749
Total allowance for credit losses	**$ 5,806** [c]	$ 4,154	$ 2,968
Net charge-off/(recovery) rate[b]	**0.12%**	0.04%	0.04%
Allowance for loan losses to period-end loans retained	**1.80**	1.42	1.08
Allowance for loan losses to nonaccrual loans retained[a]	**619**	434	300
Nonaccrual loans to period-end total loans	**0.29**	0.33	0.36

(a) Allowance for loan losses of $156 million, $153 million and $124 million was held against nonaccrual loans retained at December 31, 2023, 2022 and 2021, respectively.
(b) Loans held-for-sale and loans at fair value were excluded when calculating the net charge-off/(recovery) rate.
(c) As of December 31, 2023, included a $729 million allowance for First Republic.

Asset & Wealth Management, with client assets of $5.0 trillion, is a global leader in investment and wealth management.

Asset Management
Offers multi-asset investment management solutions across equities, fixed income, alternatives and money market funds to institutional and retail investors providing for a broad range of clients' investment needs.

Global Private Bank
Provides retirement products and services, brokerage, custody, estate planning, lending, deposits and investment management to high net worth clients.

The majority of AWM's client assets are in actively managed portfolios.

Selected income statement data

Year ended December 31, (in millions, except ratios)	2023		2022	2021
Revenue				
Asset management fees	**$11,826**		$11,510	$11,518
Commissions and other fees	**697**		662	$ 815
All other income	**1,037**	(a)(b)	335	738
Noninterest revenue	**13,560**		12,507	13,071
Net interest income	**6,267**		5,241	3,886
Total net revenue	**19,827**		17,748	16,957
Provision for credit losses	**159**		128	(227)
Noninterest expense				
Compensation expense	**7,115**		6,336	5,692
Noncompensation expense	**5,665**		5,493	5,227
Total noninterest expense	**12,780**		11,829	10,919
Income before income tax expense	**6,888**		5,791	6,265
Income tax expense	**1,661**		1,426	1,528
Net income	**$ 5,227**		$ 4,365	$ 4,737
Revenue by line of business				
Asset Management	**$ 9,129**		$ 8,818	$ 9,246
Global Private Bank	**10,698**		8,930	7,711
Total net revenue	**$19,827**		$17,748	$16,957
Financial ratios				
Return on equity	**31 %**		25 %	33 %
Overhead ratio	**64**		67	64
Pre-tax margin ratio:				
Asset Management	**31**		30	35
Global Private Bank	**38**		35	39
Asset & Wealth Management	**35**		33	37

(a) Includes the amortization of the purchase discount on certain acquired lending-related commitments associated with First Republic. The discount is deferred in other liabilities and recognized on a straight-line basis over the commitment period and was largely recognized in the current year as the commitments are generally short term. Refer to Note 34 for additional information.
(b) Includes the gain on the original minority interest in CIFM upon the Firm's acquisition of the remaining 51% interest in the entity.

2023 compared with 2022

Net income was $5.2 billion, up 20%.

Net revenue was $19.8 billion, up 12%. Net interest income was $6.3 billion, up 20%. Noninterest revenue was $13.6 billion, up 8%.

Revenue from Asset Management was $9.1 billion, up 4%, driven by:

- a gain of $339 million on the original minority interest in CIFM upon the Firm's acquisition of the remaining 51% interest in the entity, and
- higher asset management fees driven by strong net inflows largely offset by the net impact of foreign exchange rate movements, as well as the removal of most money market fund fee waivers in the prior year,

largely offset by

- lower performance fees, and
- lower NII due to higher funding costs.

Revenue from Global Private Bank was $10.7 billion, up 20%, driven by:

- higher net interest income on higher average loans associated with First Republic, and from deposit margin expansion on higher rates, largely offset by lower average deposits, and
- higher noninterest revenue, predominantly driven by the amortization of the purchase discount on certain acquired lending-related commitments associated with First Republic, partially offset by net investment valuation losses.

Noninterest expense was $12.8 billion, up 8%, predominantly driven by higher compensation, including continued growth in private banking advisor teams, revenue-related compensation and the impacts of closing the Global Shares and J.P. Morgan Asset Management China acquisitions.

The provision for credit losses was $159 million, predominantly driven by a $146 million addition to the allowance for credit losses to establish the allowance for the First Republic loans and lending-related commitments in the second quarter of 2023.

The provision in the prior year was $128 million driven by a net addition to the allowance for credit losses.

Asset Management has two high-level measures of its overall fund performance.

- **Percentage of active mutual fund and active ETF assets under management in funds rated 4- or 5-star:** Mutual fund rating services rank funds based on their risk adjusted performance over various periods. A 5-star rating is the best rating and represents the top 10% of industry-wide ranked funds. A 4-star rating represents the next 22.5% of industry-wide ranked funds. A 3-star rating represents the next 35% of industry-wide ranked funds. A 2-star rating represents the next 22.5% of industry-wide ranked funds. A 1-star rating is the worst rating and represents the bottom 10% of industrywide ranked funds. An overall Morningstar rating is derived from a weighted average of the performance associated with a fund's three-, five and ten- year (if applicable) Morningstar Rating metrics. For U.S.-domiciled funds, separate star ratings are provided at the individual share class level. The Nomura "star rating" is based on three-year risk-adjusted performance only. Funds with fewer than three years of history are not rated and hence excluded from these rankings. All ratings, the assigned peer categories and the asset values used to derive these rankings are sourced from the applicable fund rating provider. Where applicable, the fund rating providers redenominate asset values into U.S. dollars. The percentage of AUM is based on star ratings at the share class level for U.S.-domiciled funds, and at a "primary share class" level to represent the star rating of all other funds, except for Japan, for which Nomura provides ratings at the fund level. The performance data may have been different if all share classes had been included. Past performance is not indicative of future results.

- **Percentage of active mutual fund and active ETF assets under management in funds ranked in the 1st or 2nd quartile (one, three and five years):** All quartile rankings, the assigned peer categories and the asset values used to derive these rankings are sourced from the fund rating providers. Quartile rankings are based on the net-of-fee absolute return of each fund. Where applicable, the fund rating providers redenominate asset values into U.S. dollars. The percentage of AUM is based on fund performance and associated peer rankings at the share class level for U.S.-domiciled funds, at a "primary share class" level to represent the quartile ranking for U.K., Luxembourg and Hong Kong SAR funds and at the fund level for all other funds. The performance data may have been different if all share classes had been included. Past performance is not indicative of future results.

"**Primary share class**" means the C share class for European funds and Acc share class for Hong Kong SAR and Taiwan funds. If these share classes are not available, the oldest share class is used as the primary share class.

Selected metrics

As of or for the year ended December 31, (in millions, except ranking data, ratios and employees)	2023		2022	2021
% of JPM mutual fund assets and ETFs rated as 4- or 5-star[a]	**69 %**		73 %	69 %
% of JPM mutual fund assets and ETFs ranked in 1st or 2nd quartile:[b]				
1 year	**40**		68	54
3 years	**67**		76	73
5 years	**71**		81	80
Selected balance sheet data (period-end)[c]				
Total assets	**$245,512**		$232,037	$234,425
Loans	**227,929**	[d]	214,006	218,271
Deposits	**233,232**	[e]	233,130	282,052
Equity	**17,000**		17,000	14,000
Selected balance sheet data (average)[c]				
Total assets	**$240,222**		$232,438	$217,187
Loans	**220,487**	[f]	215,582	198,487
Deposits	**216,178**	[e]	261,489	230,296
Equity	**16,671**		17,000	14,000
Employees	**28,485**		26,041	22,762
Number of Global Private Bank client advisors	**3,515**		3,137	2,738
Credit data and quality statistics[c]				
Net charge-offs/(recoveries)	**$ 13**		$ (7)	$ 26
Nonaccrual loans	**650**		459	708
Allowance for credit losses:				
Allowance for loan losses	**$ 633**		$ 494	$ 365
Allowance for lending-related commitments	**28**		20	18
Total allowance for credit losses	**$ 661**	[g]	$ 514	$ 383
Net charge-off/(recovery) rate	**0.01 %**		– %	0.01 %
Allowance for loan losses to period-end loans	**0.28**		0.23	0.17
Allowance for loan losses to nonaccrual loans	**97**		108	52
Nonaccrual loans to period-end loans	**0.29**		0.21	0.32

(a) Represents the Morningstar Rating for all domiciled funds except for Japan domiciled funds which use Nomura. Includes only Asset Management retail active open-ended mutual funds and active ETFs that have a rating. Excludes money market funds, Undiscovered Managers Fund, and Brazil domiciled funds. This metric has been updated to include active ETFs, and prior period amounts have been revised to conform with the current presentation.

(b) Quartile ranking sourced from Morningstar, Lipper and Nomura based on country of domicile. Includes only Asset Management retail active open-ended mutual funds and active ETFs that are ranked by the aforementioned sources. Excludes money market funds, Undiscovered Managers Fund, and Brazil domiciled funds. This metric has been updated to include active ETFs, and prior period numbers have been revised to conform with the current presentation.

(c) Loans, deposits and related credit data and quality statistics relate to the Global Private Bank business.

(d) Includes First Republic. Refer to page 67 for additional information.

(e) In the fourth quarter of 2023, certain deposits associated with First Republic were transferred from CCB. Refer to page 67 for additional information.

(f) Includes $8.7 billion for the full year 2023, associated with First Republic.

(g) Includes First Republic.

Client assets

2023 compared with 2022

Assets under management were $3.4 trillion and client assets were $5.0 trillion, each up 24%, driven by continued net inflows, higher market levels, and the impact of the acquisition of Global Shares.

Client assets

December 31, (in billions)	2023	2022	2021
Assets by asset class			
Liquidity	**$ 926**	$ 654	$ 708
Fixed income	**751**	638	693
Equity	**868**	670	779
Multi-asset	**680**	603	732
Alternatives	**197**	201	201
Total assets under management	**3,422**	2,766	3,113
Custody/brokerage/ administration/deposits	**1,590**	1,282	1,182
Total client assets[a]	**$ 5,012**	$ 4,048	$ 4,295
Assets by client segment			
Private Banking	**$ 974**	$ 751	$ 805
Global Institutional	**1,488**	1,252	1,430
Global Funds	**960**	763	878
Total assets under management	**$ 3,422**	$ 2,766	$ 3,113
Private Banking	**$ 2,452**	$ 1,964	$ 1,931
Global Institutional	**1,594**	1,314	1,479
Global Funds	**966**	770	885
Total client assets[a]	**$ 5,012**	$ 4,048	$ 4,295

(a) Includes CCB client investment assets invested in managed accounts and J.P. Morgan mutual funds where AWM is the investment manager.

Client assets (continued)

Year ended December 31, (in billions)	2023	2022	2021
Assets under management rollforward			
Beginning balance	**$ 2,766**	$ 3,113	$ 2,716
Net asset flows:			
Liquidity	**242**	(55)	68
Fixed income	**70**	13	36
Equity	**70**	35	85
Multi-asset	**1**	(9)	17
Alternatives	**(1)**	8	26
Market/performance/other impacts	**274**	(339)	165
Ending balance, December 31	**$ 3,422**	$ 2,766	$ 3,113
Client assets rollforward			
Beginning balance	**$ 4,048**	$ 4,295	$ 3,652
Net asset flows	**490**	49	389
Market/performance/other impacts	**474**	(296)	254
Ending balance, December 31	**$ 5,012**	$ 4,048	$ 4,295

International metrics

Year ended December 31, (in billions, except where otherwise noted)	2023	2022	2021
Total net revenue (in millions)[a]			
Europe/Middle East/Africa	**$ 3,377**	$ 3,240	$ 3,571
Asia-Pacific	**1,876**	1,836	2,017
Latin America/Caribbean	**985**	967	886
Total international net revenue	**6,238**	6,043	6,474
North America	**13,589**	11,705	10,483
Total net revenue	**$ 19,827**	$ 17,748	$ 16,957
Assets under management			
Europe/Middle East/Africa	**$ 539**	$ 487	$ 561
Asia-Pacific	**263**	218	254
Latin America/Caribbean	**86**	69	79
Total international assets under management	**888**	774	894
North America	**2,534**	1,992	2,219
Total assets under management	**$ 3,422**	$ 2,766	$ 3,113
Client assets			
Europe/Middle East/Africa	**$ 740**	$ 610	$ 687
Asia-Pacific	**406**	331	381
Latin America/Caribbean	**232**	189	195
Total international client assets	**1,378**	1,130	1,263
North America	**3,634**	2,918	3,032
Total client assets	**$ 5,012**	$ 4,048	$ 4,295

(a) Regional revenue is based on the domicile of the client.

The Corporate segment consists of Treasury and Chief Investment Office ("CIO") and Other Corporate. Treasury and CIO is predominantly responsible for measuring, monitoring, reporting and managing the Firm's liquidity, funding, capital, structural interest rate and foreign exchange risks.

Other Corporate includes staff functions and expense that is centrally managed as well as certain Firm initiatives and activities not solely aligned to a specific LOB. The major Other Corporate functions include Real Estate, Technology, Legal, Corporate Finance, Human Resources, Internal Audit, Risk Management, Compliance, Control Management, Corporate Responsibility and various Other Corporate groups.

Selected income statement and balance sheet data

31, (in millions, except employees)	2023		2022	2021
Revenue				
Principal transactions	**$ 302**		$ (227)	$ 187
Investment securities gains/(losses)	**(3,180)**		(2,380)	(345)
All other income	**3,010**	(c)	809	226
Noninterest revenue	**132**		(1,798)	68
Net interest income	**7,906**	(c)	1,878	(3,551)
Total net revenue[a]	**8,038**		80	(3,483)
Provision for credit losses	**171**		22	81
Noninterest expense	**5,601**	(c)(d)	1,034	1,802
Income/(loss) before income tax expense/ (benefit)	**2,266**		(976)	(5,366)
Income tax expense/ (benefit)	**(555)**	(e)	(233)	(1,653)
Net income/(loss)	**$ 2,821**		$ (743)	$ (3,713)
Total net revenue				
Treasury and CIO	**6,072**		(439)	(3,464)
Other Corporate	**1,966**	(c)	519	(19)
Total net revenue	**$ 8,038**		$ 80	$ (3,483)
Net income/(loss)				
Treasury and CIO	**4,206**		(197)	(3,057)
Other Corporate	**(1,385)**	(c)(d)	(546)	(656)
Total net income/(loss)	**$ 2,821**		$ (743)	$ (3,713)
Total assets (period-end)	**$1,348,437**		$ 1,328,219	$ 1,518,100
Loans (period-end)	**1,924**		2,181	1,770
Deposits[b]	**21,826**		14,203	396
Employees	**47,530**		44,196	38,952

(a) Included tax-equivalent adjustments, predominantly driven by tax-exempt income from municipal bonds, of $211 million, $235 million and $257 million for the years ended December 31, 2023, 2022 and 2021, respectively.
(b) Predominantly relates to the Firm's international consumer initiatives.
(c) Includes the impact of the First Republic acquisition. Refer to Notes 6 and 34 for additional information.
(d) Includes the FDIC special assessment. Refer to Note 6 for additional information.
(e) Income taxes associated with the First Republic acquisition are reflected in the estimated bargain purchase gain.

2023 compared with 2022

Net income was $2.8 billion, compared with a net loss of $743 million in the prior year.

Net revenue was $8.0 billion, compared with $80 million in the prior year, predominantly driven by higher net interest income due to higher rates, partially offset by the impact of lower Firmwide average deposit balances.

Noninterest revenue was $132 million, compared with a loss of $1.8 billion in the prior year, driven by:

- the $2.8 billion estimated bargain purchase gain associated with the First Republic acquisition,
- higher losses in the prior year on certain revenues associated with foreign exchange rate movements that are risk-managed by Treasury and CIO, and
- the impact of higher short-term cash deployment activities as a result of the current interest rate environment,

partially offset by

- higher net investment securities losses related to the sales of U.S. Treasuries and U.S. GSE and government agency MBS, associated with repositioning the investment securities portfolio, and
- lower net gains related to certain other Corporate investments.

The prior year included a gain on the sale of Visa B shares and proceeds from an insurance settlement.

Noninterest expense was $5.6 billion, up $4.6 billion, predominantly driven by:

- the $2.9 billion FDIC special assessment,
- $1.0 billion associated with First Republic, predominantly driven by integration and restructuring costs as well as expenses recorded in the second quarter of 2023 with respect to individuals associated with First Republic who did not become employees of the Firm until July 2, 2023,
- a greater benefit in the prior year on certain expenses associated with foreign exchange rate movements that are risk-managed by Treasury and CIO,
- higher legal expenses, and
- higher costs associated with the Firm's international consumer growth initiatives,

partially offset by

- lower benefits-related and real estate expenses.

The net impact of movements in foreign exchange rates associated with the foreign exchange risk that was transferred to Treasury and CIO on certain revenues and expenses was not material to net income. Refer to Foreign Exchange Risk on page 66 for additional information.

Refer to Note 10 and Note 13 for additional information on the investment securities portfolio and the allowance for credit losses.

The provision for credit losses was $171 million, reflecting a net addition to the allowance for credit losses related to a single name exposure, which was subsequently charged off upon the restructuring of a loan.

The current period income tax benefit was driven by:

- the finalization of certain income tax regulations, other tax adjustments and tax benefits associated with tax audit settlements,

partially offset by

- the impact from changes in the level and mix of income and expenses subject to U.S. federal, state and local taxes that also impacted the Firm's tax reserves.

The income taxes associated with the First Republic acquisition are reflected in the estimated bargain purchase gain.

The prior period income tax benefit was driven by benefits related to tax audit settlements as well as other tax adjustments, partially offset by a change in the level and mix of income and expenses subject to U.S. federal, state and local taxes that also impacted the Firm's tax reserves.

Other Corporate also reflects the Firm's international consumer initiatives, which includes Chase U.K., the Firm's digital retail bank in the U.K.; Nutmeg, a digital wealth manager in the U.K.; and a 46% ownership stake in C6 Bank, a digital bank in Brazil.

Treasury and CIO overview

Treasury and CIO is predominantly responsible for measuring, monitoring, reporting and managing the Firm's liquidity, funding, capital, structural interest rate and foreign exchange risks. The risks managed by Treasury and CIO arise from the activities undertaken by the Firm's four major reportable business segments to serve their respective client bases, which generate both on- and off-balance sheet assets and liabilities.

Treasury and CIO seeks to achieve the Firm's asset-liability management objectives generally by investing in high-quality securities that are managed for the longer-term as part of the Firm's investment securities portfolio. Treasury and CIO also uses derivatives to meet the Firm's asset-liability management objectives. Refer to Note 5 for further information on derivatives. In addition, Treasury and CIO manages the Firm's cash position primarily through deposits at central banks and investments in short-term instruments. Refer to Liquidity Risk Management on pages 102–109 for further information on liquidity and funding risk. Refer to Market Risk Management on pages 135–143 for information on interest rate and foreign exchange risks.

The investment securities portfolio predominantly consists of U.S. and non-U.S. government securities, U.S. GSE and government agency and nonagency mortgage-backed securities, collateralized loan obligations, obligations of U.S. states and municipalities and other ABS. At December 31, 2023, the Treasury and CIO investment securities portfolio, net of the allowance for credit losses, was $569.2 billion, and the average credit rating of the securities comprising the portfolio was AA+ (based upon external ratings where available and, where not available, based primarily upon internal risk ratings). Refer to Note 10 for further information on the Firm's investment securities portfolio and internal risk ratings.

Selected income statement and balance sheet data

As of or for the year ended December 31, (in millions)	2023	2022	2021
Investment securities losses	**$ (3,180)**	$ (2,380)	$ (345)
Available-for-sale securities (average)	**$ 200,708**	$ 239,924	$ 306,827
Held-to-maturity securities (average)[a]	**402,010**	412,180	285,086
Investment securities portfolio (average)	**$ 602,718**	$ 652,104	$ 591,913
Available-for-sale securities (period-end)[c]	**$ 199,354**	$ 203,981	$ 306,352
Held-to-maturity securities (period-end)[a]	**369,848**	425,305	363,707
Investment securities portfolio, net of allowance for credit losses (period-end)[b]	**$ 569,202**	$ 629,286	$ 670,059

(a) Effective January 1, 2023, the Firm adopted new hedge accounting guidance. As permitted by the guidance, the Firm elected to transfer $7.1 billion of HTM securities to AFS. During 2022 and 2021, the Firm transferred $78.3 billion and $104.5 billion of investment securities, respectively, from AFS to HTM for capital management purposes. Refer to Note 1 and Note 10 for additional information on the new hedge accounting guidance.

(b) As of December 31, 2023, 2022 and 2021, the allowance for credit losses on investment securities was $94 million, $67 million and $42 million, respectively.

(c) As of December 31, 2023, included $24.2 billion of AFS securities associated with First Republic. Refer to Note 34 for additional information.

FIRMWIDE RISK MANAGEMENT

Risk is an inherent part of JPMorgan Chase's business activities. When the Firm extends a consumer or wholesale loan, advises customers and clients on their investment decisions, makes markets in securities, or offers other products or services, the Firm takes on some degree of risk. The Firm's overall objective is to manage its business, and the associated risks, in a manner that balances serving the interests of its clients, customers and investors, and protecting the safety and soundness of the Firm.

The Firm believes that effective risk management requires, among other things:

- Acceptance of responsibility, including identification and escalation of risks by all individuals within the Firm;
- Ownership of risk identification, assessment, data and management within each of the LOBs and Corporate; and
- A Firmwide risk governance and oversight structure.

The Firm follows a disciplined and balanced compensation framework with strong internal governance and independent oversight by the Board of Directors (the "Board"). The impact of risk and control issues is carefully considered in the Firm's performance evaluation and incentive compensation processes.

Risk governance framework

The Firm's risk governance framework involves understanding drivers of risks, types of risks, and impacts of risks.

Drivers of risks are factors that cause a risk to exist. Drivers of risks include, but are not limited to, the economic environment, regulatory or government policy, competitor or market evolution, business decisions, process or judgment error, deliberate wrongdoing, dysfunctional markets, and natural disasters.

Types of risks are categories by which risks manifest themselves. The Firm's risks are generally categorized in the following four risk types:

- Strategic risk is the risk to earnings, capital, liquidity, or reputation associated with poorly designed or failed business plans or an inadequate response to changes in the operating environment.
- Credit and investment risk is the risk associated with the default or change in credit profile of a client, counterparty or customer; or loss of principal or a reduction in expected returns on investments, including consumer credit risk, wholesale credit risk, and investment portfolio risk.
- Market risk is the risk associated with the effect of changes in market factors, such as interest and foreign exchange rates, equity and commodity prices, credit spreads or implied volatilities, on the value of assets and liabilities held for both the short and long term.
- Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes or systems; human factors; or external events impacting the Firm's processes or systems. Operational risk includes cybersecurity, compliance, conduct, legal, and estimations and model risk.

Impacts of risks are consequences of risks, both quantitative and qualitative. There may be many consequences of risks manifesting, including quantitative impacts such as a reduction in earnings and capital, liquidity outflows, and fines or penalties, or qualitative impacts such as damage to the Firm's reputation, loss of clients and customers, and regulatory and enforcement actions.

The Firm's risk governance framework is managed on a Firmwide basis. The Firm has an Independent Risk Management ("IRM") function, which is comprised of Risk Management and Compliance. The Firm's Chief Executive Officer ("CEO") appoints, subject to approval by the Risk Committee of the Board of Directors (the "Board Risk Committee"), the Firm's Chief Risk Officer ("CRO") to lead the IRM function and maintain the risk governance framework of the Firm. The framework is subject to approval by the Board Risk Committee through its review and approval of the Risk Governance and Oversight Policy.

The Firm's CRO oversees and delegates authority to the Firmwide Risk Executives ("FREs"), the Chief Risk Officers of the LOBs and Corporate ("LOB CROs"), and the Firm's Chief Compliance Officer ("CCO"), who, in turn, establish Risk Management and Compliance organizations, develop the Firm's risk governance policies and standards, and define and oversee the implementation of the Firm's risk governance framework. The LOB CROs oversee risks that arise in their LOBs and Corporate, while FREs oversee risks that span across the LOBs and Corporate, as well as functions and regions. Each area of the Firm giving rise to risk is expected to operate within the parameters identified by the IRM function, and within the risk and control standards established by its own management.

Three lines of defense

The Firm's "three lines of defense" are as follows:

The first line of defense consists of each LOB, Treasury and CIO, and certain Other Corporate initiatives, including their aligned Operations, Technology and Control Management. The first line of defense owns the identification of risks within their respective organizations and the design and execution of controls to manage those risks. Responsibilities also include adherence to applicable laws, rules and regulations and implementation of the risk

governance framework established by IRM, which may include policies, standards, limits, thresholds and controls.

The second line of defense is the IRM function, which is separate from the first line of defense and is responsible for independently measuring risk, as well as assessing and challenging the risk management practices of the first line of defense. IRM is also responsible for the identification of risks within its respective organization, adherence to applicable laws, rules and regulations and for the development and implementation of policies and standards with respect to its own processes.

The third line of defense is Internal Audit, an independent function that provides objective assessment of the adequacy and effectiveness of Firmwide processes, controls, governance and risk management. The Internal Audit function is headed by the General Auditor, who reports to the Audit Committee and administratively to the CEO.

In addition, there are other functions that contribute to the Firmwide control environment but are not considered part of a particular line of defense, including Finance, Human Resources and Legal. These other functions are responsible for the identification of risks within their respective organizations, adherence to applicable laws, rules and regulations and implementation of the risk governance framework established by IRM.

Risk identification and ownership

The LOBs and Corporate own the identification of risks within their respective organizations, as well as the design and execution of controls, including IRM-specified controls, to manage those risks. To support this activity, the Firm has a risk identification framework designed to facilitate each LOB and Corporate's responsibility to identify material risks inherent to the Firm's businesses and operational activities, catalog them in a central repository and review material risks on a regular basis. The IRM function reviews and challenges the LOB and Corporate's identified risks, maintains the central repository and provides the consolidated Firmwide results to the Firmwide Risk Committee ("FRC") and the Board Risk Committee.

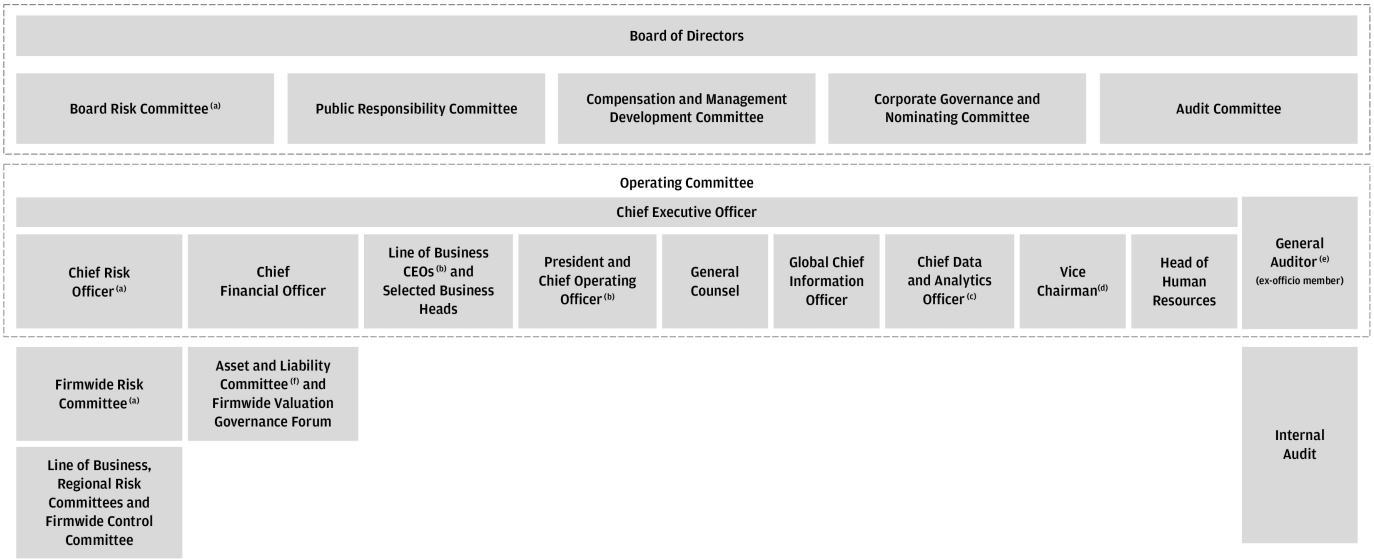
Risk appetite

The Firm's overall appetite for risk is governed by "Risk Appetite" frameworks for quantitative and qualitative risks. The Firm's risk appetite is periodically set and approved by senior management (including the CEO and CRO) and approved by the Board Risk Committee. Quantitative and qualitative risks are assessed to monitor and measure the Firm's capacity to take risk consistent with its stated risk appetite. Risk appetite results are reported to the Board Risk Committee.

Risk governance and oversight structure

The independent status of the IRM function is supported by a risk governance and oversight structure that provides channels for the escalation of risks and issues to senior management, the FRC, and the Board of Directors, as appropriate.

The chart below illustrates the principal standing committees of the Board of Directors and key senior management-level committees in the Firm's risk governance and oversight structure. In addition, there are other committees, forums and channels of escalation that support the oversight of risk that are not shown in the chart below or described in this Form 10-K.



[a] The Firm's CRO may escalate directly to the Board Risk Committee. The Firmwide Risk Committee escalates to the Board Risk Committee, as appropriate.
[b] As of December 31, 2023, the CEO of the Corporate & Investment Bank was also the Firm's President and Chief Operating Officer. Refer to Recent events on page 52 for further information.
[c] The Chief Data and Analytics Officer role was added to the Operating Committee in June 2023.
[d] Effective February 12, 2024, the Global Head of Corporate Responsibility and Chairman of the Mid-Atlantic Region became a member of the Operating Committee, and the Vice Chairman became an emeritus member of the Operating Committee.
[e] The General Auditor reports to the Audit Committee and administratively to the Firm's CEO.
[f] The Asset and Liability Committee escalates to the Firm's CEO or the Board of Directors (including its committees).

The Firm's Operating Committee, which consists of the Firm's CEO, CRO, Chief Financial Officer ("CFO"), General Counsel, CEOs of the LOBs and other senior executives, is accountable to and may refer matters to the Firm's Board of Directors. The Operating Committee and certain other members of senior management are responsible for escalating to the Board the information necessary to facilitate the Board's exercise of its duties.

Board oversight

The Firm's Board of Directors actively oversees the business and affairs of the Firm. This includes monitoring the Firm's financial performance and condition and reviewing the strategic objectives and plans of the Firm. The Board carries out a significant portion of its oversight responsibilities through its principal standing committees, each of which consists solely of independent members of the Board. The Board Risk Committee is the principal committee that oversees risk matters. The Audit Committee oversees the control environment, and the Compensation & Management Development Committee oversees compensation and other management-related matters. Each committee of the Board oversees reputation risks, conduct risks, and environmental, social and governance ("ESG") matters within its scope of responsibility.

The JPMorgan Chase Bank, N.A. Board of Directors is responsible for the oversight of management of the bank, which it discharges both acting directly and through the principal standing committees of the Firm's Board of Directors. Risk and control oversight on behalf of JPMorgan Chase Bank N.A. is primarily the responsibility of the Board Risk Committee and the Audit Committee, respectively, and, with respect to compensation and other management-related matters, the Compensation & Management Development Committee.

The Board Risk Committee assists the Board in its oversight of management's responsibility to implement a global risk management framework reasonably designed to identify, assess and manage the Firm's risks. The Board Risk Committee's responsibilities include approval of applicable primary risk policies and review of certain associated frameworks, analysis and reporting established by management. Breaches in risk appetite and parameters, issues that may have a material adverse impact on the Firm, including capital and liquidity issues, and other significant risk-related matters are escalated to the Board Risk Committee, as appropriate.

The Audit Committee assists the Board in its oversight of management's responsibility to ensure that there is an effective system of controls reasonably designed to safeguard the Firm's assets and income, ensure the integrity of the Firm's financial statements, and maintain compliance with the Firm's ethical standards, policies, plans and procedures, and with laws, rules and regulations. It also assists the Board in its oversight of the qualifications, independence and performance of the Firm's independent registered public accounting firm, and of the performance of the Firm's Internal Audit function.

The Compensation & Management Development Committee ("CMDC") assists the Board in its oversight of the Firm's compensation principles and practices. The CMDC reviews and approves the Firm's compensation and qualified benefits programs. The Committee reviews the performance of Operating Committee members against their goals, and approves their compensation awards. In addition, the CEO's award is subject to ratification by the independent directors of the Board. The CMDC also reviews the development of and succession for key executives. As part of the Board's role of reinforcing, demonstrating and communicating the "tone at the top," the CMDC oversees the Firm's culture, including reviewing updates from management regarding significant conduct issues and any related actions with respect to employees, including compensation actions.

The Public Responsibility Committee oversees and reviews the Firm's positions and practices on public responsibility matters such as community investment, fair lending, sustainability, consumer practices and other public policy issues that reflect the Firm's values and character and could impact the Firm's reputation among its stakeholders. The Committee also provides guidance on these matters to management and the Board, as appropriate.

The Corporate Governance & Nominating Committee exercises general oversight with respect to the governance of the Board of Directors. It reviews the qualifications of and recommends to the Board proposed nominees for election to the Board. The Committee evaluates and recommends to the Board corporate governance practices applicable to the Firm. It also reviews the framework for assessing the Board's performance and self-evaluation.

Management oversight

The Firm's senior management-level committees that are primarily responsible for key risk-related functions include:

The Firmwide Risk Committee ("FRC") is the Firm's highest management-level risk committee. It oversees the risks inherent in the Firm's business and provides a forum for discussion of topics and issues that are raised or escalated by its members and other committees.

The Firmwide Control Committee ("FCC") is an escalation committee for senior management to review and discuss the Firmwide compliance and operational risk environment including identified issues, compliance and operational risk metrics and significant events that have been escalated.

Line of Business and Regional Risk Committees are responsible for overseeing the governance, limits, and controls that have been established within the scope of their respective activities. These committees review the ways in which the particular LOB or the businesses operating in a particular region could be exposed to adverse outcomes, with a focus on identifying, accepting, escalating and/or requiring remediation of matters brought to these committees.

Line of Business and Corporate Function Control Committees oversee the risk and control environment of their respective business or function, inclusive of Operational Risk, Compliance and Conduct Risks. As part of that mandate, they are responsible for reviewing indicators of elevated or emerging risks and other data that may impact the level of compliance and operational risk in a business or function, addressing key compliance and operational risk issues, with an emphasis on processes with control concerns and overseeing control remediation.

The Asset and Liability Committee ("ALCO") is responsible for overseeing the Firm's asset and liability management ("ALM"), including the activities and frameworks supporting management of the balance sheet, liquidity risk, interest rate risk, and capital risk.

The Firmwide Valuation Governance Forum ("VGF") is composed of senior finance and risk executives and is responsible for overseeing the management of risks arising from valuation activities conducted across the Firm.

Risk governance and oversight functions

The Firm manages its risk through risk governance and oversight functions. The scope of a particular function or business activity may include one or more drivers, types and/or impacts of risk. For example, Country Risk Management oversees country risk which may be a driver of risk or an aggregation of exposures that could give rise to multiple risk types such as credit or market risk.

The following sections discuss the risk governance and oversight functions that have been established to manage the risks inherent in the Firm's business activities.

Risk governance and oversight functions	Page
Strategic Risk	90
Capital Risk	91-101
Liquidity Risk	102-109
Reputation Risk	110
Consumer Credit Risk	114-119
Wholesale Credit Risk	120-130
Investment Portfolio Risk	134
Market Risk	135-143
Country Risk	144-145
Climate Risk	146
Operational Risk	147-150
Compliance Risk	151
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Estimations and Model Risk	154

STRATEGIC RISK MANAGEMENT

Strategic risk is the risk to earnings, capital, liquidity or reputation associated with poorly designed or failed business plans or an inadequate response to changes in the operating environment.

Management and oversight

The Operating Committee, together with the senior leadership of each LOB and Corporate, are responsible for managing the Firm's most significant strategic risks. IRM engages regularly in strategic business discussions and decision-making, including participation in relevant business reviews and senior management meetings, risk and control committees and other relevant governance forums, and review of acquisitions and new business initiatives. The Board of Directors oversees management's strategic decisions, and the Board Risk Committee oversees IRM and the Firm's risk governance framework.

In the process of developing business plans and strategic initiatives, LOB and Corporate senior management identify the associated risks that are incorporated into the Firmwide Risk Identification framework and their impact on risk appetite.

In addition, IRM conducts a qualitative assessment of the LOB and Corporate strategic initiatives to assess their impact on the risk profile of the Firm.

The Firm's strategic planning process, which includes the development of the Firm's strategic plan and other strategic initiatives, is one component of managing the Firm's strategic risk. The strategic plan outlines the Firm's strategic framework and initiatives, and includes components such as budget, risk appetite, capital, earnings and asset-liability management objectives. Guided by the Firm's Business Principles, the Operating Committee and senior management teams in each LOB and Corporate review and update the strategic plan periodically, including evaluating the strategic framework and performance against prior-year initiatives, assessing the operating environment, refining existing strategies and developing new strategies.

The Firm's strategic plan, together with IRM's assessment, are provided to the Board as part of its review and approval of the Firm's strategic plan, and the plan is also reflected in the Firm's budget.

The Firm's balance sheet strategy, which focuses on risk-adjusted returns, strong capital and robust liquidity, is also a component in the management of strategic risk. Refer to Capital Risk Management on pages 91-101 for further information on capital risk. Refer to Liquidity Risk Management on pages 102-109 for further information on liquidity risk. Refer to Reputation Risk Management on page 110 for further information on reputation risk.

Capital risk is the risk that the Firm has an insufficient level or composition of capital to support the Firm's business activities and associated risks during normal economic environments and under stressed conditions.

A strong capital position is essential to the Firm's business strategy and competitive position. Maintaining a strong balance sheet to manage through economic volatility is a strategic imperative of the Firm's Board of Directors, CEO and Operating Committee. The Firm's "fortress balance sheet" philosophy focuses on risk-adjusted returns, strong capital and robust liquidity. The Firm's capital risk management strategy focuses on maintaining long-term stability to enable the Firm to build and invest in market-leading businesses, including in highly stressed environments. Senior management considers the implications on the Firm's capital prior to making significant decisions that could impact future business activities. In addition to considering the Firm's earnings outlook, senior management evaluates all sources and uses of capital with a view to ensuring the Firm's capital strength.

Capital risk management

The Firm has a Capital Risk Management function whose primary objective is to provide independent oversight of capital risk across the Firm.

Capital Risk Management's responsibilities include:

- Defining, monitoring and reporting capital risk metrics;
- Establishing, calibrating and monitoring capital risk limits and indicators, including capital risk appetite;
- Developing processes to classify, monitor and report capital limit breaches;
- Performing assessments of the Firm's capital management activities, including changes made to the Contingency Capital Plan described below; and
- Conducting assessments of the Firm's regulatory capital framework intended to ensure compliance with applicable regulatory capital rules.

Capital management

Treasury and CIO is responsible for capital management.

The primary objectives of the Firm's capital management are to:

- Maintain sufficient capital in order to continue to build and invest in the Firm's businesses through normal economic cycles and in stressed environments;
- Retain flexibility to take advantage of future investment opportunities;
- Promote the Parent Company's ability to serve as a source of strength to its subsidiaries;
- Ensure the Firm operates above the minimum regulatory capital ratios as well as maintain "well-capitalized" status for the Firm and its principal insured depository institution ("IDI") subsidiary, JPMorgan Chase Bank, N.A. at all times under applicable regulatory capital requirements;
- Meet capital distribution objectives; and
- Maintain sufficient capital resources to operate throughout a resolution period in accordance with the Firm's preferred resolution strategy.

The Firm addresses these objectives through:

- Establishing internal minimum capital requirements and maintaining a strong capital governance framework. The internal minimum capital levels consider the Firm's regulatory capital requirements as well as an internal assessment of capital adequacy, in normal economic cycles and in stress events;
- Retaining flexibility in order to react to a range of potential events; and
- Regularly monitoring the Firm's capital position and following prescribed escalation protocols, both at the Firm and material legal entity levels.

Governance

Committees responsible for overseeing the Firm's capital management include the Capital Governance Committee, the Firmwide ALCO as well as regional ALCOs, and the CIO, Treasury and Corporate ("CTC") Risk Committee. In addition, the Board Risk Committee periodically reviews the Firm's capital risk tolerance. Refer to Firmwide Risk Management on pages 86-89 for additional discussion of the Firmwide ALCO and other risk-related committees.

Capital planning and stress testing

Comprehensive Capital Analysis and Review

The Federal Reserve requires the Firm, as a large Bank Holding Company ("BHC"), to submit at least annually a capital plan that has been reviewed and approved by the Board of Directors. The Federal Reserve uses Comprehensive Capital Analysis and Review ("CCAR") and other stress testing processes to assess whether large BHCs, such as the Firm, have sufficient capital during periods of economic and financial stress, and have robust, forward-looking capital assessment and planning processes in place that address each BHC's unique risks to enable it to absorb losses under certain stress scenarios. Through CCAR, the Federal Reserve evaluates each BHC's capital adequacy and internal capital adequacy assessment processes ("ICAAP"), as well as its plans to make capital distributions, such as dividend payments or stock repurchases. The Federal Reserve uses results under the severely adverse scenario from its supervisory stress test to determine each firm's Stress Capital Buffer ("SCB") requirement for the coming year.

The Firm's current SCB requirement is 2.9%, and will remain in effect until September 30, 2024. The Firm's Standardized CET1 capital ratio requirement, including regulatory buffers, was 11.4% as of December 31, 2023.

Refer to Capital actions on page 99 for information on actions taken by the Firm's Board of Directors.

Internal Capital Adequacy Assessment Process
Annually, the Firm prepares the ICAAP, which informs the Board of Directors of the ongoing assessment of the Firm's processes for managing the sources and uses of capital as well as compliance with supervisory expectations for capital planning and capital adequacy. The Firm's ICAAP integrates stress testing protocols with capital planning. The Firm's Audit Committee is responsible for reviewing and approving the capital planning framework.

Stress testing assesses the potential impact of alternative economic and business scenarios on the Firm's earnings and capital. Economic scenarios, and the parameters underlying those scenarios, are defined centrally and applied uniformly across the businesses. These scenarios are articulated in terms of macroeconomic factors, which are key drivers of business results; global market shocks, which generate short-term but severe trading losses; and idiosyncratic operational risk events. The scenarios are intended to capture and stress key vulnerabilities and idiosyncratic risks facing the Firm. In addition to CCAR and other periodic stress testing, management also considers tailored stress scenarios and sensitivity analyses, as necessary.

Contingency Capital Plan

The Firm's Contingency Capital Plan establishes the capital management framework for the Firm and specifies the principles underlying the Firm's approach towards capital management in normal economic conditions and in stressed environments. The Contingency Capital Plan defines how the Firm calibrates its targeted capital levels and meets minimum capital requirements, monitors the ongoing appropriateness of planned capital distributions, and sets out the capital contingency actions that are expected to be taken or considered at various levels of capital depletion during a period of stress.

Regulatory capital

The Federal Reserve establishes capital requirements, including well-capitalized standards, for the Firm as a consolidated financial holding company. The Office of the Comptroller of the Currency ("OCC") establishes similar minimum capital requirements and standards for the Firm's principal IDI subsidiary, JPMorgan Chase Bank, N.A. The U.S. capital requirements generally follow the Capital Accord of the Basel Committee, as amended from time to time.

Basel III Overview
The capital rules under Basel III establish minimum capital ratios and overall capital adequacy standards for large and internationally active U.S. BHCs and banks, including the Firm and JPMorgan Chase Bank, N.A. The minimum amount of regulatory capital that must be held by BHCs and banks is determined by calculating RWA, which are on-balance sheet assets and off-balance sheet exposures, weighted according to risk. Under the rules currently in effect, two comprehensive approaches are prescribed for calculating RWA: a standardized approach ("Basel III Standardized"), and an advanced approach ("Basel III Advanced").

For each of these risk-based capital ratios, the capital adequacy of the Firm is evaluated against the lower of the Standardized or Advanced approaches compared to their respective regulatory capital ratio requirements.

In July 2023, the Federal Reserve, the OCC and the FDIC released a proposal to amend the risk-based capital framework, entitled "Regulatory capital rule: Amendments applicable to large banking organizations and to banking organizations with significant trading activity," which is referred to in this Form 10-K as "U.S. Basel III proposal". Under the proposal, changes to the framework would include replacement of the Advanced approach with an expanded risk-based approach, which would not permit the use of internal models for the calculation of RWA, other than for market risk. In addition, the stress capital buffer requirement would be applicable to both the expanded risk-based approach and the Standardized approach. The proposal would significantly revise risk-based capital requirements for all banks with assets of $100 billion or more, including the Firm and other U.S. GSIBs. The proposed effective date is July 1, 2025, with a three-year transition period applicable to the expanded risk-based approach. Based on the Firm's understanding of the proposal, as applied to its Consolidated balance sheets as of June 30, 2023 (the reference date for a special data collection exercise conducted by the Federal Reserve), the estimated impact at the end of the transition period would increase RWA by approximately 30%, which would result in an approximately 25% increase to CET1 capital necessary to meet the Firm's CET1 ratio requirement, all else equal. These estimates do not reflect any actions that the Firm may take to mitigate the impact of the rule as currently proposed.

Pending the finalization of the U.S. Basel III proposal, the Firm expects that it will continue to build capital above the current levels, and therefore the CET1 target of 13.5% previously set by the Firm (which was with respect to the current Standardized RWA measure) is no longer meaningful. The Firm's quarterly capital ratios will vary dependent on market conditions and other factors. Under the requirements of the U.S. Basel III proposal, the new expanded risk-based approach, when fully phased-in, would be the Firm's binding constraint.

The current Basel III rules establish capital requirements for calculating credit risk RWA and market risk RWA, and in the case of Basel III Advanced, operational risk RWA. Key differences in the calculation of credit risk RWA between the Standardized and Advanced approaches are that for Basel III Advanced, credit risk RWA is based on risk-sensitive approaches which largely rely on the use of internal credit models and parameters, whereas for Basel III Standardized, credit risk RWA is generally based on supervisory risk-weightings which vary primarily by counterparty type and asset class. Market risk RWA is generally calculated consistently between Basel III Standardized and Basel III Advanced. In addition to the RWA calculated under these approaches, the Firm may supplement such amounts to

incorporate management judgment and feedback from its regulators.

As of December 31, 2023, the Advanced Total Capital ratio became the most binding constraint for the Firm's Basel III risk-based ratios, primarily reflecting the reduction in the Stress Capital Buffer requirement. However, as of December 31, 2023, with respect to the CET1 and Tier 1 risk-based ratios, the Standardized ratios are more binding than the Advanced ratios.

Basel III also includes a requirement for Advanced Approaches banking organizations, including the Firm, to calculate its SLR. As of the fourth quarter of 2023, the Firm's SLR became more binding than the Basel III risk-based ratios, primarily reflecting the reduction in the Stress Capital Buffer requirement. With the increase in the GSIB surcharge in the first quarter of 2024, the Firm expects the risk-based ratios to revert to being more binding than the SLR.

Refer to page 95 for additional information on GSIB surcharge and page 98 for additional information on SLR.

Other Key Regulatory Developments

GSIB Surcharge

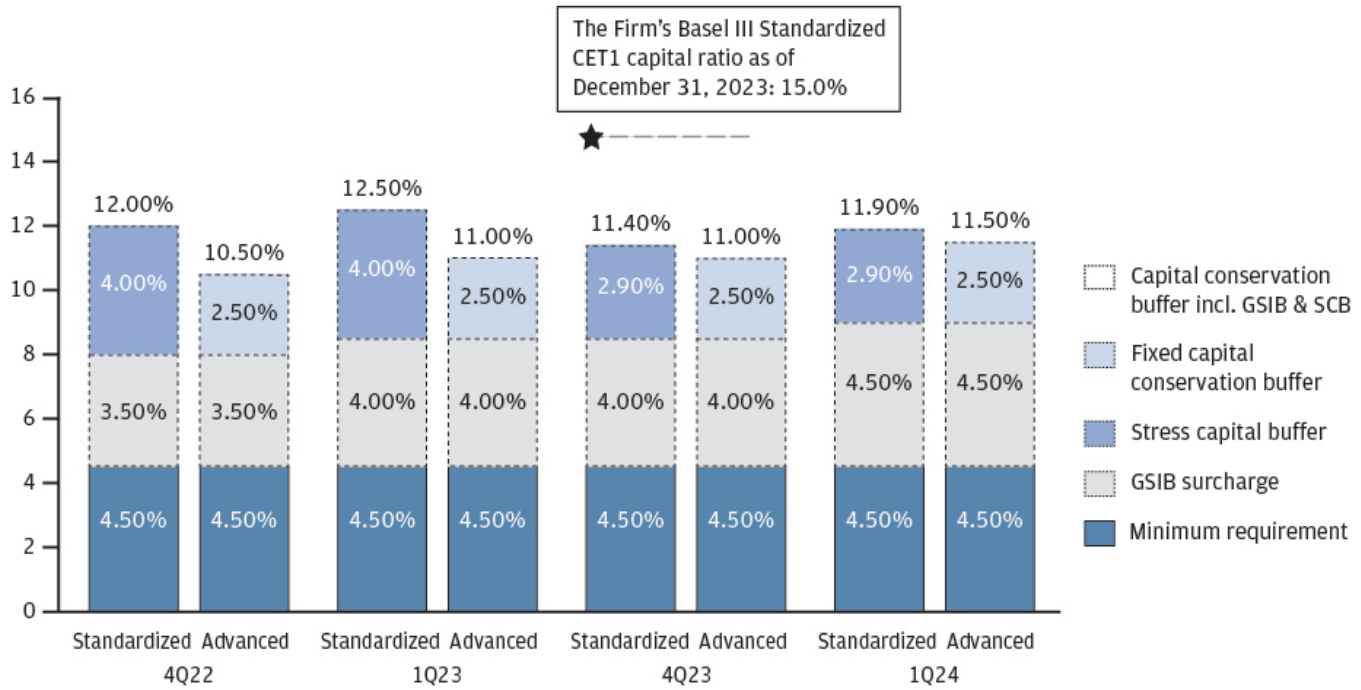
In July 2023, the Federal Reserve also released a proposal to amend the calculation of the GSIB surcharge. If adopted as proposed, these amendments would require the Firm to assess its GSIB surcharge on an annual basis, using the average of the quarterly surcharge calculations throughout the calendar year, with daily averaging required for certain measures within the surcharge calculation. Surcharge increments would be reduced from 50 bps to 10 bps and there would also be other technical amendments to the Method 2 calculation. The proposed amendments would revise risk-based capital requirements for the Firm and other U.S. GSIBs, and would become effective two calendar quarters after the adoption of the final rule. Refer to Risk-based Capital Regulatory Requirements on pages 94-95 for further information on the GSIB surcharge.

TLAC and Eligible LTD Requirements

In August 2023, the Federal Reserve, the FDIC and the OCC released a proposal to expand the eligible long-term debt ("eligible LTD") and clean holding company requirements under the existing total loss-absorbing capacity ("TLAC") rule to apply to non-GSIB banks with $100 billion or more in total consolidated assets. While U.S. GSIBs are already subject to these requirements, the proposal would reduce the amount of LTD with remaining maturities of less than two years that count towards a U.S. GSIB's TLAC requirement. The proposal would also expand the existing capital deduction framework for LTD issued by GSIBs to include LTD issued by non-GSIB banks subject to the LTD requirements.

Risk-based Capital Regulatory Requirements

The following chart presents the Firm's Basel III CET1 capital ratio requirements under the Basel III rules currently in effect.



All banking institutions are currently required to have a minimum CET1 capital ratio of 4.5% of risk-weighted assets.

Certain banking organizations, including the Firm, are required to hold additional levels of capital to serve as a "capital conservation buffer". The capital conservation buffer incorporates a GSIB surcharge, a discretionary countercyclical capital buffer and a fixed capital conservation buffer of 2.5% for Advanced regulatory capital requirements, as well as a variable SCB requirement, floored at 2.5%, for Standardized regulatory capital requirements.

Under the Federal Reserve's GSIB rule, the Firm is required to assess its GSIB surcharge on an annual basis under two separately prescribed methods based on data for the previous fiscal year-end, and is subject to the higher of the two. "Method 1" reflects the GSIB surcharge as prescribed by the Basel Committee's assessment methodology, and is calculated by the Financial Stability Board ("FSB") across five criteria: size, cross-jurisdictional activity, interconnectedness, complexity and substitutability. "Method 2", calculated by the Firm, modifies the Method 1 requirements to include a measure of short-term wholesale funding in place of substitutability, and introduces a GSIB score "multiplication factor".

The following table presents the Firm's effective GSIB surcharge for the years ended December 31, 2024, 2023 and 2022.

	2024	2023	2022
Method 1	2.5 %	2.5 %	2.0 %
Method 2	4.5 %	4.0 %	3.5 %

On November 27, 2023, the FSB released its annual list of GSIBs based upon data as of December 31, 2022, which affirmed the Firm's Method 1 GSIB surcharge of 2.5%, which will be effective January 1, 2025, unless the Firm's Method 1 GSIB surcharge, as determined by the FSB, is lower based upon data as of December 31, 2023.

The Firm's Method 2 surcharge calculated using data as of December 31, 2021 is 4.5% (up from 4.0%), which became effective January 1, 2024. The Firm's estimated Method 2 surcharge calculated using data as of December 31, 2022 is 4.5%. Accordingly, based on the GSIB rule currently in effect, the Firm's effective GSIB surcharge increased to 4.5% on January 1, 2024.

The U.S. federal regulatory capital standards include a framework for setting a discretionary countercyclical capital buffer taking into account the macro financial environment in which large, internationally active banks function. As of December 31, 2023, the U.S. countercyclical capital buffer remained at 0%. The Federal Reserve will continue to review the buffer at least annually. The buffer can be increased if the Federal Reserve, FDIC and OCC determine that systemic risks are meaningfully above normal and can be calibrated up to an additional 2.5% of RWA subject to a 12-month implementation period.

Failure to maintain regulatory capital equal to or in excess of the risk-based regulatory capital minimum plus the capital conservation buffer (inclusive of the GSIB surcharge) and any countercyclical buffer will result in limitations to the amount of capital that the Firm may distribute, such as through dividends and common share repurchases, as well as on discretionary bonus payments for certain executive officers.

Total Loss-Absorbing Capacity

The Federal Reserve's TLAC rule requires the U.S. GSIB top-tier holding companies, including the Firm, to maintain minimum levels of external TLAC and eligible LTD. Refer to TLAC on page 100 for additional information.

Leverage-based Capital Regulatory Requirements

Supplementary leverage ratio

Banking organizations subject to the Basel III Advanced approach are currently required to have a minimum SLR of 3.0%. Certain banking organizations, including the Firm, are also required to hold an additional 2.0% leverage buffer. The SLR is defined as Tier 1 capital under Basel III divided by the Firm's total leverage exposure. Total leverage exposure is calculated by taking the Firm's total average on-balance sheet assets, less amounts permitted to be deducted for Tier 1 capital, and adding certain off-balance sheet exposures, as defined in regulatory capital rules. Refer to SLR on page 98 for additional information.

Failure to maintain an SLR equal to or greater than the regulatory requirement will result in limitations on the amount of capital that the Firm may distribute such as through dividends and common share repurchases, as well as on discretionary bonus payments for certain executive officers.

Other regulatory capital

In addition to meeting the capital ratio requirements of Basel III, the Firm and its principal IDI subsidiary, JPMorgan Chase Bank, N.A. must also maintain minimum capital and leverage ratios in order to be "well-capitalized" under the regulations issued by the Federal Reserve and the Prompt Corrective Action requirements of the FDIC Improvement Act, respectively. Refer to Note 27 for additional information.

Additional information regarding the Firm's capital ratios, as well as the U.S. federal regulatory capital standards to which the Firm is subject, is presented in Note 27. Refer to the Firm's Pillar 3 Regulatory Capital Disclosures reports, which are available on the Firm's website, for further information on the Firm's current capital measures.

Selected capital and RWA data

The following tables present the Firm's risk-based capital metrics under both the Basel III Standardized and Advanced approaches and leverage-based capital metrics. Refer to Note 27 for JPMorgan Chase Bank, N.A.'s risk-based and leverage-based capital metrics. First Republic Bank was not subject to Advanced approach regulatory capital requirements. As a result, for certain exposures associated with the First Republic acquisition, Advanced RWA and any impact on Advanced Total capital is calculated under the Standardized approach as permitted by the transition provisions in the U.S. capital rules. Refer to Note 34 for additional information on the First Republic acquisition.

	Standardized			Advanced		
(in millions, except ratios)	**December 31, 2023**	December 31, 2022	Capital ratio requirements[b]	**December 31, 2023**	December 31, 2022	Capital ratio requirements[b]
Risk-based capital metrics:[a]						
CET1 capital	**$ 250,585**	$ 218,934		**$ 250,585**	$ 218,934	
Tier 1 capital	**277,306**	245,631		**277,306**	245,631	
Total capital	**308,497**	277,769		**295,417**[c]	264,583	
Risk-weighted assets	**1,671,995**	1,653,538		**1,669,156**[c]	1,609,773	
CET1 capital ratio	**15.0 %**	13.2 %	**11.4 %**	**15.0 %**	13.6 %	**11.0 %**
Tier 1 capital ratio	**16.6**	14.9	**12.9**	**16.6**	15.3	**12.5**
Total capital ratio	**18.5**	16.8	**14.9**	**17.7**	16.4	**14.5**

(a) The capital metrics reflect the CECL capital transition provisions. Refer to Note 27 for additional information.
(b) Represents minimum requirements and regulatory buffers applicable to the Firm for the period ended December 31, 2023. For the period ended December 31, 2022, the Basel III Standardized CET1, Tier 1, and Total capital ratio requirements applicable to the Firm were 12.0%, 13.5%, and 15.5%, respectively; the Basel III Advanced CET1, Tier 1, and Total capital ratio requirements applicable to the Firm were 10.5%, 12.0%, and 14.0%, respectively. Refer to Note 27 for additional information.
(c) Includes the impacts of certain assets associated with First Republic to which the Standardized approach has been applied as permitted by the transition provisions in the U.S. capital rules.

Three months ended (in millions, except ratios)	**December 31, 2023**	December 31, 2022	Capital ratio requirements[c]
Leverage-based capital metrics:[a]			
Adjusted average assets[b]	**$ 3,831,200**	$ 3,703,873	
Tier 1 leverage ratio	**7.2 %**	6.6 %	**4.0 %**
Total leverage exposure	**$ 4,540,465**	$ 4,367,092	
SLR	**6.1 %**	5.6 %	**5.0 %**

(a) The capital metrics reflect the CECL capital transition provisions. Refer to Note 27 for additional information.
(b) Adjusted average assets, for purposes of calculating the leverage ratios, includes quarterly average assets adjusted for on-balance sheet assets that are subject to deduction from Tier 1 capital, predominantly goodwill, inclusive of estimated equity method goodwill, and other intangible assets.
(c) Represents minimum requirements and regulatory buffers applicable to the Firm. Refer to Note 27 for additional information.

Capital components

The following table presents reconciliations of total stockholders' equity to Basel III CET1 capital, Tier 1 capital and Total capital as of December 31, 2023 and 2022.

(in millions)	December 31, 2023	December 31, 2022
Total stockholders' equity	**$ 327,878**	$ 292,332
Less: Preferred stock	27,404	27,404
Common stockholders' equity	**300,474**	264,928
Add:		
Certain deferred tax liabilities[(a)]	2,996	2,510
Other CET1 capital adjustments[(b)]	4,717	6,221
Less:		
Goodwill[(c)]	54,377	53,501
Other intangible assets	3,225	1,224
Standardized/Advanced CET1 capital	**250,585**	218,934
Add: Preferred stock	27,404	27,404
Less: Other Tier 1 adjustments	683	707
Standardized/Advanced Tier 1 capital	**$ 277,306**	$ 245,631
Long-term debt and other instruments qualifying as Tier 2 capital	$ 11,779	$ 13,569
Qualifying allowance for credit losses[(d)]	20,102	19,353
Other	(690)	(784)
Standardized Tier 2 capital	**$ 31,191**	$ 32,138
Standardized Total capital	**$ 308,497**	$ 277,769
Adjustment in qualifying allowance for credit losses for Advanced Tier 2 capital[(e)]	(13,080) [(f)]	(13,186)
Advanced Tier 2 capital	**$ 18,111**	$ 18,952
Advanced Total capital	**$ 295,417**	$ 264,583

(a) Represents deferred tax liabilities related to tax-deductible goodwill and to identifiable intangibles created in nontaxable transactions, which are netted against goodwill and other intangibles when calculating CET1 capital.

(b) As of December 31, 2023 and 2022, included a net benefit associated with cash flow hedges and debit valuation adjustments ("DVA") related to structured notes recorded in AOCI of $4.3 billion and $5.2 billion and the benefit from the CECL capital transition provisions of $1.4 billion and $2.2 billion, respectively.

(c) Goodwill deducted from capital includes goodwill associated with equity method investments in nonconsolidated financial institutions based on regulatory requirements. Refer to page 134 for additional information on principal investment risk.

(d) Represents the allowance for credit losses eligible for inclusion in Tier 2 capital up to 1.25% of credit risk RWA, including the impact of the CECL capital transition provision with any excess deducted from RWA. Refer to Note 27 for additional information on the CECL capital transition.

(e) Represents an adjustment to qualifying allowance for credit losses for the excess of eligible credit reserves over expected credit losses up to 0.6% of credit risk RWA, including the impact of the CECL capital transition provision with any excess deducted from RWA.

(f) Included an incremental $655 million allowance for credit losses on certain assets associated with First Republic to which the Standardized approach has been applied, as permitted by the transition provisions in the U.S. capital rules.

Capital rollforward

The following table presents the changes in Basel III CET1 capital, Tier 1 capital and Tier 2 capital for the year ended December 31, 2023.

Year ended December 31, (in millions)	2023
Standardized/Advanced CET1 capital at December 31, 2022	$ 218,934
Net income applicable to common equity	48,051
Dividends declared on common stock	(12,055)
Net purchase of treasury stock	(8,881)
Changes in additional paid-in capital	1,084
Changes related to AOCI applicable to capital:	
Unrealized gains/(losses) on investment securities	5,381
Translation adjustments, net of hedges[(a)]	329
Fair value hedges	(101)
Defined benefit pension and other postretirement employee benefit ("OPEB") plans	373
Changes related to other CET1 capital adjustments[(b)]	(2,530)
Change in Standardized/Advanced CET1 capital	31,651
Standardized/Advanced CET1 capital at December 31, 2023	**$ 250,585**
Standardized/Advanced Tier 1 capital at December 31, 2022	$ 245,631
Change in CET1 capital[(b)]	31,651
Redemptions of noncumulative perpetual preferred stock	–
Other	24
Change in Standardized/Advanced Tier 1 capital	31,675
Standardized/Advanced Tier 1 capital at December 31, 2023	**$ 277,306**
Standardized Tier 2 capital at December 31, 2022	$ 32,138
Change in long-term debt and other instruments qualifying as Tier 2	(1,790)
Change in qualifying allowance for credit losses[(b)]	749
Other	94
Change in Standardized Tier 2 capital	(947)
Standardized Tier 2 capital at December 31, 2023	**$ 31,191**
Standardized Total capital at December 31, 2023	**$ 308,497**
Advanced Tier 2 capital at December 31, 2022	$ 18,952
Change in long-term debt and other instruments qualifying as Tier 2	(1,790)
Change in qualifying allowance for credit losses[(b)(c)]	855
Other	94
Change in Advanced Tier 2 capital	(841)
Advanced Tier 2 capital at December 31, 2023	**$ 18,111**
Advanced Total capital at December 31, 2023	**$ 295,417**

(a) Includes foreign currency translation adjustments and the impact of related derivatives.

(b) Includes the impact of the CECL capital transition provisions and the cumulative effect of changes in accounting principles. Refer to Note 27 for additional information on the CECL capital transition.

(c) Included an incremental $655 million allowance for credit losses on certain assets associated with First Republic to which the Standardized approach has been applied, as permitted by the transition provisions in the U.S. capital rules.

RWA rollforward

The following table presents changes in the components of RWA under Basel III Standardized and Advanced approaches for the year ended December 31, 2023. The amounts in the rollforward categories are estimates, based on the predominant driver of the change.

	Standardized			Advanced			
Year ended December 31, 2023 (in millions)	Credit risk RWA[c]	Market risk RWA	Total RWA	Credit risk RWA[c][d]	Market risk RWA	Operational risk RWA	Total RWA
December 31, 2022	$ 1,568,536	$ 85,002	**$ 1,653,538**	$ 1,078,076	$ 85,432	$ 446,265	**$ 1,609,773**
Model & data changes[a]	(11,024)	(4,883)	**(15,907)**	(11,313)	(4,883)	–	**(16,196)**
Movement in portfolio levels[b]	46,339	(11,975)	**34,364**	88,498	(11,946)	(973)	**75,579**
Changes in RWA	35,315	(16,858)	**18,457**	77,185	(16,829)	(973)	**59,383**
December 31, 2023	**$ 1,603,851**	**$ 68,144**	**$ 1,671,995**	**$ 1,155,261**	**$ 68,603**	**$ 445,292**	**$ 1,669,156**

(a) Model & data changes refer to material movements in levels of RWA as a result of revised methodologies and/or treatment per regulatory guidance (exclusive of rule changes).

(b) Movement in portfolio levels (inclusive of rule changes) refers to: for Credit risk RWA, changes in book size, impacts associated with the First Republic acquisition, including the benefit of the shared-loss agreements entered into with the FDIC, position roll-offs in legacy portfolios in Home Lending, changes in composition and credit quality, market movements, and deductions for excess eligible allowances for credit losses not eligible for inclusion in Tier 2 capital; for Market risk RWA, changes in position, market movements, and changes in the Firm's regulatory multiplier from Regulatory VaR backtesting exceptions; and for Operational risk RWA, updates to cumulative losses and macroeconomic model inputs.

(c) As of December 31, 2023 and 2022, the Basel III Standardized Credit risk RWA included wholesale and retail off balance-sheet RWA of $208.5 billion and $210.1 billion, respectively; and the Basel III Advanced Credit risk RWA included wholesale and retail off balance-sheet RWA of $188.5 billion and $180.8 billion, respectively.

(d) As of December 31, 2023, Credit risk RWA reflected approximately $52.4 billion of RWA calculated under the Standardized approach for certain assets associated with First Republic as permitted by the transition provisions in the U.S. capital rules.

Refer to the Firm's Pillar 3 Regulatory Capital Disclosures reports, which are available on the Firm's website, for further information on Credit risk RWA, Market risk RWA and Operational risk RWA.

Supplementary leverage ratio

The following table presents the components of the Firm's SLR.

Three months ended (in millions, except ratio)	December 31, 2023	December 31, 2022
Tier 1 capital	**$ 277,306**	$ 245,631
Total average assets	3,885,632	3,755,271
Less: Regulatory capital adjustments[a]	54,432	51,398
Total adjusted average assets[b]	3,831,200	3,703,873
Add: Off-balance sheet exposures[c]	709,265	663,219
Total leverage exposure	**$4,540,465**	$4,367,092
SLR	**6.1 %**	5.6 %

(a) For purposes of calculating the SLR, includes quarterly average assets adjusted for on-balance sheet assets that are subject to deduction from Tier 1 capital, predominantly goodwill, inclusive of estimated equity method goodwill, other intangible assets and adjustments for the CECL capital transition provisions. Refer to Note 27 for additional information on the CECL capital transition.

(b) Adjusted average assets used for the calculation of Tier 1 leverage ratio.

(c) Off-balance sheet exposures are calculated as the average of the three month-end spot balances on applicable regulatory exposures during the reporting quarter. Refer to the Firm's Pillar 3 Regulatory Capital Disclosures reports for additional information.

Line of business equity

Each business segment is allocated capital by taking into consideration a variety of factors including capital levels of similarly rated peers and applicable regulatory capital requirements. ROE is measured and internal targets for expected returns are established as key measures of a business segment's performance.

The Firm's current allocation methodology incorporates Basel III Standardized RWA and the GSIB surcharge, both under rules currently in effect, as well as a simulation of capital in a severe stress environment. At least annually, the assumptions, judgments and methodologies used to allocate capital are reassessed and, as a result, the capital allocated to the LOBs may change. As of January 1, 2024, changes to the Firm's line of business capital allocations are primarily a result of updates to the Firm's current capital requirements and changes in RWA for each LOB under rules currently in effect. In addition, the capital that the Firm has accumulated to meet the increased requirements of the U.S. Basel III proposal has generally been retained in Corporate.

The following table presents the capital allocated to each business segment.

Line of business equity (Allocated capital)

		December 31,	
(in billions)	January 1, 2024	2023[a]	2022
Consumer & Community Banking	**$ 54.5**	$ 55.5	$ 50.0
Corporate & Investment Bank	**102.0**	108.0	103.0
Commercial Banking	**30.0**	30.0	25.0
Asset & Wealth Management	**15.5**	17.0	17.0
Corporate	**98.5**	90.0	69.9
Total common stockholders' equity	**$ 300.5**	$ 300.5	$ 264.9

(a) Includes the impact of the First Republic acquisition.

Capital actions

Common stock dividends

The Firm's common stock dividends are planned as part of the Capital Management governance framework in line with the Firm's capital management objectives.

The Firm's quarterly common stock dividend is currently $1.05 per share. The Firm's dividends are subject to approval by the Board of Directors on a quarterly basis.

Refer to Note 21 and Note 26 for information regarding dividend restrictions.

The following table shows the common dividend payout ratio based on net income applicable to common equity.

Year ended December 31,	**2023**	2022	2021
Common dividend payout ratio	**25 %**	33 %	25 %

Common stock

Effective May 1, 2022, the Firm is authorized to purchase up to $30 billion under its common share repurchase program previously approved by the Board of Directors, which was announced on April 13, 2022.

The following table sets forth the Firm's repurchases of common stock for the years ended December 31, 2023, 2022 and 2021.

Year ended December 31, (in millions)	**2023**	2022[(b)]	2021[(c)]
Total number of shares of common stock repurchased	**69.5**	23.1	119.7
Aggregate purchase price of common stock repurchases[(a)]	**$ 9,898**	$ 3,122	$ 18,448

(a) Excludes excise tax and commissions. As part of the Inflation Reduction Act of 2022, a 1% excise tax was imposed on net share repurchases effective January 1, 2023.

(b) In the second half of 2022, the Firm temporarily suspended share repurchases, which it resumed under its current common share repurchase program in the first quarter of 2023.

(c) As directed by the Federal Reserve, total net repurchases and common stock dividends in the first and second quarter of 2021 were restricted and could not exceed the average of the Firm's net income for the four preceding calendar quarters. Effective July 1, 2021, the Firm became subject to the normal capital distribution restrictions provided under the regulatory capital framework.

The Board of Directors' authorization to repurchase common shares is utilized at management's discretion, and the timing of purchases and the exact amount of common shares that may be repurchased is subject to various factors, including market conditions; legal and regulatory considerations affecting the amount and timing of repurchase activity; the Firm's capital position (taking into account goodwill and intangibles); internal capital generation; current and proposed future capital requirements; and alternative investment opportunities. The $30 billion common share repurchase program approved by the Board does not establish specific price targets or timetables. The repurchase program may be suspended by management at any time; and may be executed through open market purchases or privately negotiated transactions, or utilizing Rule 10b5-1 plans, which are written trading plans that the Firm may enter into from time to time under Rule 10b5-1 of the Securities Exchange Act of 1934 and which allow the Firm to repurchase its common shares during periods when it may otherwise not be repurchasing common shares — for example, during internal trading blackout periods.

Refer to Part II, Item 5: Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities on page 35 of the 2023 Form 10-K for additional information regarding repurchases of the Firm's equity securities.

Refer to capital planning and stress testing on page 91 for additional information.

Preferred stock

Preferred stock dividends declared were $1.5 billion for the year ended December 31, 2023, and $1.6 billion for each of the years ended December 31, 2022 and 2021.

Refer to Note 21 for additional information on the Firm's preferred stock, including the issuance and redemption of preferred stock.

Subordinated Debt

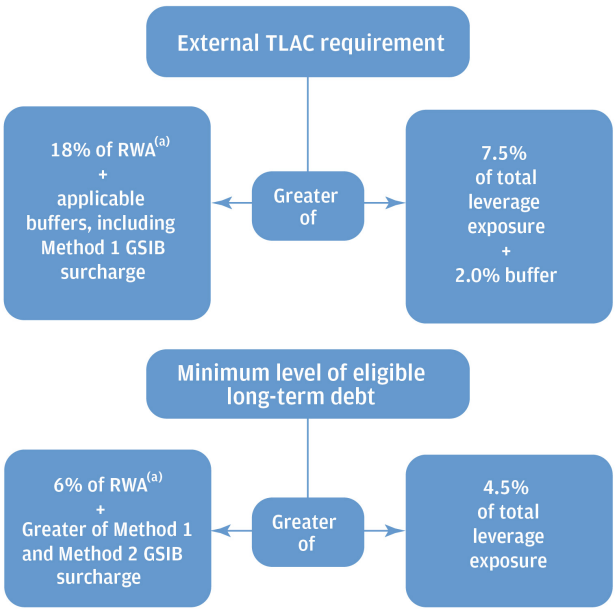
Refer to Long-term funding and issuance on page 108 and Note 20 for additional information on the Firm's subordinated debt.

Other capital requirements

Total Loss-Absorbing Capacity

The Federal Reserve's TLAC rule requires the U.S. GSIB top-tier holding companies, including the Firm, to maintain minimum levels of external TLAC and eligible long-term debt.

The external TLAC requirements and the minimum level of eligible long-term debt requirements are shown below:



(a) RWA is the greater of Standardized and Advanced compared to their respective regulatory capital ratio requirements.

Failure to maintain TLAC equal to or in excess of the regulatory minimum plus applicable buffers will result in limitations on the amount of capital that the Firm may distribute, such as through dividends and common share repurchases, as well as on discretionary bonus payments for certain executive officers.

The following table presents the eligible external TLAC and eligible LTD amounts, as well as a representation of these amounts as a percentage of the Firm's total RWA and total leverage exposure applying the impact of the CECL capital transition provisions as of December 31, 2023 and 2022.

	December 31, 2023		December 31, 2022	
(in billions, except ratio)	**External TLAC**	**LTD**	External TLAC	LTD
Total eligible amount	**$ 513.8**	**$ 222.6**	$ 486.0	$ 228.5
% of RWA	**30.7 %**	**13.3 %**	29.4 %	13.8 %
Regulatory requirements	**23.0**	**10.0**	22.5	9.5
Surplus/ (shortfall)	**$ 129.2**	**$ 55.4**	$ 114.0	$ 71.4
% of total leverage exposure	**11.3 %**	**4.9 %**	11.1 %	5.2 %
Regulatory requirements	**9.5**	**4.5**	9.5	4.5
Surplus/ (shortfall)	**$ 82.5**	**$ 18.3**	$ 71.2	$ 32.0

Effective January 1, 2023, the Firm's regulatory requirements for TLAC to RWA and eligible LTD to RWA ratios increased by 50 bps to 23.0% and 10.0%, respectively, due to the increase in the Firm's GSIB requirements. Refer to Risk-based Capital Regulatory Requirements on pages 94–95 for further information on the GSIB surcharge.

Refer to Liquidity Risk Management on pages 102–109 for further information on long-term debt issued by the Parent Company.

Refer to Part I, Item 1A: Risk Factors on pages 9-33 of the 2023 Form 10-K for information on the financial consequences to holders of the Firm's debt and equity securities in a resolution scenario.

U.S. broker-dealer regulatory capital

J.P. Morgan Securities

JPMorgan Chase's principal U.S. broker-dealer subsidiary is J.P. Morgan Securities. J.P. Morgan Securities is subject to the regulatory capital requirements of Rule 15c3-1 under the Securities Exchange Act of 1934 (the "Net Capital Rule"). J.P. Morgan Securities is also registered as a futures commission merchant and is subject to regulatory capital requirements, including those imposed by the SEC, the Commodity Futures Trading Commission ("CFTC"), the Financial Industry Regulatory Authority ("FINRA") and the National Futures Association ("NFA").

J.P. Morgan Securities has elected to compute its minimum net capital requirements in accordance with the "Alternative Net Capital Requirements" of the Net Capital Rule.

The following table presents J.P. Morgan Securities' net capital:

December 31, 2023 (in millions)	Actual	Minimum
Net Capital	$ 27,865	$ 5,346

J.P. Morgan Securities is registered with the SEC as a security-based swap dealer and with the CFTC as a swap dealer. As a result of additional SEC and CFTC capital and financial reporting requirements for security-based swap dealers and swap dealers, J.P. Morgan Securities is subject to alternative minimum net capital requirements and required to hold "tentative net capital" in excess of $5.0 billion. J.P. Morgan Securities is also required to notify the SEC and CFTC in the event that its tentative net capital is less than $6.0 billion. Tentative net capital is net capital before deducting market and credit risk charges as defined by the Net Capital Rule. As of December 31, 2023, J.P. Morgan Securities maintained tentative net capital in excess of the minimum and notification requirements.

Non-U.S. subsidiary regulatory capital

J.P. Morgan Securities plc

J.P. Morgan Securities plc is a wholly-owned subsidiary of JPMorgan Chase Bank, N.A. and has authority to engage in banking, investment banking and broker-dealer activities. J.P. Morgan Securities plc is jointly regulated in the U.K. by the Prudential Regulation Authority ("PRA") and the Financial Conduct Authority ("FCA"). J.P. Morgan Securities plc is subject to the European Union ("EU") Capital Requirements Regulation ("CRR"), as adopted in the U.K., and the PRA capital rules, each of which have implemented Basel III and thereby subject J.P. Morgan Securities plc to its requirements.

The Bank of England requires that U.K. banks, including U.K. regulated subsidiaries of overseas groups, maintain minimum requirements for own funds and eligible liabilities ("MREL"). As of December 31, 2023, J.P. Morgan Securities plc was compliant with its MREL requirements.

Effective January 1, 2023, J.P. Morgan Securities plc was required to meet the minimum Tier 1 leverage ratio requirement established by the PRA of 3.25%, plus regulatory buffers.

The following table presents J.P. Morgan Securities plc's risk-based and leverage-based capital metrics:

December 31, 2023 (in millions, except ratios)	Actual	Regulatory Minimum ratios[a]
Total capital	$ 52,522	
CET1 capital ratio	16.9 %	4.5 %
Tier 1 capital ratio	22.3	6.0
Total capital ratio	28.1	8.0
Tier 1 leverage ratio	7.3	3.3 [b]

(a) Represents minimum Pillar 1 requirements specified by the PRA. J.P. Morgan Securities plc's capital ratios as of December 31, 2023 exceeded the minimum requirements, including the additional capital requirements specified by the PRA.

(b) At least 75% of the Tier 1 leverage ratio minimum must be met with CET1 capital.

J.P. Morgan SE

JPMSE is a wholly-owned subsidiary of JPMorgan Chase Bank, N.A. and has authority to engage in banking, investment banking and markets activities. JPMSE is regulated by the European Central Bank as well as the local regulators in each of the countries in which it operates, and it is subject to EU capital requirements under Basel III.

JPMSE is required by the EU Single Resolution Board to maintain MREL. As of December 31, 2023, JPMSE was compliant with its MREL requirements.

The following table presents JPMSE's risk-based and leverage-based capital metrics:

December 31, 2023 (in millions, except ratios)	Actual	Regulatory Minimum ratios[a]
Total capital	$ 44,158	
CET1 capital ratio	18.1 %	4.5 %
Tier 1 capital ratio	18.1	6.0
Total capital ratio	32.2	8.0
Tier 1 leverage ratio	5.8	3.0

(a) Represents minimum Pillar 1 requirements specified by the EU CRR. J.P. Morgan SE's capital and leverage ratios as of December 31, 2023 exceeded the minimum requirements, including the additional capital requirements specified by EU regulators.

LIQUIDITY RISK MANAGEMENT

Liquidity risk is the risk that the Firm will be unable to meet its cash and collateral needs as they arise or that it does not have the appropriate amount, composition and tenor of funding and liquidity to support its assets and liabilities.

Liquidity risk management

The Firm has a Liquidity Risk Management ("LRM") function whose primary objective is to provide independent oversight of liquidity risk across the Firm. Liquidity Risk Management's responsibilities include:

- Defining, monitoring and reporting liquidity risk metrics;
- Independently establishing and monitoring limits and indicators, including liquidity risk appetite;
- Developing a process to classify, monitor and report limit breaches;
- Performing an independent review of liquidity risk management processes to evaluate their adequacy and effectiveness;
- Monitoring and reporting internal Firmwide and legal entity liquidity stress tests, regulatory defined metrics, as well as liquidity positions, balance sheet variances and funding activities; and
- Approving or escalating for review new or updated liquidity stress assumptions.

Liquidity management

Treasury and CIO is responsible for liquidity management.

The primary objectives of the Firm's liquidity management are to:

- Ensure that the Firm's core businesses and material legal entities are able to operate in support of client needs and meet contractual and contingent financial obligations through normal economic cycles as well as during stress events, and
- Manage an optimal funding mix and availability of liquidity sources.

The Firm addresses these objectives through:

- Analyzing and understanding the liquidity characteristics of the assets and liabilities of the Firm, LOBs, legal entities, as well as currencies, taking into account legal, regulatory, and operational restrictions;
- Developing internal liquidity stress testing assumptions;
- Defining and monitoring Firmwide and legal entity-specific liquidity strategies, policies, reporting and contingency funding plans;
- Managing liquidity within the Firm's approved liquidity risk appetite tolerances and limits;
- Managing compliance with regulatory requirements related to funding and liquidity risk; and
- Setting FTP in accordance with underlying liquidity characteristics of balance sheet assets and liabilities as well as certain off-balance sheet items.

As part of the Firm's overall liquidity management strategy, the Firm manages liquidity and funding using a centralized, global approach designed to:

- Optimize liquidity sources and uses;
- Monitor exposures;
- Identify constraints on the transfer of liquidity between the Firm's legal entities; and
- Maintain the appropriate amount of surplus liquidity at a Firmwide and legal entity level, where relevant.

Governance

Committees responsible for liquidity governance include the Firmwide ALCO, as well as regional ALCOs, the Treasurer Committee, and the CTC Risk Committee. In addition, the Board Risk Committee reviews and recommends to the Board of Directors, for approval, the Firm's liquidity risk tolerances, liquidity strategy, and liquidity policy. Refer to Firmwide Risk Management on pages 86–89 for further discussion of ALCO and other risk-related committees.

Internal stress testing

The Firm conducts internal liquidity stress testing that is intended to ensure that the Firm and its material legal entities have sufficient liquidity under a variety of adverse scenarios, including scenarios analyzed as part of the Firm's resolution and recovery planning. Internal stress tests are produced on a regular basis, and other stress tests are performed in response to specific market events or concerns. Liquidity stress tests assume all of the Firm's contractual financial obligations are met and take into consideration:

- Varying levels of access to unsecured and secured funding markets;
- Estimated non-contractual and contingent cash outflows;
- Credit rating downgrades;
- Collateral haircuts; and
- Potential impediments to the availability and transferability of liquidity between jurisdictions and material legal entities such as regulatory, legal or other restrictions.

Liquidity outflows are modeled across a range of time horizons and currency dimensions and contemplate both market and idiosyncratic stresses.

Results of stress tests are considered in the formulation of the Firm's funding plan and assessment of its liquidity position. The Parent Company acts as a source of funding for the Firm through equity and long-term debt issuances, and its intermediate holding company, JPMorgan Chase Holdings LLC (the "IHC"), provides funding to support the ongoing operations of the Parent Company and its subsidiaries. The Firm maintains liquidity at the Parent Company, the IHC, and operating subsidiaries at levels sufficient to comply with liquidity risk tolerances and minimum liquidity requirements, and to manage through

periods of stress when access to normal funding sources may be disrupted.

Contingency funding plan

The Firm's Contingency Funding Plan ("CFP") sets out the strategies for addressing and managing liquidity resource needs during a liquidity stress event and incorporates liquidity risk limits, indicators and risk appetite tolerances. The CFP also identifies the alternative contingent funding and liquidity resources available to the Firm and its legal entities in a period of stress.

LCR and HQLA

The LCR rule requires that the Firm and JPMorgan Chase Bank, N.A. maintain an amount of eligible HQLA that is sufficient to meet their respective estimated total net cash outflows over a prospective 30 calendar-day period of significant stress. Eligible HQLA, for purposes of calculating the LCR, is the amount of unencumbered HQLA that satisfy certain operational considerations as defined in the LCR rule. HQLA primarily consist of cash and certain high-quality liquid securities as defined in the LCR rule.

Under the LCR rule, the amount of eligible HQLA held by JPMorgan Chase Bank, N.A. that is in excess of its stand-alone 100% minimum LCR requirement, and that is not transferable to non-bank affiliates, must be excluded from the Firm's reported eligible HQLA.

Estimated net cash outflows are based on standardized stress outflow and inflow rates prescribed in the LCR rule, which are applied to the balances of the Firm's assets, sources of funds, and obligations. The LCR for both the Firm and JPMorgan Chase Bank, N.A. is required to be a minimum of 100%.

The following table summarizes the Firm and JPMorgan Chase Bank, N.A.'s average LCR for the three months ended December 31, 2023, September 30, 2023 and December 31, 2022 based on the Firm's interpretation of the LCR framework.

	Three months ended		
Average amount (in millions)	**December 31, 2023**	September 30, 2023	December 31, 2022
JPMorgan Chase & Co.:			
HQLA			
Eligible cash[(a)]	**$ 485,263**	$ 402,663	$ 542,847
Eligible securities[(b)(c)]	**313,365**	378,702	190,201
Total HQLA[(d)]	**$ 798,628**	$ 781,365	$ 733,048
Net cash outflows	**$ 704,857**	$ 696,668	$ 652,580
LCR	**113 %**	112 %	112 %
Net excess eligible HQLA[(d)]	**$ 93,771**	$ 84,697	$ 80,468
JPMorgan Chase Bank, N.A.:			
LCR	**129 %**	123 %	151 %
Net excess eligible HQLA	**$ 215,190**	$ 167,096	$ 356,733

(a) Represents cash on deposit at central banks, primarily the Federal Reserve Banks.
(b) Eligible HQLA securities may be reported in securities borrowed or purchased under resale agreements, trading assets, or investment securities on the Firm's Consolidated balance sheets. For purposes of calculating the LCR, HQLA securities are included at fair value, which may differ from the accounting treatment under U.S. GAAP.
(c) Predominantly U.S. Treasuries, U.S. GSE and government agency MBS, and sovereign bonds net of regulatory haircuts under the LCR rule.
(d) Excludes average excess eligible HQLA at JPMorgan Chase Bank, N.A. that are not transferable to non-bank affiliates.

JPMorgan Chase Bank, N.A.'s average LCR increased during the three months ended December 31, 2023, compared with the three months ended September 30, 2023, driven by CIB market activities, partially offset by loan growth.

JPMorgan Chase Bank, N.A.'s average LCR for the three months ended December 31, 2023 decreased compared with the three months ended December 31, 2022, reflecting a decrease in JPMorgan Chase Bank, N.A.'s HQLA as a result of a reduction in cash due to a decline in average deposits and loan growth, as well as the impact of First Republic and lower market values of HQLA-eligible investment securities. These impacts were partially offset by CIB markets activities.

Refer to Note 10 and Note 34 for additional information on the Firm's investment securities portfolio and the First Republic acquisition.

Actions by the Federal Reserve have impacted depositor behavior, resulting in reductions to system-wide deposits, including those held by the Firm. Each of the Firm and JPMorgan Chase Bank, N.A.'s average LCR may fluctuate from period to period due to changes in their respective eligible HQLA and estimated net cash outflows as a result of ongoing business activity and from the continued impacts of Federal Reserve actions as well as other factors. Refer to the Firm's U.S. LCR Disclosure reports, which are available on the Firm's website, for a further discussion of the Firm's LCR.

Liquidity sources

In addition to the assets reported in the Firm's eligible HQLA discussed above, the Firm had unencumbered marketable securities, such as equity and debt securities, that the Firm believes would be available to raise liquidity. This includes excess eligible HQLA securities at JPMorgan Chase Bank, N.A. that are not transferable to non-bank affiliates. The fair value of these securities was approximately $649 billion and $694 billion as of December 31, 2023 and 2022, respectively, although the amount of liquidity that could be raised at any particular time would be dependent on prevailing market conditions. The decrease compared to December 31, 2022, was driven by a reduction in excess eligible HQLA securities at JPMorgan Chase Bank, N.A., partially offset by an increase in unencumbered AFS securities.

As of December 31, 2023 and 2022, the Firm had approximately $1.4 trillion of available cash and securities comprised of eligible end-of-period HQLA, excluding the impact of regulatory haircuts of $798.0 billion and $735.5 billion, respectively, and unencumbered marketable securities with a fair value of approximately $649 billion and $694 billion, respectively.

The Firm also had available borrowing capacity at the Federal Home Loan Banks ("FHLBs") and the discount window at the Federal Reserve Banks as a result of collateral pledged by the Firm to such banks of approximately $340 billion and $323 billion as of December 31, 2023 and 2022, respectively. This borrowing capacity excludes the benefit of cash and securities reported in the Firm's eligible HQLA or other unencumbered securities that are currently pledged at the Federal Reserve Banks discount window and other central banks. Available borrowing capacity increased from December 31, 2022 primarily due to a higher amount of wholesale loans pledged at the Federal Reserve Banks. Although available, the Firm does not view this borrowing capacity at the Federal Reserve Banks discount window and the other central banks as a primary source of liquidity.

NSFR

The net stable funding ratio ("NSFR") is a liquidity requirement for large banking organizations that is intended to measure the adequacy of "available" stable funding that is sufficient to meet their "required" amounts of stable funding over a one-year horizon.

For the three months ended December 31, 2023, both the Firm and JPMorgan Chase Bank, N.A. were compliant with the 100% minimum NSFR requirement, based on the Firm's interpretation of the final rule. Refer to the Firm's U.S. NSFR Disclosure report covering December 31, 2023 and September 30, 2023 on the Firm's website for additional information.

Funding

Sources of funds

Management believes that the Firm's unsecured and secured funding capacity is sufficient to meet its on- and off-balance sheet obligations, which includes both short- and long-term cash requirements.

The Firm funds its global balance sheet through diverse sources of funding including stable deposits, secured and unsecured funding in the capital markets and stockholders' equity. Deposits are the primary funding source for JPMorgan Chase Bank, N.A. Additionally, JPMorgan Chase Bank, N.A. may access funding through short- or long-term secured borrowings, the issuance of unsecured long-term debt, or from borrowings from the IHC. The Firm's non-bank subsidiaries are primarily funded from long-term unsecured borrowings and short-term secured borrowings which are primarily securities loaned or sold under repurchase agreements. Excess funding is invested by Treasury and CIO in the Firm's investment securities portfolio or deployed in cash or other short-term liquid investments based on their interest rate and liquidity risk characteristics.

Refer to Note 28 for additional information on off-balance sheet obligations.

Deposits

The table below summarizes, by LOB and Corporate, the period-end and average deposit balances as of and for the years ended December 31, 2023 and 2022.

As of or for the year ended December 31,			Average	
(in millions)	**2023**	2022	**2023**	2022
Consumer & Community Banking	**$ 1,094,738**	$ 1,131,611	**$ 1,126,552**	$ 1,162,680
Corporate & Investment Bank	**777,638**	689,893	**728,537**	739,700
Commercial Banking	**273,254**	271,342	**267,758**	294,180
Asset & Wealth Management	**233,232**	233,130	**216,178**	261,489
Corporate	**21,826**	14,203	**20,042**	9,866
Total Firm	**$ 2,400,688**	$ 2,340,179	**$ 2,359,067**	$ 2,467,915

The Firm believes that deposits provide a stable source of funding and reduce the Firm's reliance on the wholesale funding markets. A significant portion of the Firm's deposits are consumer deposits and wholesale operating deposits, which are both considered to be stable sources of liquidity. Wholesale operating deposits are generally considered to be stable sources of liquidity because they are generated from customers that maintain operating service relationships with the Firm.

The Firm believes that average deposit balances are generally more representative of deposit trends than period-end deposit balances. However, during periods of market disruption, average deposit trends may be impacted.

Average deposits were lower for the year ended December 31, 2023 compared to the year ended December 31, 2022, reflecting the net impact of:

- lower balances in AWM due to continued migration into higher-yielding investments driven by the higher interest rate environment, partially offset by growth from new and existing customers as a result of new product offerings and the impact of First Republic,
- a decline in CCB reflecting higher customer spending, largely offset by the impact of First Republic,
- a decrease in CB due to continued deposit attrition as clients seek higher-yielding investments, partially offset by the retention of inflows associated with disruptions in the market in the first quarter of 2023,
- a decline in CIB due to deposit attrition, including actions taken to reduce certain deposits, predominantly offset by net issuances of structured notes as a result of client demand, and
- growth in Corporate related to the Firm's international consumer initiatives.

Period-end deposits increased from December 31, 2022, reflecting the net impact of:

- higher balances in CIB due to net issuances of structured notes as a result of client demand, as well as deposit inflows from client-driven activities in Payments and Securities Services, partially offset by deposit attrition, including actions taken to reduce certain deposits,
- growth in Corporate related to the Firm's international consumer initiatives,
- lower balances in CCB reflecting higher customer spending,
- a decline in AWM due to continued migration into higher-yielding investments driven by the higher interest rate environment, predominantly offset by growth from new and existing customers as a result of new product offerings, and
- a decrease in CB due to continued deposit attrition as clients seek higher-yielding investments, predominantly offset by the retention of inflows associated with disruptions in the market in the first quarter of 2023.

The net increase also included $61 billion of deposits associated with First Republic, primarily reflected in CCB, AWM and CB.

Refer to Business Segment Results on pages 65–85 and Note 34 for additional information on the First Republic acquisition.

Refer to the Firm's Consolidated Balance Sheets Analysis and the Business Segment Results on pages 58–60 and pages 65–85, respectively, for further information on deposit and liability balance trends. Refer to Note 3 for further information on structured notes.

Certain deposits are covered by insurance protection that provides additional funding stability and results in a benefit to the LCR. Deposit insurance protection may be available to depositors in the countries in which the deposits are placed. For example, the Federal Deposit Insurance Corporation ("FDIC") provides deposit insurance protection for deposits placed in a U.S. depository institution. At December 31, 2023 and 2022, the Firmwide estimated uninsured deposits were $1,331.9 billion and $1,383.7 billion, respectively, primarily reflecting wholesale operating deposits.

Total uninsured deposits include time deposits. The table below presents an estimate of uninsured U.S. and non-U.S. time deposits, and their remaining maturities. The Firm's estimates of its uninsured U.S. time deposits are based on data that the Firm calculates periodically under applicable FDIC regulations. For purposes of this presentation, all non-U.S. time deposits are deemed to be uninsured.

	December 31, 2023		December 31, 2022	
(in millions)	U.S.	Non-U.S.	U.S.	Non-U.S.
Three months or less	**$ 82,719**	**$ 77,466**	$ 43,513	$ 68,765
Over three months but within 6 months	**17,736**	**5,358**	8,670	3,658
Over six months but within 12 months	**10,294**	**4,820**	7,035	2,850
Over 12 months	**710**	**2,543**	787	2,634
Total	**$111,459**	**$ 90,187**	$ 60,005	$ 77,907

The table below shows the loan and deposit balances, the loans-to-deposits ratios, and deposits as a percentage of total liabilities, as of December 31, 2023 and 2022.

As of December 31, (in billions except ratios)	**2023**	2022
Deposits	**$ 2,400.7**	$ 2,340.2
Deposits as a % of total liabilities	**68 %**	69 %
Loans	**$ 1,323.7**	$ 1,135.6
Loans-to-deposits ratio	**55 %**	49 %

The following table provides a summary of the average balances and average interest rates of JPMorgan Chase's deposits for the years ended December 31, 2023, 2022, and 2021.

(Unaudited) Year ended December 31,	Average balances			Average interest rates		
(in millions, except interest rates)	**2023**	2022	2021	**2023**	2022	2021
U.S. offices						
Noninterest-bearing	**$ 635,791**	$ 691,206	$ 648,170	**NA**	NA	NA
Interest-bearing						
Demand[(a)]	**279,725**	324,512	322,122	**3.50 %**	0.92 %	0.06 %
Savings[(b)]	**864,558**	971,788	930,866	**1.10**	0.28	0.06
Time	**145,827**	62,022	48,628	**4.74**	2.07	0.26
Total interest-bearing deposits	**1,290,110**	1,358,322	1,301,616	**2.03**	0.52	0.07
Total deposits in U.S. offices	**1,925,901**	2,049,528	1,949,786	**1.36**	0.34	0.05
Non-U.S. offices						
Noninterest-bearing	**24,747**	28,043	26,315	**NA**	NA	NA
Interest-bearing						
Demand	**321,976**	324,740	313,304	**2.71**	0.57	(0.10)
Time	**86,443**	65,604	57,749	**5.82**	1.85	(0.09)
Total interest-bearing deposits	**408,419**	390,344	371,053	**3.37**	0.78	(0.10)
Total deposits in non-U.S. offices	**433,166**	418,387	397,368	**3.18**	0.73	(0.09)
Total deposits	**$ 2,359,067**	$ 2,467,915	$ 2,347,154	**1.70 %**	0.41 %	0.02 %

(a) Includes Negotiable Order of Withdrawal accounts, and certain trust accounts.
(b) Includes Money Market Deposit Accounts.

Refer to Note 17 for additional information on deposits.

The following table summarizes short-term and long-term funding, excluding deposits, as of December 31, 2023 and 2022, and average balances for the years ended December 31, 2023 and 2022. Refer to the Consolidated Balance Sheets Analysis on pages 58–60 and Note 11 for additional information.

Sources of funds (excluding deposits)

As of or for the year ended December 31,				Average	
(in millions)	**2023**	2022		**2023**	2022
Commercial paper	**$ 14,737**	$ 12,557		**$ 12,675**	$ 16,151
Other borrowed funds	**8,200**	8,418		**9,712**	12,250
Federal funds purchased	**787**	1,684		**1,754**	1,567
Total short-term unsecured funding	**$ 23,724**	$ 22,659		**$ 24,141**	$ 29,968
Securities sold under agreements to repurchase[(a)]	**$ 212,804**	$ 198,382		**$ 249,661**	$ 236,192
Securities loaned[(a)]	**2,944**	2,547		**4,671**	5,003
Other borrowed funds	**21,775**	23,052	[(g)]	**22,010**	25,211
Obligations of Firm-administered multi-seller conduits[(b)]	**17,781**	9,236		**14,918**	7,387
Total short-term secured funding	**$ 255,304**	$ 233,217		**$ 291,260**	$ 273,793
Senior notes	**$ 191,202**	$ 188,025		**$ 181,803**	$ 189,047
Subordinated debt	**19,708**	21,803		**20,374**	20,125
Structured notes[(c)]	**86,056**	70,839		**76,574**	68,656
Total long-term unsecured funding	**$ 296,966**	$ 280,667		**$ 278,751**	$ 277,828
Credit card securitization[(b)]	**$ 2,998**	$ 1,999		**$ 1,634**	$ 1,950
FHLB advances	**41,246**	11,093	[(g)]	**28,865**	11,103
Purchase Money Note[(d)]	**48,989**	NA		**$ 32,829**	NA
Other long-term secured funding[(e)]	**4,624**	4,105		**4,513**	3,837
Total long-term secured funding	**$ 97,857**	$ 17,197		**$ 67,841**	$ 16,890
Preferred stock[(f)]	**$ 27,404**	$ 27,404		**$ 27,404**	$ 31,893
Common stockholders' equity[(f)]	**$ 300,474**	$ 264,928		**$ 282,056**	$ 253,068

(a) Primarily consists of short-term securities loaned or sold under agreements to repurchase.
(b) Included in beneficial interests issued by consolidated variable interest entities on the Firm's Consolidated balance sheets.
(c) Includes certain TLAC-eligible long-term unsecured debt issued by the Parent Company.
(d) Reflects the Purchase Money Note associated with the First Republic acquisition on May 1, 2023. Refer to Note 34 for additional information.
(e) Includes long-term structured notes which are secured.
(f) Refer to Capital Risk Management on pages 91-101, Consolidated statements of changes in stockholders' equity on page 169, Note 21 and Note 22 for additional information on preferred stock and common stockholders' equity.
(g) As of December 31, 2023, included short-term and long-term FHLB advances of $500 million and $23.2 billion, respectively, associated with First Republic. Refer to Note 34 for additional information.

Short-term funding

The Firm's sources of short-term secured funding primarily consist of securities loaned or sold under agreements to repurchase. These instruments are secured predominantly by high-quality securities collateral, including government-issued debt and U.S. GSE and government agency MBS. Securities sold under agreements to repurchase increased at December 31, 2023, compared with December 31, 2022, reflecting the impact of a lower level of netting on reduced repurchase activity.

The balances associated with securities loaned or sold under agreements to repurchase fluctuate over time due to investment and financing activities of clients, the Firm's demand for financing, the ongoing management of the mix of the Firm's liabilities, including its secured and unsecured financing (for both the investment securities and market-making portfolios), and other market and portfolio factors.

The Firm's sources of short-term unsecured funding primarily consist of issuances of wholesale commercial paper and other borrowed funds.

The increase in period-end commercial paper and the decrease in average balances for the year ended December 31, 2023 compared to the respective prior year periods were due to changes in net issuance levels primarily for short-term liquidity management.

The decrease in average secured other borrowed funds for the year ended December 31, 2023 compared to the prior year period was primarily due to lower financing of Markets activities.

Long-term funding and issuance

Long-term funding provides an additional source of stable funding and liquidity for the Firm. The Firm's long-term funding plan is driven primarily by expected client activity, liquidity considerations and regulatory requirements, including TLAC. Long-term funding objectives include maintaining diversification, maximizing market access and optimizing funding costs. The Firm evaluates various funding markets, tenors and currencies in creating its optimal long-term funding plan.

The significant majority of the Firm's total outstanding long-term debt has been issued by the Parent Company to provide flexibility in support of the funding needs of both bank and non-bank subsidiaries. The Parent Company advances substantially all net funding proceeds to its subsidiary, the IHC. The IHC does not issue debt to external counterparties. For the year ended December 31, 2023, the increase in period-end structured notes compared to the prior year period was attributable to net issuances of structured notes in Markets due to client demand and an increase in fair value.

The following table summarizes long-term unsecured issuance and maturities or redemptions for the years ended December 31, 2023 and 2022. Refer to Note 20 for additional information on the IHC and long-term debt.

Long-term unsecured funding

Year ended December 31,	**2023**	2022	**2023**	2022
(Notional in millions)	Parent Company		Subsidiaries	
Issuance				
Senior notes issued in the U.S. market	**$ 14,256**	$ 32,600	**$ 3,750**	$ –
Senior notes issued in non-U.S. markets	**2,141**	2,752	**–**	–
Total senior notes	**16,397**	35,352	**3,750**	–
Subordinated debt	**–**	3,500	**–**	–
Structured notes[(a)]	**3,013**	2,535	**35,281**	35,577
Total long-term unsecured funding – issuance	**$ 19,410**	$ 41,387	**$ 39,031**	$ 35,577
Maturities/redemptions				
Senior notes	**$ 21,483**	$ 16,700	**$ 67**	$ 65
Subordinated debt	**2,090**	–	**–**	–
Structured notes	**1,532**	1,594	**28,777**	25,481
Total long-term unsecured funding – maturities/redemptions	**$ 25,105**	$ 18,294	**$ 28,844**	$ 25,546

(a) Includes certain TLAC-eligible long-term unsecured debt issued by the Parent Company.

The Firm can also raise secured long-term funding through securitization of consumer credit card loans and FHLB advances. The following table summarizes the securitization issuance, the FHLB advances, and their respective maturities or redemptions, as applicable for the years ended December 31, 2023 and 2022. Additionally, the table includes the FHLB advances and Purchase Money Note associated with First Republic. Refer to Note 34 for additional information.

Long-term secured funding

Year ended December 31,	Issuance		Maturities/Redemptions	
(in millions)	**2023**	2022	**2023**	2022
Credit card securitization	**$ 1,998**	$ 999	**$ 1,000**	$ 1,400
FHLB advances	**39,775**	–	**9,485**	14
Purchase Money Note[(a)]	**50,000**	NA	**–**	NA
Other long-term secured funding[(b)]	**991**	476	**432**	268
Total long-term secured funding	**$ 92,764**	$ 1,475	**$ 10,917**	$ 1,682

(a) Reflects the Purchase Money Note associated with the First Republic acquisition. Refer to Note 34 for additional information.
(b) Includes long-term structured notes that are secured.

The Firm's wholesale businesses also securitize loans for client-driven transactions; those client-driven loan securitizations are not considered to be a source of funding for the Firm and are not included in the table above. Refer to Note 14 for a further description of client-driven loan securitizations.

Credit ratings

The cost and availability of financing are influenced by credit ratings. Reductions in these ratings could have an adverse effect on the Firm's access to liquidity sources, increase the cost of funds, trigger additional collateral or funding requirements and decrease the number of investors and counterparties willing to lend to the Firm. The nature and magnitude of the impact of ratings downgrades depends on numerous contractual and behavioral factors, which the Firm believes are incorporated in its liquidity risk and stress testing metrics. The Firm believes that it maintains sufficient liquidity to withstand a potential decrease in funding capacity due to ratings downgrades.

Additionally, the Firm's funding requirements for VIEs and other third-party commitments may be adversely affected by a decline in credit ratings. Refer to Note 5 and Note 14 for additional information.

The credit ratings of the Parent Company and the Firm's principal bank and non-bank subsidiaries as of December 31, 2023, were as follows:

	JPMorgan Chase & Co.			JPMorgan Chase Bank, N.A.			J.P. Morgan Securities LLC J.P. Morgan Securities plc J.P. Morgan SE		
December 31, 2023	Long-term issuer	Short-term issuer	Outlook	Long-term issuer	Short-term issuer	Outlook	Long-term issuer	Short-term issuer	Outlook
Moody's Investors Service	A1	P-1	Stable	Aa2	P-1	Negative [(b)]	Aa3	P-1	Stable
Standard & Poor's[(a)]	A-	A-2	Stable	A+	A-1	Stable	A+	A-1	Stable
Fitch Ratings	AA-	F1+	Stable	AA	F1+	Stable	AA	F1+	Stable

(a) On March 31, 2023, Standard & Poor's affirmed the credit ratings of the Parent Company and the Firm's principal bank and non-bank subsidiaries, and revised the outlook from positive to stable.

(b) On November 13, 2023, Moody's revised the outlook of the Firm's principal bank subsidiary from stable to negative to reflect Moody's change to the U.S. sovereign outlook.

JPMorgan Chase's unsecured debt does not contain requirements that would call for an acceleration of payments, maturities or changes in the structure of the existing debt, provide any limitations on future borrowings or require additional collateral, based on unfavorable changes in the Firm's credit ratings, financial ratios, earnings, or stock price.

Critical factors in maintaining high credit ratings include a stable and diverse earnings stream, strong capital and liquidity ratios, strong credit quality and risk management controls, and diverse funding sources. Rating agencies continue to evaluate economic and geopolitical trends, regulatory developments, future profitability, risk management practices, and litigation matters, as well as their broader ratings methodologies. Changes in any of these factors could lead to changes in the Firm's credit ratings.

REPUTATION RISK MANAGEMENT

Reputation risk is the risk that an action or inaction may negatively impact perception of the Firm's integrity and reduce confidence in the Firm's competence by various stakeholders, including clients, counterparties, customers, communities, investors, regulators, or employees.

The types of events that may result in reputation risk are wide-ranging and can be introduced by the Firm's employees, business strategies and activities, clients, customers and counterparties with which the Firm does business. These events could contribute to financial losses, litigation, regulatory enforcement actions, fines, penalties or other sanctions, as well as other harm to the Firm.

Organization and management

Reputation Risk Management is an independent risk management function that establishes the governance framework for managing reputation risk across the Firm's LOBs and Corporate. Reputation risk is inherently challenging to identify, manage, and quantify.

The Firm's reputation risk management function includes the following activities:

- Maintaining a Firmwide Reputation Risk Governance policy and a standard consistent with the reputation risk framework
- Providing oversight of the governance framework through processes and infrastructure to support consistent identification, escalation and monitoring of reputation risk issues Firmwide

Governance and oversight

The Reputation Risk Governance policy establishes the principles for managing reputation risk for the Firm. It is the responsibility of each LOB, Corporate and employees to consider the reputation of the Firm when deciding whether to offer a new product, engage in a transaction or client relationship, enter a new jurisdiction, initiate a business process or consider any other activity. Environmental impacts and social concerns are increasingly important considerations in assessing the Firm's reputation risk, and are a component of the Firm's reputation risk governance.

Credit and investment risk is the risk associated with the default or change in credit profile of a client, counterparty or customer; or loss of principal or a reduction in expected returns on investments, including consumer credit risk, wholesale credit risk, and investment portfolio risk.

Credit risk management

Credit risk is the risk associated with the default or change in credit profile of a client, counterparty or customer. The Firm provides credit to a variety of clients and customers, ranging from large corporate and institutional clients to individual consumers and small businesses. In its consumer businesses, the Firm is exposed to credit risk primarily through its home lending, credit card, auto, and business banking businesses. In its wholesale businesses, the Firm is exposed to credit risk through its underwriting, lending, market-making, and hedging activities with and for clients and counterparties, as well as through its operating services activities (such as cash management and clearing activities), and securities financing activities. The Firm is also exposed to credit risk through its investment securities portfolio and cash placed with banks.

Credit Risk Management monitors, measures and manages credit risk throughout the Firm and defines credit risk policies and procedures. The Firm's credit risk management governance includes the following activities:

- Maintaining a credit risk policy framework
- Monitoring, measuring and managing credit risk across all portfolio segments, including transaction and exposure approval
- Setting industry and geographic concentration limits, as appropriate, and establishing underwriting guidelines
- Assigning and managing credit approval authorities in connection with the approval of credit exposure
- Managing criticized exposures and delinquent loans, and
- Estimating credit losses and supporting appropriate credit risk-based capital management

Risk identification and measurement

To measure credit risk, the Firm employs several methodologies for estimating the likelihood of obligor or counterparty default. Methodologies for measuring credit risk vary depending on several factors, including type of asset (e.g., consumer versus wholesale), risk measurement parameters (e.g., delinquency status and borrower's credit score versus wholesale risk-rating) and risk management and collection processes (e.g., retail collection center versus centrally managed workout groups). Credit risk measurement is based on the probability of default of an obligor or counterparty, the loss severity given a default event and the exposure at default.

Based on these factors and the methodology and estimates described in Note 13 and Note 10, the Firm estimates credit losses for its exposures. The allowance for loan losses reflects estimated credit losses related to the consumer and wholesale held-for-investment loan portfolios, the allowance for lending-related commitments reflects estimated credit losses related to the Firm's lending-related commitments and the allowance for investment securities reflects estimated credit losses related to the investment securities portfolio. Refer to Note 13, Note 10 and Critical Accounting Estimates used by the Firm on pages 155–158 for further information.

In addition, potential and unexpected credit losses are reflected in the allocation of credit risk capital and represent the potential volatility of actual losses relative to the established allowances for loan losses and lending-related commitments. The analyses for these losses include stress testing that considers alternative economic scenarios as described below.

Stress testing

Stress testing is important in measuring and managing credit risk in the Firm's credit portfolio. The stress testing process assesses the potential impact of alternative economic and business scenarios on estimated credit losses for the Firm. Economic scenarios and the underlying parameters are defined centrally, articulated in terms of macroeconomic factors and applied across the businesses. The stress test results may indicate credit migration, changes in delinquency trends and potential losses in the credit portfolio. In addition to the periodic stress testing processes, management also considers additional stresses outside these scenarios, including industry and country-specific stress scenarios, as appropriate. The Firm uses stress testing to inform decisions on setting risk appetite both at a Firm and LOB level, as well as to assess the impact of stress on individual counterparties.

Risk monitoring and management

The Firm has developed policies and practices that are designed to preserve the independence and integrity of the approval and decision-making process for extending credit so that credit risks are assessed accurately, approved properly, monitored regularly and managed actively at both the transaction and portfolio levels. The policy framework establishes credit approval authorities, concentration limits, risk-rating methodologies, portfolio review parameters and guidelines for management of distressed exposures. In addition, certain models, assumptions and inputs used in evaluating and monitoring credit risk are independently validated by groups that are separate from the LOBs.

Consumer credit risk is monitored for delinquency and other trends, including any concentrations at the portfolio level, as certain of these trends can be addressed through changes in underwriting policies and portfolio guidelines. Consumer Risk Management evaluates delinquency and other trends against business expectations, current and forecasted economic conditions, and industry benchmarks. Historical and forecasted economic performance and trends are incorporated into the modeling of estimated consumer credit losses and are part of the monitoring of the credit risk profile of the portfolio.

Wholesale credit risk is monitored regularly at an aggregate portfolio, industry, and individual client and counterparty level with established concentration limits that are reviewed and revised periodically as deemed appropriate by management. Industry and counterparty limits, as measured in terms of exposure and economic risk appetite, are subject to stress-based loss constraints.

Management of the Firm's wholesale credit risk exposure is accomplished through a number of means, including:

- Loan underwriting and credit approval processes
- Loan syndications and participations
- Loan sales and securitizations
- Credit derivatives
- Master netting agreements, and
- Collateral and other risk-reduction techniques

In addition to Credit Risk Management, an independent Credit Review function is responsible for:

- Independently assessing risk grades assigned to exposures in the Firm's wholesale credit portfolio and the timeliness of risk grade changes initiated by responsible business units; and
- Evaluating the effectiveness of the credit management processes of the LOBs and Corporate, including the adequacy of credit analyses and risk grading/loss given default ("LGD") rationales, proper monitoring and management of credit exposures, and compliance with applicable grading policies and underwriting guidelines.

Refer to Note 12 for further discussion of consumer and wholesale loans.

Risk reporting

To enable monitoring of credit risk and effective decision-making, aggregate credit exposure, credit quality forecasts, concentration levels and risk profile changes are reported regularly to senior members of Credit Risk Management. Detailed portfolio reporting of industry, clients, counterparties and customers, product and geography are prepared, and the appropriateness of the allowance for credit losses is reviewed by senior management at least on a quarterly basis. Through the risk reporting and governance structure, credit risk trends and limit exceptions are provided regularly to, and discussed with, risk committees, senior management and the Board of Directors.

Credit risk is the risk associated with the default or change in credit profile of a client, counterparty or customer.

In the following tables, total loans include loans retained (i.e., held-for-investment); loans held-for-sale; and certain loans accounted for at fair value. The following tables do not include loans which the Firm accounts for at fair value and classifies as trading assets; refer to Notes 2 and 3 for further information regarding these loans. Refer to Notes 12, 28, and 5 for additional information on the Firm's loans, lending-related commitments and derivative receivables, including the Firm's related accounting policies.

Refer to Note 10 for information regarding the credit risk inherent in the Firm's investment securities portfolio; and refer to Note 11 for information regarding credit risk inherent in the securities financing portfolio. Refer to Consumer Credit Portfolio on pages 114–119 and Note 12 for further discussions of the consumer credit environment and consumer loans. Refer to Wholesale Credit Portfolio on pages 120–130 and Note 12 for further discussions of the wholesale credit environment and wholesale loans.

On January 1, 2023, the Firm adopted changes to the TDR accounting guidance, which eliminated the accounting and disclosure requirements for TDRs including the requirement to assess whether a modification is reasonably expected or involves a concession. The new guidance requires disclosure of loan modifications to borrowers experiencing financial difficulty consisting of principal forgiveness, interest rate reduction, other-than-insignificant payment delay, term extension or a combination of these modifications. The Firm has defined these types of modifications as financial difficulty modifications ("FDMs"). As a result of the elimination of the requirement to assess whether a modification is reasonably expected or involves a concession, the population of loans considered FDMs differs from the population previously considered TDRs. Refer to Note 1 and Note 12 for further information.

Total credit portfolio

December 31, (in millions)	Credit exposure		Nonperforming[d]	
	2023	2022	**2023**	2022
Loans retained	**$1,280,870**	$1,089,598	**$ 5,989**	$ 5,837
Loans held-for-sale	**3,985**	3,970	**184**	54
Loans at fair value	**38,851**	42,079	**744**	829
Total loans	**1,323,706**	1,135,647	**6,917**	6,720
Derivative receivables	**54,864**	70,880	**364**	296
Receivables from customers[a]	**47,625**	49,257	**–**	–
Total credit-related assets	**1,426,195**	1,255,784	**7,281**	7,016
Assets acquired in loan satisfactions				
Real estate owned	**NA**	NA	**274**	203
Other	**NA**	NA	**42**	28
Total assets acquired in loan satisfactions	**NA**	NA	**316**	231
Lending-related commitments	**1,497,847**	1,326,782	**464**	455
Total credit portfolio	**$2,924,042** [c]	$2,582,566	**$ 8,061**	$ 7,702
Credit derivatives and credit-related notes used in credit portfolio management activities[b]	**$ (37,779)**	$ (19,330)	**$ –**	$ –
Liquid securities and other cash collateral held against derivatives	**(22,461)**	(23,014)	**NA**	NA

(a) Receivables from customers reflect held-for-investment margin loans to brokerage clients in CIB, CCB and AWM; these are reported within accrued interest and accounts receivable on the Consolidated balance sheets.

(b) Represents the net notional amount of protection purchased and sold through credit derivatives and credit-related notes used to manage credit exposures.

(c) Includes credit exposure associated with First Republic consisting of $102.2 billion in the Consumer credit portfolio and $90.6 billion in the Wholesale credit portfolio.

(d) At December 31, 2023 and 2022, nonperforming assets excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $182 million and $302 million, respectively. These amounts have been excluded based upon the government guarantee. In addition, the Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status as permitted by regulatory guidance.

The following table provides information on Firmwide nonaccrual loans to total loans.

December 31, (in millions, except ratios)	**2023**	2022
Total nonaccrual loans	**$ 6,917**	$ 6,720
Total loans	**1,323,706**	1,135,647
Firmwide nonaccrual loans to total loans outstanding	**0.52 %**	0.59 %

The following table provides information about the Firm's net charge-offs and recoveries.

Year ended December 31, (in millions, except ratios)	**2023**	2022
Net charge-offs	**$ 6,209**	$ 2,853
Average retained loans	**1,202,348**	1,044,765
Net charge-off rates	**0.52 %**	0.27 %

CONSUMER CREDIT PORTFOLIO

The Firm's retained consumer portfolio consists primarily of loans and lending-related commitments for residential real estate, credit card, scored auto and business banking, including those associated with First Republic, primarily in residential real estate. The consumer credit portfolio also includes loans at fair value, predominantly in residential real estate. The Firm's focus is on serving primarily the prime segment of the consumer credit market. Originated mortgage loans are retained in the residential real estate portfolio, securitized or sold to U.S. government agencies and U.S. government-sponsored enterprises; other types of consumer loans are typically retained on the balance sheet. Refer to Note 12 for further information on the consumer loan portfolio. Refer to Note 28 for further information on lending-related commitments.

The following tables present consumer credit-related information with respect to the scored credit portfolio held in CCB, AWM, CIB and Corporate.

Consumer credit portfolio

December 31, (in millions)	Credit exposure		Nonaccrual loans[(j)(k)(l)]	
	2023	2022	**2023**	2022
Consumer, excluding credit card				
Residential real estate[(a)]	**$ 326,409**	$ 237,561	**$ 3,466**	$ 3,745
Auto and other[(b)(c)]	**70,866**	63,192	**177**	129
Total loans - retained	**397,275**	300,753	**3,643**	3,874
Loans held-for-sale	**487**	618	**95**	28
Loans at fair value[(d)]	**12,331**	10,004	**465**	423
Total consumer, excluding credit card loans	**410,093**	311,375	**4,203**	4,325
Lending-related commitments[(e)]	**45,403**	33,518		
Total consumer exposure, excluding credit card	**455,496** [(i)]	344,893		
Credit card				
Loans retained[(f)]	**211,123**	185,175	**NA**	NA
Total credit card loans	**211,123**	185,175	**NA**	NA
Lending-related commitments[(e)(g)]	**915,658**	821,284		
Total credit card exposure	**1,126,781**	1,006,459		
Total consumer credit portfolio	**$ 1,582,277**	$ 1,351,352	**$ 4,203**	$ 4,325
Credit-related notes used in credit portfolio management activities[(h)]	**$ (790)**	$ (1,187)		

	Year ended December 31,					
	Net charge-offs/(recoveries)		Average loans - retained		Net charge-off/(recovery) rate[(m)]	
(in millions, except ratios)	**2023**	2022	**2023**	2022	**2023**	2022
Consumer, excluding credit card						
Residential real estate	**$ (52)**	$ (226)	**$ 296,515**	$ 233,454	**(0.02)%**	(0.10)%
Auto and other	**684**	495	**67,546**	65,955	**1.01**	0.75
Total consumer, excluding credit card - retained	**632**	269	**364,061**	299,409	**0.17**	0.09
Credit card - retained	**4,698**	2,403	**191,412**	163,335	**2.45**	1.47
Total consumer - retained	**$ 5,330**	$ 2,672	**$ 555,473**	$ 462,744	**0.96 %**	0.58 %

(a) Includes scored mortgage and home equity loans held in CCB and AWM.
(b) At December 31, 2023 and 2022, excluded operating lease assets of $10.4 billion and $12.0 billion, respectively. These operating lease assets are included in other assets on the Firm's Consolidated balance sheets. Refer to Note 18 for further information.
(c) Includes scored auto and business banking loans, and overdrafts.
(d) Includes scored mortgage loans held in CCB and CIB, and other consumer unsecured loans in CIB.
(e) Credit card, home equity and certain business banking lending-related commitments represent the total available lines of credit for these products. The Firm has not experienced, and does not anticipate, that all available lines of credit would be used at the same time. For credit card commitments, and if certain conditions are met, home equity commitments and certain business banking commitments, the Firm can reduce or cancel these lines of credit by providing the borrower notice or, in some cases as permitted by law, without notice. Refer to Note 28 for further information.
(f) Includes billed interest and fees.
(g) Also includes commercial card lending-related commitments primarily in CB and CIB.
(h) Represents the notional amount of protection obtained through the issuance of credit-related notes that reference certain pools of residential real estate and auto loans in the retained consumer portfolio.
(i) At December 31, 2023, included credit exposure of $102.2 billion associated with First Republic, consisting of $99.6 billion in residential real estate and $2.6 billion in auto and other.
(j) At December 31, 2023 and 2022, nonaccrual loans excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $182 million and $302 million, respectively. These amounts have been excluded from nonaccrual loans based upon the government guarantee. In addition, the Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status, as permitted by regulatory guidance.
(k) Generally excludes loans under payment deferral programs offered in response to the COVID-19 pandemic.
(l) At December 31, 2023 and 2022, nonaccrual loans excluded $15 million and $101 million, respectively, of PPP loans 90 or more days past due and guaranteed by the SBA.
(m) Average consumer loans held-for-sale and loans at fair value were $12.9 billion and $17.4 billion for the years ended December 31, 2023 and 2022, respectively. These amounts were excluded when calculating net charge-off/(recovery) rates.

Maturities and sensitivity to changes in interest rates

The table below sets forth loan maturities by scheduled repayments, by class of loan and the distribution between fixed and floating interest rates based on the stated terms of the loan agreements. The Firm estimated the principal repayment amounts for both the residential real estate and auto and other loan classes by calculating the weighted-average loan balance and interest rates for loan pools based on remaining loan term. Refer to Note 12 for further information on loan classes.

December 31, 2023 (in millions)	Within 1 year[e]	1-5 years	5-15 years	After 15 years	Total
Consumer, excluding credit card					
Residential real estate	$ 17,830	$ 27,447	$ 110,504	$ 181,593	$ 337,374
Auto and other	20,191 [f]	47,315	5,209	4	72,719
Total consumer, excluding credit card loans[a]	$ 38,021	$ 74,762	$ 115,713	$ 181,597	$ 410,093
Total credit card loans	$ 210,418	$ 700	$ 5	$ –	$ 211,123
Total consumer loans	$ 248,439	$ 75,462	$ 115,718	$ 181,597	$ 621,216
Loans due after one year at fixed interest rates					
Residential real estate[b]		$ 20,337	$ 59,603	$ 89,044	
Auto and other		47,236	3,767	4	
Credit card		700	5	–	
Loans due after one year at variable interest rates[c]					
Residential real estate[d]		$ 7,110	$ 50,901	$ 92,549	
Auto and other		79	1,442	–	
Total consumer loans		$ 75,462	$ 115,718	$ 181,597	

(a) Included $3.9 billion, $4.6 billion, $27.9 billion, and $56.2 billion of loans within 1 year, 1-5 years, 5-15 years, and after 15 years, respectively, associated with First Republic.
(b) Included $3.0 billion, $8.9 billion, and $15.1 billion in 1-5 years, 5-15 years, and after 15 years, respectively, associated with First Republic.
(c) Includes loans that have an initial fixed interest rate that resets to a variable rate as the variable rate will be the prevailing rate over the life of the loan.
(d) Included $1.6 billion, $19.1 billion, and $41.0 billion in 1-5 years, 5-15 years, and after 15 years, respectively, associated with First Republic.
(e) Includes loans held-for-sale and loans at fair value.
(f) Includes overdrafts.

Consumer, excluding credit card

Portfolio analysis

Loans increased from December 31, 2022 driven by residential real estate loans associated with First Republic and higher auto loans.

The following discussions provide information concerning individual loan products. Refer to Note 12 for further information about this portfolio, including information about delinquencies, loan modifications and other credit quality indicators.

Residential real estate: The residential real estate portfolio, including loans held-for-sale and loans at fair value, predominantly consists of prime mortgage loans and home equity lines of credit.

Retained loans increased compared to December 31, 2022 driven by residential real estate loans associated with First Republic. Retained nonaccrual loans decreased compared to December 31, 2022 predominantly driven by loan sales, partially offset by the net impact of paydowns and additions, including those associated with First Republic. Net recoveries were lower for the year ended December 31, 2023 compared to the prior year driven by lower prepayments due to higher interest rates.

Loans at fair value increased from December 31, 2022, driven by an increase in Home Lending as originations outpaced warehouse loan sales, and in CIB as purchases outpaced sales and paydowns.

At December 31, 2023 and 2022, the carrying values of interest-only residential mortgage loans were $90.6 billion and $36.3 billion, respectively. The increase was driven by First Republic. These loans have an interest-only payment period generally followed by an adjustable-rate or fixed-rate fully amortizing payment period to maturity and are typically originated as higher-balance loans to higher-income borrowers. The credit performance of this portfolio is comparable with the performance of the broader prime mortgage portfolio.

The carrying value of home equity lines of credit outstanding was $16.1 billion at December 31, 2023, which included $2.6 billion associated with First Republic. The carrying value of home equity lines of credit outstanding included $4.2 billion of HELOCs that have recast from interest-only to fully amortizing payments or have been modified and $4.3 billion of interest-only balloon HELOCs, which primarily mature after 2030. The Firm manages the risk of HELOCs during their revolving period by closing or reducing the undrawn line to the extent permitted by law when borrowers are exhibiting a material deterioration in their credit risk profile.

The following table provides a summary of the Firm's residential mortgage portfolio insured and/or guaranteed by U.S. government agencies, predominantly loans held-for-sale and loans at fair value. The Firm monitors its exposure to certain potential unrecoverable claim payments related to government-insured loans and considers this exposure in estimating the allowance for loan losses.

(in millions)	December 31, 2023	December 31, 2022
Current	**$ 446**	$ 659
30-89 days past due	**102**	136
90 or more days past due	**182**	302
Total government guaranteed loans	**$ 730**	$ 1,097

Geographic composition and current estimated loan-to-value ratio of residential real estate loans

At December 31, 2023, $228.4 billion, or 70% of the total retained residential real estate loan portfolio, was concentrated in California, New York, Florida, Texas and Massachusetts, compared with $147.8 billion, or 62% at December 31, 2022.

Average current estimated loan-to-value ("LTV") ratios have improved, reflecting an increase in home prices.

Refer to Note 12 for information on the geographic composition and current estimated LTVs of the Firm's residential real estate loans.

Modified residential real estate loans

For the year ended December 31, 2023, residential real estate FDMs were $136 million. In addition to FDMs, the Firm also had $69 million of loans subject to trial modification where the terms of the loans have not been permanently modified, as well as $9 million of loans subject to discharge under Chapter 7 bankruptcy proceedings ("Chapter 7 loans"). The changes to the TDR accounting guidance eliminated the TDR reasonably expected and concession assessment criteria. Accordingly, trial modifications and Chapter 7 loans were considered TDRs, but not FDMs. Refer to Note 1 and Note 12 for further information.

For the year ended December 31, 2022, residential real estate TDRs were $362 million. Refer to Note 12 for further information on TDRs in prior periods.

Auto and other: The auto and other loan portfolio, including loans at fair value, generally consists of prime-quality scored auto and business banking loans, other consumer unsecured loans, and overdrafts. The portfolio increased when compared to December 31, 2022 due to originations of scored auto loans and an increase in other consumer unsecured fair value option loans in CIB associated with First Republic, largely offset by paydowns. Net charge-offs for the year ended December 31, 2023 increased compared to the prior year due to higher charge-offs of scored auto loans driven by the decline in used vehicle valuations. The scored auto net charge-off rates were 0.56% and 0.24% for the years ended December 31, 2023 and 2022, respectively.

Nonperforming assets

The following table presents information as of December 31, 2023 and 2022, about consumer, excluding credit card, nonperforming assets.

Nonperforming assets[a]

December 31, (in millions)	2023	2022
Nonaccrual loans		
Residential real estate[b]	**$ 4,015**	$ 4,196
Auto and other[c]	**188**	129
Total nonaccrual loans	**4,203**	4,325
Assets acquired in loan satisfactions		
Real estate owned	**120**	129
Other	**42**	28
Total assets acquired in loan satisfactions	**162**	157
Total nonperforming assets	**$ 4,365**	$ 4,482

(a) At December 31, 2023 and 2022, nonperforming assets excluded mortgage loans 90 or more days past due and insured by U.S. government agencies of $182 million and $302 million, respectively. These amounts have been excluded based upon the government guarantee.

(b) Generally excludes loans under payment deferral programs offered in response to the COVID-19 pandemic.

(c) At December 31, 2023 and 2022, nonaccrual loans excluded $15 million and $101 million, respectively, of PPP loans 90 or more days past due and guaranteed by the SBA.

Nonaccrual loans

The following table presents changes in consumer, excluding credit card, nonaccrual loans for the years ended December 31, 2023 and 2022.

Nonaccrual loan activity

Year ended December 31, (in millions)	2023	2022
Beginning balance	**$ 4,325**	$ 5,350
Additions:	**2,894**	2,196
Reductions:		
Principal payments and other[a]	**1,306**	1,393
Charge-offs	**472**	255
Returned to performing status	**1,052**	1,405
Foreclosures and other liquidations	**186**	168
Total reductions	**3,016**	3,221
Net changes	**(122)**	(1,025)
Ending balance	**$ 4,203**	$ 4,325

(a) Other reductions include loan sales.

Refer to Note 12 for further information about the consumer credit portfolio, including information about delinquencies, other credit quality indicators, loan modifications and loans that were in the process of active or suspended foreclosure.

Credit card

Total credit card loans increased from December 31, 2022 reflecting growth from new accounts and revolving balances which continued to normalize to pre-pandemic levels. The December 31, 2023 30+ and 90+ day delinquency rates of 2.14% and 1.05%, respectively, increased compared to the December 31, 2022 30+ and 90+ day delinquency rates of 1.45% and 0.68%, respectively. Net charge-offs increased for the year ended December 31, 2023 compared to the prior year as delinquencies have normalized.

Consistent with the Firm's policy, all credit card loans typically remain on accrual status until charged off. However, the Firm's allowance for loan losses includes the estimated uncollectible portion of accrued and billed interest and fee income.

Geographic and FICO composition of credit card loans

At December 31, 2023, $98.1 billion, or 46% of the total retained credit card loan portfolio, was concentrated in California, Texas, New York, Florida and Illinois, compared with $85.4 billion, or 46%, at December 31, 2022.

Modifications of credit card loans

For the year ended December 31, 2023, credit card FDMs were $648 million. FDMs increased for the year ended December 31, 2023 compared to credit card TDRs in the prior year, as delinquencies have normalized. In addition to FDMs, the Firm also had $27 million of loans subject to trial modification where the terms of the loans have not been permanently modified for the year ended December 31, 2023. The changes to the TDR accounting guidance eliminated the TDR reasonably expected and concession assessment criteria. Accordingly, trial modifications were considered TDRs, but not FDMs.

For the year ended December 31, 2022, credit card TDRs were $418 million.

Refer to Note 1 and Note 12 for further information about this portfolio, including information about delinquencies, geographic and FICO composition, and modifications.

WHOLESALE CREDIT PORTFOLIO

In its wholesale businesses, the Firm is exposed to credit risk primarily through its underwriting, lending, market-making, and hedging activities with and for clients and counterparties, as well as through various operating services (such as cash management and clearing activities), securities financing activities and cash placed with banks. A portion of the loans originated or acquired by the Firm's wholesale businesses is generally retained on the balance sheet. The Firm distributes a significant percentage of the loans that it originates into the market as part of its syndicated loan business and to manage portfolio concentrations and credit risk. The wholesale portfolio is actively managed, in part by conducting ongoing, in-depth reviews of client credit quality and transaction structure, inclusive of collateral where applicable, and of industry, product and client concentrations. Refer to the industry discussion on pages 122–125 for further information.

The Firm's wholesale credit portfolio includes exposure held in CIB, CB, AWM, and Corporate, and risk-rated exposure held in CCB, for which the wholesale methodology is applied when determining the allowance for loan losses. The Firm continues to convert certain operations, and to integrate clients, products and services, associated with First Republic. Accordingly, reporting classifications and internal risk rating profiles in the wholesale portfolio may change in future periods. Refer to Business Developments on page 53 for additional information.

As of December 31, 2023, retained loans increased $68.8 billion predominantly driven by the impact of First Republic. Lending-related commitments increased $64.8 billion, driven by the impact of First Republic, and net portfolio activity in CIB and CB.

As of December 31, 2023, nonperforming exposure increased $476 million predominantly driven by nonperforming retained loans in Real Estate and Healthcare, reflecting downgrades, and Individuals largely driven by the impact of First Republic, partially offset by a single name upgrade in Civic Organizations.

For the year ended December 31, 2023, wholesale net charge-offs increased $698 million, predominantly driven by the restructuring of a loan, increases in Real Estate (concentrated in Office) and Consumer & Retail.

Wholesale credit portfolio

December 31, (in millions)	Credit exposure		Nonperforming	
	2023	2022	**2023**	2022
Loans retained	**$ 672,472**	$ 603,670	**$ 2,346**	$ 1,963
Loans held-for-sale	**3,498**	3,352	**89**	26
Loans at fair value	**26,520**	32,075	**279**	406
Loans	**702,490**	639,097	**2,714**	2,395
Derivative receivables	**54,864**	70,880	**364**	296
Receivables from customers[a]	**47,625**	49,257	**–**	–
Total wholesale credit-related assets	**804,979**	759,234	**3,078**	2,691
Assets acquired in loan satisfactions				
Real estate owned	**NA**	NA	**154**	74
Other	**NA**	NA	**–**	–
Total assets acquired in loan satisfactions	**NA**	NA	**154**	74
Lending-related commitments	**536,786**	471,980	**464**	455
Total wholesale credit portfolio	**$1,341,765** [c]	$1,231,214	**$ 3,696**	$ 3,220
Credit derivatives and credit-related notes used in credit portfolio management activities[b]	**$ (36,989)**	$ (18,143)	**$ –**	$ –
Liquid securities and other cash collateral held against derivatives	**(22,461)**	(23,014)	**NA**	NA

(a) Receivables from customers reflect held-for-investment margin loans to brokerage clients in CIB, CCB and AWM; these are reported within accrued interest and accounts receivable on the Consolidated balance sheets.

(b) Represents the net notional amount of protection purchased and sold through credit derivatives and credit-related notes used to manage both performing and nonperforming wholesale credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. Refer to Credit derivatives on page 130 and Note 5 for additional information.

(c) Included credit exposure of $90.6 billion associated with First Republic.

Wholesale credit exposure – maturity and ratings profile

The following tables present the maturity and internal risk ratings profiles of the wholesale credit portfolio as of December 31, 2023 and 2022. The Firm generally considers internal ratings with qualitative characteristics equivalent to BBB-/Baa3 or higher as investment grade, and takes into consideration collateral and structural support when determining the internal risk rating for each credit facility. Refer to Note 12 for further information on internal risk ratings.

	Maturity profile[d]				Ratings profile			
December 31, 2023 (in millions, except ratios)	1 year or less	After 1 year through 5 years	After 5 years	Total	Investment-grade	Noninvestment-grade	Total	Total % of IG
Loans retained	**$ 211,104**	**$ 280,821**	**$ 180,547**	**$ 672,472**	**$ 458,838**	**$ 213,634**	**$ 672,472**	**68 %**
Derivative receivables				**54,864**			**54,864**	
Less: Liquid securities and other cash collateral held against derivatives				**(22,461)**			**(22,461)**	
Total derivative receivables, net of collateral	**8,007**	**8,970**	**15,426**	**32,403**	**24,919**	**7,484**	**32,403**	**77**
Lending-related commitments	**143,337**	**368,646**	**24,803**	**536,786**	**341,611**	**195,175**	**536,786**	**64**
Subtotal	**362,448**	**658,437**	**220,776**	**1,241,661**	**825,368**	**416,293**	**1,241,661**	**66**
Loans held-for-sale and loans at fair value[a]				**30,018**			**30,018**	
Receivables from customers				**47,625**			**47,625**	
Total exposure – net of liquid securities and other cash collateral held against derivatives				**$ 1,319,304**			**$ 1,319,304**	
Credit derivatives and credit-related notes used in credit portfolio management activities[b][c]	**$ (3,311)**	**$ (28,353)**	**$ (5,325)**	**$ (36,989)**	**$ (28,869)**	**$ (8,120)**	**$ (36,989)**	**78 %**

	Maturity profile[d]				Ratings profile			
December 31, 2022 (in millions, except ratios)	1 year or less	After 1 year through 5 years	After 5 years	Total	Investment-grade	Noninvestment-grade	Total	Total % of IG
Loans retained	$ 204,761	$ 253,896	$ 145,013	$ 603,670	$ 425,412	$ 178,258	$ 603,670	70 %
Derivative receivables				70,880			70,880	
Less: Liquid securities and other cash collateral held against derivatives				(23,014)			(23,014)	
Total derivative receivables, net of collateral	13,508	14,880	19,478	47,866	36,231	11,635	47,866	76
Lending-related commitments	101,083	347,456	23,441	471,980	327,168	144,812	471,980	69
Subtotal	319,352	616,232	187,932	1,123,516	788,811	334,705	1,123,516	70
Loans held-for-sale and loans at fair value[a]				35,427			35,427	
Receivables from customers				49,257			49,257	
Total exposure – net of liquid securities and other cash collateral held against derivatives				$ 1,208,200			$ 1,208,200	
Credit derivatives and credit-related notes used in credit portfolio management activities[b][c]	$ (2,817)	$ (13,530)	$ (1,796)	$ (18,143)	$ (15,115)	$ (3,028)	$ (18,143)	83 %

(a) Loans held-for-sale are primarily related to syndicated loans and loans transferred from the retained portfolio.

(b) These derivatives do not qualify for hedge accounting under U.S. GAAP.

(c) The notional amounts are presented on a net basis by underlying reference entity and the ratings profile shown is based on the ratings of the reference entity on which protection has been purchased. Predominantly all of the credit derivatives entered into by the Firm where it has purchased protection used in credit portfolio management activities are executed with investment-grade counterparties. In addition, the Firm obtains credit protection against certain loans in the retained loan portfolio through the issuance of credit-related notes.

(d) The maturity profile of retained loans, lending-related commitments and derivative receivables is generally based on remaining contractual maturity. Derivative contracts that are in a receivable position at December 31, 2023, may become payable prior to maturity based on their cash flow profile or changes in market conditions.

Wholesale credit exposure – industry exposures

The Firm focuses on the management and diversification of its industry exposures, and pays particular attention to industries with actual or potential credit concerns. Exposures that are deemed to be criticized align with the U.S. banking regulators' definition of criticized exposures, which consist of the special mention, substandard and doubtful categories. Total criticized exposure, excluding loans held-for-sale and loans at fair value, was $41.4 billion at December 31, 2023 and $31.3 billion at December 31, 2022, representing approximately 3.3% and 2.7% of total wholesale credit exposure, respectively; of the $41.4 billion, $38.3 billion was performing. The increase in criticized exposure was predominantly driven by Real Estate, Technology, Media & Telecommunications (predominantly Technology) and Healthcare, reflecting downgrades.

The table below summarizes by industry the Firm's exposures as of December 31, 2023 and 2022. The industry of risk category is generally based on the client or counterparty's primary business activity. Refer to Note 4 for additional information on industry concentrations.

Wholesale credit exposure – industries[a]

						Selected metrics			
			Noninvestment-grade						
As of or for the year ended **December 31, 2023** (in millions)	Credit exposure[f][g][h]	Investment-grade	Noncriticized	Criticized performing	Criticized nonperforming	30 days or more past due and accruing loans[i]	Net charge-offs/ (recoveries)	Credit derivative and credit-related notes[i]	Liquid securities and other cash collateral held against derivative receivables
Real Estate	$ 208,261	$ 148,866	$ 50,190	$ 8,558	$ 647	$ 717	$ 275	$ (574)	$ –
Individuals and Individual Entities[b]	145,849	110,673	34,261	334	581	861	10	–	–
Asset Managers	129,574	83,857	45,623	90	4	201	1	–	(7,209)
Consumer & Retail	127,086	60,168	58,606	7,863	449	318	161	(4,204)	–
Technology, Media & Telecommunications	77,296	40,468	27,094	9,388	346	36	81	(4,287)	–
Industrials	75,092	40,951	30,586	3,419	136	213	31	(2,949)	–
Healthcare	65,025	43,163	18,396	3,005	461	130	17	(3,070)	–
Banks & Finance Companies	57,177	33,881	22,744	545	7	9	277	(511)	(412)
Utilities	36,061	25,242	9,929	765	125	1	(3)	(2,373)	–
State & Municipal Govt[c]	35,986	33,561	2,390	27	8	31	–	(4)	–
Oil & Gas	34,475	18,276	16,076	111	12	45	11	(1,927)	(5)
Automotive	33,977	23,152	10,060	640	125	59	–	(653)	–
Chemicals & Plastics	20,773	11,353	8,352	916	152	106	2	(1,045)	–
Insurance	20,501	14,503	5,700	298	–	2	–	(961)	(6,898)
Central Govt	17,704	17,264	312	127	1	–	–	(3,490)	(2,085)
Transportation	16,060	8,865	5,943	1,196	56	23	(26)	(574)	–
Metals & Mining	15,508	8,403	6,514	536	55	12	44	(229)	–
Securities Firms	8,689	4,570	4,118	1	–	–	–	(14)	(2,765)
Financial Markets Infrastructure	4,251	4,052	199	–	–	–	–	–	–
All other[d]	134,777	115,711	18,618	439	9	21	(2)	(10,124)	(3,087)
Subtotal	$ 1,264,122	$ 846,979	$ 375,711	$ 38,258	$ 3,174	$ 2,785	$ 879	$ (36,989)	$ (22,461)
Loans held-for-sale and loans at fair value	30,018								
Receivables from customers	47,625								
Total[e]	$ 1,341,765								

As of or for the year ended December 31, 2022 (in millions)	Credit exposure[f][g]	Investment-grade	Noninvestment-grade			Selected metrics			
			Noncriticized	Criticized performing	Criticized nonperforming	30 days or more past due and accruing loans	Net charge-offs/ (recoveries)	Credit derivative and credit-related notes [i]	Liquid securities and other cash collateral held against derivative receivables
Real Estate	$ 170,857	$ 129,866	$ 36,945	$ 3,609	$ 437	$ 543	$ 19	$ (113)	$ –
Individuals and Individual Entities[b]	130,815	112,006	18,104	360	345	1,038	1	–	–
Asset Managers	95,656	78,925	16,665	61	5	15	(1)	–	(8,278)
Consumer & Retail	120,555	60,781	51,871	7,295	608	321	49	(1,157)	–
Technology, Media & Telecommunications	72,286	39,199	25,689	7,096	302	62	39	(1,766)	–
Industrials	72,483	39,052	30,500	2,809	122	282	44	(1,258)	–
Healthcare	62,613	43,839	17,117	1,479	178	43	27	(1,055)	–
Banks & Finance Companies	51,816	27,811	22,994	961	50	36	–	(262)	(994)
Utilities	36,218	25,981	9,294	807	136	21	15	(607)	(1)
State & Municipal Govt[c]	33,847	33,191	529	126	1	36	–	(9)	(5)
Oil & Gas	38,668	20,547	17,616	474	31	57	(6)	(414)	–
Automotive	33,287	23,908	8,839	416	124	198	(2)	(513)	–
Chemicals & Plastics	20,030	12,134	7,103	744	49	10	3	(298)	–
Insurance	21,045	15,468	5,396	181	–	1	–	(273)	(7,296)
Central Govt	19,095	18,698	362	35	–	–	10	(4,591)	(677)
Transportation	15,009	6,497	6,862	1,574	76	24	2	(339)	–
Metals & Mining	15,915	8,825	6,863	222	5	7	(1)	(27)	(4)
Securities Firms	8,066	4,235	3,716	115	–	–	(13)	(26)	(2,811)
Financial Markets Infrastructure	4,962	4,525	437	–	–	–	–	–	–
All other[d]	123,307	105,284	17,555	223	245	4	(5)	(5,435)	(2,948)
Subtotal	$ 1,146,530	$ 810,772	$ 304,457	$ 28,587	$ 2,714	$ 2,698	$ 181	$ (18,143)	$ (23,014)
Loans held-for-sale and loans at fair value	35,427								
Receivables from customers	49,257								
Total[e]	$ 1,231,214								

(a) The industry rankings presented in the table as of December 31, 2022, are based on the industry rankings of the corresponding exposures at December 31, 2023, not actual rankings of such exposures at December 31, 2022.

(b) Individuals and Individual Entities predominantly consists of Global Private Bank clients within AWM and J.P. Morgan Wealth Management within CCB, and includes exposure to personal investment companies and personal and testamentary trusts.

(c) In addition to the credit risk exposure to states and municipal governments (both U.S. and non-U.S.) at December 31, 2023 and 2022, noted above, the Firm held: $5.9 billion and $6.6 billion, respectively, of trading assets; $21.4 billion and $6.8 billion, respectively, of AFS securities; and $9.9 billion and $19.7 billion, respectively, of HTM securities, issued by U.S. state and municipal governments. Refer to Note 2 and Note 10 for further information.

(d) All other includes: SPEs and Private education and civic organizations, representing approximately 94% and 6%, respectively, at December 31, 2023 and 95% and 5%, respectively, at December 31, 2022.

(e) Excludes cash placed with banks of $614.1 billion and $556.6 billion, at December 31, 2023 and 2022, respectively, which is predominantly placed with various central banks, primarily Federal Reserve Banks.

(f) Credit exposure is net of risk participations and excludes the benefit of credit derivatives and credit-related notes used in credit portfolio management activities held against derivative receivables or loans and liquid securities and other cash collateral held against derivative receivables.

(g) Credit exposure includes held-for-sale and fair value option elected lending-related commitments.

(h) Included credit exposure of $90.6 billion associated with First Republic predominantly in Real Estate, Asset Managers, and Individuals and Individual Entities.

(i) Represents the net notional amounts of protection purchased and sold through credit derivatives and credit-related notes used to manage the credit exposures; these derivatives do not qualify for hedge accounting under U.S. GAAP. The All other category includes purchased credit protection on certain credit indices.

Presented below is additional detail on certain of the Firm's industry exposures.

Real Estate

Real Estate exposure was $208.3 billion as of December 31, 2023. Criticized exposure increased by $5.2 billion from $4.0 billion at December 31, 2022 to $9.2 billion at December 31, 2023, predominantly driven by client-specific downgrades, partially offset by client-specific upgrades.

	December 31, 2023				
(in millions, except ratios)	Loans and Lending-related Commitments	Derivative Receivables	Credit exposure	% Investment-grade	% Drawn[e]
Multifamily[a]	**$ 121,946**	**$ 21**	**$ 121,967**	**79 %**	**90 %**
Industrial	**20,254**	**18**	**20,272**	**70**	**72**
Office	**16,462**	**32**	**16,494**	**51**	**81**
Services and Non Income Producing	**16,145**	**74**	**16,219**	**62**	**46**
Other Income Producing Properties[b]	**15,542**	**208**	**15,750**	**55**	**63**
Retail	**12,763**	**48**	**12,811**	**75**	**73**
Lodging	**4,729**	**19**	**4,748**	**30**	**48**
Total Real Estate Exposure[c]	**$ 207,841**	**$ 420**	**$ 208,261** [d]	**71 %**	**80 %**

	December 31, 2022				
(in millions, except ratios)	Loans and Lending-related Commitments	Derivative Receivables	Credit exposure	% Investment-grade	% Drawn[e]
Multifamily[a]	$ 99,555	$ 17	$ 99,572	82 %	87 %
Industrial	15,928	1	15,929	72	71
Office	14,917	25	14,942	74	73
Services and Non Income Producing	13,968	10	13,978	65	48
Other Income Producing Properties[b]	12,701	150	12,851	70	62
Retail	10,192	8	10,200	75	68
Lodging	3,347	38	3,385	6	37
Total Real Estate Exposure	$ 170,608	$ 249	$ 170,857	76 %	77 %

(a) Multifamily exposure is largely in California.
(b) Other Income Producing Properties consists of clients with diversified property types or other property types outside of categories listed in the table above.
(c) Real Estate exposure is approximately 82% secured; unsecured exposure is predominantly investment-grade largely to Real Estate Investment Trusts ("REITs") and Real Estate Operating Companies ("REOCs") whose underlying assets are generally diversified.
(d) Included $33.4 billion of credit exposure associated with First Republic, largely in Multifamily.
(e) Represents drawn exposure as a percentage of credit exposure.

Consumer & Retail

Consumer & Retail exposure was $127.1 billion as of December 31, 2023. Criticized exposure increased by $409 million from $7.9 billion at December 31, 2022 to $8.3 billion at December 31, 2023, driven by client-specific downgrades predominantly offset by client-specific upgrades and net portfolio activity.

	December 31, 2023				
(in millions, except ratios)	Loans and Lending-related Commitments	Derivative Receivables	Credit exposure	% Investment-grade	% Drawn[d]
Retail[a]	**$ 36,042**	**$ 334**	**$ 36,376**	**51 %**	**30 %**
Business and Consumer Services	**34,822**	**392**	**35,214**	**42**	**42**
Food and Beverage	**32,256**	**930**	**33,186**	**57**	**36**
Consumer Hard Goods	**13,169**	**197**	**13,366**	**43**	**33**
Leisure[b]	**8,784**	**160**	**8,944**	**25**	**47**
Total Consumer & Retail[c]	**$ 125,073**	**$ 2,013**	**$ 127,086**	**47 %**	**36 %**

	December 31, 2022				
(in millions, except ratios)	Loans and Lending-related Commitments	Derivative Receivables	Credit exposure	% Investment-grade	% Drawn[d]
Retail[a]	$ 33,891	$ 309	$ 34,200	50 %	33 %
Business and Consumer Services	31,256	384	31,640	50	40
Food and Beverage	31,706	736	32,442	59	39
Consumer Hard Goods	13,879	172	14,051	51	39
Leisure[b]	8,173	49	8,222	21	45
Total Consumer & Retail	$ 118,905	$ 1,650	$ 120,555	50 %	38 %

(a) Retail consists of Home Improvement & Specialty Retailers, Restaurants, Supermarkets, Discount & Drug Stores, Specialty Apparel and Department Stores.
(b) Leisure consists of Gaming, Arts & Culture, Travel Services and Sports & Recreation. As of December 31, 2023, approximately 90% of the noninvestment-grade Leisure portfolio is secured.
(c) Consumer & Retail exposure is approximately 59% secured; unsecured exposure is approximately 79% investment-grade.
(d) Represents drawn exposure as a percent of credit exposure.

Oil & Gas

Oil & Gas exposure was $34.5 billion as of December 31, 2023 of which $123 million was considered criticized.

	December 31, 2023				
(in millions, except ratios)	Loans and Lending-related Commitments	Derivative Receivables	Credit exposure	% Investment-grade	% Drawn[c]
Exploration & Production ("E&P") and Oil field Services	**$ 18,121**	**$ 536**	**$ 18,657**	**51 %**	**26 %**
Other Oil & Gas[a]	**15,649**	**169**	**15,818**	**55**	**22**
Total Oil & Gas[b]	**$ 33,770**	**$ 705**	**$ 34,475**	**53 %**	**25 %**

	December 31, 2022				
(in millions, except ratios)	Loans and Lending-related Commitments	Derivative Receivables	Credit exposure	% Investment-grade	% Drawn[c]
Exploration & Production ("E&P") and Oil field Services	$ 17,729	$ 4,666	$ 22,395	50 %	25 %
Other Oil & Gas[a]	15,818	455	16,273	57	25
Total Oil & Gas	$ 33,547	$ 5,121	$ 38,668	53 %	25 %

(a) Other Oil & Gas includes Integrated Oil & Gas companies, Midstream/Oil Pipeline companies and refineries.
(b) Oil & Gas exposure is approximately 35% secured, approximately half of which is reserve-based lending to the Exploration & Production sub-sector; unsecured exposure is approximately 61% investment-grade.
(c) Represents drawn exposure as a percent of credit exposure.

Loans

In its wholesale businesses, the Firm provides loans to a variety of clients, ranging from large corporate and institutional clients to high-net-worth individuals. Refer to Note 12 for a further discussion on loans, including information about delinquencies, loan modifications and other credit quality indicators.

The following table presents the change in the nonaccrual loan portfolio for the years ended December 31, 2023 and 2022. Since December 31, 2022, nonaccrual loan exposure increased by $319 million driven by retained loans in Real Estate and Healthcare, reflecting downgrades, and Individuals largely driven by the impact of First Republic, partially offset by a single name upgrade in Civic Organizations.

Wholesale nonaccrual loan activity

Year ended December 31, (in millions)	2023	2022
Beginning balance	**$ 2,395**	$ 2,445
Additions	**3,543**	2,119
Reductions:		
Paydowns and other	**1,336**	1,329
Gross charge-offs	**965**	213
Returned to performing status	**616**	594
Sales	**307**	33
Total reductions	**3,224**	2,169
Net changes	**319**	(50)
Ending balance	**$ 2,714**	$ 2,395

The following table presents net charge-offs/recoveries, which are defined as gross charge-offs less recoveries, for the years ended December 31, 2023 and 2022. The amounts in the table below do not include gains or losses from sales of nonaccrual loans recognized in noninterest revenue.

Wholesale net charge-offs/(recoveries)

Year ended December 31, (in millions, except ratios)	2023	2022
Loans		
Average loans retained	**$ 646,875**	$ 582,021
Gross charge-offs	**1,011**	322
Gross recoveries collected	**(132)**	(141)
Net charge-offs/(recoveries)	**879**	181
Net charge-off/(recovery) rate	**0.14 %**	0.03 %

Modified wholesale loans

The amortized cost of wholesale FDMs was $2.1 billion for the year ended December 31, 2023. Refer to Note 1 and Note 12 for further information.

Wholesale TDRs were $801 million for the year ended December 31, 2022.

As a result of the elimination of the requirement to assess whether a modification is reasonably expected or involves a concession, the population of loans considered FDMs is greater than the population previously considered TDRs. Refer to Note 12 for further information on TDRs in prior periods.

Maturities and sensitivity to changes in interest rates

The table below sets forth wholesale loan maturities and the distribution between fixed and floating interest rates based on the stated terms of the loan agreements by loan class. Refer to Note 12 for further information on loan classes.

December 31, 2023 (in millions, except ratios)	1 year or less[g]	After 1 year through 5 years	After 5 years through 15 years	After 15 years	Total
Wholesale loans:					
Secured by real estate[a]	**$ 16,144**	**$ 61,764**	**$ 48,972**	**$ 42,417**	**$ 169,297**
Commercial and industrial	**52,351**	**112,339**	**8,469**	**35**	**173,194**
Other[b]	**173,752**	**141,760**	**38,558**	**5,929**	**359,999**
Total wholesale loans	**$ 242,247**	**$ 315,863**	**$ 95,999**	**$ 48,381**	**$ 702,490**
Loans due after one year at fixed interest rates					
Secured by real estate[c]		**$ 15,871**	**$ 11,185**	**$ 720**	
Commercial and industrial		**5,004**	**1,376**	**34**	
Other		**25,264**	**17,656**	**3,910**	
Loans due after one year at variable interest rates[d]					
Secured by real estate[e]		**$ 45,893**	**$ 37,787**	**$ 41,696**	
Commercial and industrial		**107,334**	**7,093**	**2**	
Other[f]		**116,497**	**20,902**	**2,019**	
Total wholesale loans		**$ 315,863**	**$ 95,999**	**$ 48,381**	

(a) Included $6.6 billion, $16.9 billion, and $9.7 billion of loans in 1 year or less, after 1 year through 5 years, and after 5 years though 15, respectively, associated with First Republic.
(b) Included $9.8 billion, and $4.1 billion of loans in 1 year or less, and after 1 year through 5 years, respectively, associated with First Republic.
(c) Included $9.7 billion, and $5.7 billion in after 1 year through 5 years, and after 5 years though 15, respectively, associated with First Republic.
(d) Includes loans that have an initial fixed interest rate that resets to a variable rate as the variable rate will be the prevailing rate over the life of the loan.
(e) Included $7.1 billion, and $4.0 billion in after 1 year through 5 years, and after 5 years though 15, respectively, associated with First Republic.
(f) Included $3.0 billion in after 1 year through 5 years associated with First Republic.
(g) Includes loans held-for-sale, demand loans and overdrafts.

The following table presents net charge-offs/recoveries, average retained loans and net charge-off/recovery rate by loan class for the year ended December 31, 2023 and 2022.

	Year ended December 31,							
	Secured by real estate		Commercial and industrial		Other		Total	
(in millions, except ratios)	**2023**	2022	**2023**	2022	**2023**	2022	**2023**	2022
Net charge-offs/(recoveries)	**$ 178**	$ 6	**$ 370**	$ 145	**$ 331**	$ 30	**$ 879**	$ 181
Average retained loans	**151,214**	122,904	**170,503**	160,611	**325,158**	298,506	**646,875**	582,021
Net charge-off/(recovery) rate	**0.12 %**	– %	**0.22 %**	0.09 %	**0.10 %**	0.01 %	**0.14 %**	0.03 %

Lending-related commitments

The Firm uses lending-related financial instruments, such as commitments (including revolving credit facilities) and guarantees, to address the financing needs of its clients. The contractual amounts of these financial instruments represent the maximum possible credit risk should the clients draw down on these commitments or when the Firm fulfills its obligations under these guarantees, and the clients subsequently fail to perform according to the terms of these contracts. Most of these commitments and guarantees have historically been refinanced, extended, cancelled, or expired without being drawn upon or a default occurring. As a result, the Firm does not believe that the total contractual amount of these wholesale lending-related commitments is representative of the Firm's expected future credit exposure or funding requirements. Refer to Note 28 for further information on wholesale lending-related commitments.

Receivables from customers

Receivables from customers reflect held-for-investment margin loans to brokerage clients in CIB, CCB and AWM that are collateralized by assets maintained in the clients' brokerage accounts (including cash on deposit, and primarily liquid and readily marketable debt or equity securities). To manage its credit risk, the Firm establishes margin requirements and monitors the required margin levels on an ongoing basis, and requires clients to deposit additional cash or other collateral, or to reduce positions, when appropriate. Credit risk arising from lending activities subject to collateral maintenance requirements is generally mitigated by factors such as the short-term nature of the activity, the fair value of collateral held and the Firm's right to call for, and the borrower's obligation to provide, additional margin when the fair value of the collateral declines. Because of these mitigating factors, these receivables generally do not require an allowance for credit losses. However, if in management's judgment, an allowance for credit losses is required, the Firm estimates expected credit losses based on the value of the collateral and probability of borrower default. These receivables are reported within accrued interest and accounts receivable on the Firm's Consolidated balance sheets.

Refer to Note 13 for further information on the Firm's accounting policies for the allowance for credit losses.

Derivative contracts

Derivatives enable clients and counterparties to manage risk, including credit risk and risks arising from fluctuations in interest rates, foreign exchange and equities and commodities prices. The Firm makes markets in derivatives in order to meet these needs and uses derivatives to manage certain risks associated with net open risk positions from its market-making activities, including the counterparty credit risk arising from derivative receivables. The Firm also uses derivative instruments to manage its own credit risk and other market risk exposure. The nature of the counterparty and the settlement mechanism of the derivative affect the credit risk to which the Firm is exposed. For OTC derivatives, the Firm is exposed to the credit risk of the derivative counterparty. For exchange-traded derivatives ("ETD"), such as futures and options, and cleared over-the-counter ("OTC-cleared") derivatives, the Firm can also be exposed to the credit risk of the relevant CCP. Where possible, the Firm seeks to mitigate its credit risk exposures arising from derivative contracts through the use of legally enforceable master netting arrangements and collateral agreements. The percentage of the Firm's OTC derivative transactions subject to collateral agreements – excluding foreign exchange spot trades, which are not typically covered by collateral agreements due to their short maturity and centrally cleared trades that are settled daily – was approximately 87% at both December 31, 2023 and 2022. Refer to Note 5 for additional information on the Firm's use of collateral agreements and further discussion of derivative contracts, counterparties and settlement types.

The fair value of derivative receivables reported on the Consolidated balance sheets was $54.9 billion and $70.9 billion at December 31, 2023 and 2022, respectively. The decrease was primarily as a result of market movements. Derivative receivables represent the fair value of the derivative contracts after giving effect to legally enforceable master netting agreements and the related cash collateral held by the Firm.

In addition, the Firm holds liquid securities and other cash collateral that may be used as security when the fair value of the client's exposure is in the Firm's favor. For these purposes, the definition of liquid securities is consistent with the definition of high quality liquid assets as defined in the LCR rule.

In management's view, the appropriate measure of current credit risk should also take into consideration other collateral, which generally represents securities that do not qualify as high quality liquid assets under the LCR rule. The benefits of these additional collateral amounts for each counterparty are subject to a legally enforceable master netting agreement and limited to the net amount of the derivative receivables for each counterparty.

The Firm also holds additional collateral (primarily cash, G7 government securities, other liquid government agency and guaranteed securities, and corporate debt and equity securities) delivered by clients at the initiation of transactions, as well as collateral related to contracts that have a non-daily call frequency and collateral that the Firm has agreed to return but has not yet settled as of the reporting date. Although this collateral does not reduce the receivables balances and is not included in the tables below, it is available as security against potential exposure that could arise should the fair value of the client's derivative contracts move in the Firm's favor. Refer to Note 5 for additional information on the Firm's use of collateral agreements for derivative transactions.

The following tables summarize the net derivative receivables and the internal ratings profile for the periods presented.

Derivative receivables

December 31, (in millions)	2023	2022
Total, net of cash collateral	**$ 54,864**	$ 70,880
Liquid securities and other cash collateral held against derivative receivables	**(22,461)**	(23,014)
Total, net of liquid securities and other cash collateral	**$ 32,403**	$ 47,866
Other collateral held against derivative receivables	**(993)**	(1,261)
Total, net of collateral	**$ 31,410**	$ 46,605

Ratings profile of derivative receivables

	2023		2022	
December 31, (in millions, except ratios)	Exposure net of collateral	% of exposure net of collateral	Exposure net of collateral	% of exposure net of collateral
Investment-grade	**$ 24,004**	**76 %**	$ 35,097	75 %
Noninvestment-grade	**7,406**	**24**	11,508	25
Total	**$ 31,410**	**100 %**	$ 46,605	100 %

While useful as a current view of credit exposure, the net fair value of the derivative receivables does not capture the potential future variability of that credit exposure. To capture this variability, the Firm calculates, on a client-by-client basis, three measures of potential derivatives-related credit loss: Peak, Derivative Risk Equivalent ("DRE"), and Average exposure ("AVG"). These measures all incorporate netting and collateral benefits, where applicable.

Peak represents a conservative measure of potential derivative exposure, including the benefit of collateral, to a counterparty calculated in a manner that is broadly equivalent to a 97.5% confidence level over the life of the transaction. Peak is the primary measure used by the Firm for setting credit limits for derivative contracts, senior management reporting and derivatives exposure management.

DRE exposure is a measure that expresses the risk of derivative exposure, including the benefit of collateral, on a basis intended to be equivalent to the risk of loan exposures. DRE is a less extreme measure of potential credit loss than Peak and is used as an input for aggregating derivative credit risk exposures with loans and other credit risk.

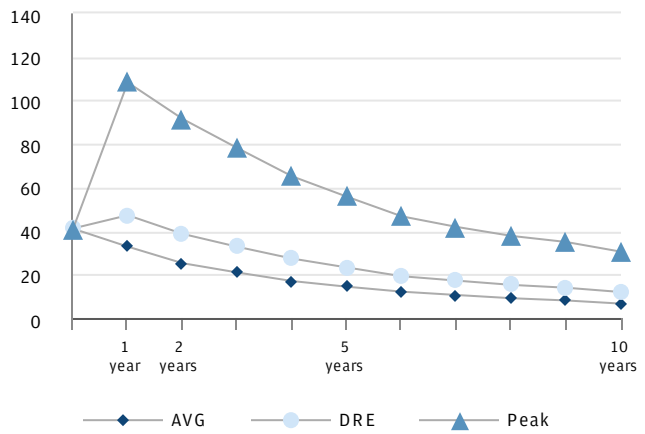
Finally, AVG is a measure of the expected fair value of the Firm's derivative exposures, including the benefit of collateral, at future time periods. AVG over the total life of the derivative contract is used as the primary metric for pricing purposes and is used to calculate credit risk capital and CVA, as further described below.

The fair value of the Firm's derivative receivables incorporates CVA to reflect the credit quality of counterparties. CVA is based on the Firm's AVG to a counterparty and the counterparty's credit spread in the credit derivatives market. The Firm believes that active risk management is essential to controlling the dynamic credit risk in the derivatives portfolio. In addition, the Firm's risk management process for derivatives exposures takes into consideration the potential impact of wrong-way risk, which is broadly defined as the risk that exposure to a counterparty is positively correlated with the impact of a default by the same counterparty, which could cause exposure to increase at the same time as the counterparty's capacity to meet its obligations is decreasing. Many factors may influence the nature and magnitude of these correlations over time. To the extent that these correlations are identified, the Firm may adjust the CVA associated with a particular counterparty's AVG. The Firm risk manages exposure to changes in CVA by entering into credit derivative contracts, as well as interest rate, foreign exchange, equity and commodity derivative contracts.

The below graph shows exposure profiles to the Firm's current derivatives portfolio over the next 10 years as calculated by the Peak, DRE and AVG metrics. The three measures generally show that exposure will decline after the first year, if no new trades are added to the portfolio.

Exposure profile of derivatives measures

December 31, 2023
(in billions)



Credit derivatives

The Firm uses credit derivatives for two primary purposes: first, in its capacity as a market-maker, and second, as an end-user to manage the Firm's own credit risk associated with various exposures.

Credit portfolio management activities

Included in the Firm's end-user activities are credit derivatives used to mitigate the credit risk associated with traditional lending activities (loans and lending-related commitments) and derivatives counterparty exposure in the Firm's wholesale businesses (collectively, "credit portfolio management activities"). Information on credit portfolio management activities is provided in the table below.

The Firm also uses credit derivatives as an end-user to manage other exposures, including credit risk arising from certain securities held in the Firm's market-making businesses. These credit derivatives are not included in credit portfolio management activities.

Credit derivatives and credit-related notes used in credit portfolio management activities

	Notional amount of protection purchased and sold[(a)]	
December 31, (in millions)	**2023**	2022
Credit derivatives and credit-related notes used to manage:		
Loans and lending-related commitments	**$ 24,157**	$ 6,422
Derivative receivables	**12,832**	11,721
Credit derivatives and credit-related notes used in credit portfolio management activities	**$ 36,989**	$ 18,143

(a) Amounts are presented net, considering the Firm's net protection purchased or sold with respect to each underlying reference entity or index.

The credit derivatives used in credit portfolio management activities do not qualify for hedge accounting under U.S. GAAP; these derivatives are reported at fair value, with gains and losses recognized in principal transactions revenue. In contrast, the loans and lending-related commitments being risk-managed are accounted for on an accrual basis. This asymmetry in accounting treatment, between loans and lending-related commitments and the credit derivatives used in credit portfolio management activities, causes earnings volatility that is not representative, in the Firm's view, of the true changes in value of the Firm's overall credit exposure.

The effectiveness of credit default swaps ("CDS") as a hedge against the Firm's exposures may vary depending on a number of factors, including the named reference entity (i.e., the Firm may experience losses on specific exposures that are different than the named reference entities in the purchased CDS); the contractual terms of the CDS (which may have a defined credit event that does not align with an actual loss realized by the Firm); and the maturity of the Firm's CDS protection (which in some cases may be shorter than the Firm's exposures). However, the Firm generally seeks to purchase credit protection with a maturity date that is the same or similar to the maturity date of the exposure for which the protection was purchased, and remaining differences in maturity are actively monitored and managed by the Firm. Refer to Credit derivatives in Note 5 for further information on credit derivatives and derivatives used in credit portfolio management activities.

ALLOWANCE FOR CREDIT LOSSES

The Firm's allowance for credit losses represents management's estimate of expected credit losses over the remaining expected life of the Firm's financial assets measured at amortized cost and certain off-balance sheet lending-related commitments. The Firm's allowance for credit losses generally consists of:

- the allowance for loan losses, which covers the Firm's retained loan portfolios (scored and risk-rated) and is presented separately on the Consolidated balance sheets,
- the allowance for lending-related commitments, which is reflected in accounts payable and other liabilities on the Consolidated balance sheets, and
- the allowance for credit losses on investment securities, which is reflected in investment securities on the Consolidated balance sheets.

Discussion of changes in the allowance

The allowance for credit losses as of December 31, 2023 was $24.8 billion, reflecting a net addition of $3.1 billion from December 31, 2022.

The net addition to the allowance for credit losses included $1.9 billion, consisting of:

- $1.3 billion in **consumer**, predominantly driven by CCB, comprised of $1.4 billion in Card Services, partially offset by a net reduction of $200 million in Home Lending. The net addition in Card Services was driven by loan growth, including an increase in revolving balances, partially offset by reduced borrower uncertainty. The net reduction in Home Lending was driven by improvements in the outlook for home prices, and
- $675 million in **wholesale**, driven by net downgrade activity, the net effect of changes in the Firm's weighted average macroeconomic outlook, including deterioration in the outlook for commercial real estate in CB, and an addition for certain accounts receivable in CIB, partially offset by the impact of changes in the loan and lending-related commitment portfolios.

The net addition also included $1.2 billion to establish the allowance for the First Republic loans and lending-related commitments in the second quarter of 2023.

The changes in the Firm's weighted average macroeconomic outlook also included updates to the central scenario in the third quarter of 2023 to reflect a lower forecasted unemployment rate consistent with a higher growth rate in GDP, and the impact of the additional weight placed on the adverse scenarios in the first quarter of 2023, reflecting elevated recession risks due to high inflation and tightening financial conditions.

The allowance for credit losses also reflected a reduction of $587 million as a result of the adoption of changes to the TDR accounting guidance on January 1, 2023. Refer to Note 1 for further information.

The Firm's allowance for credit losses is estimated using a weighted average of five internally developed macroeconomic scenarios. The adverse scenarios incorporate more punitive macroeconomic factors than the central case assumptions provided in the table below, resulting in a weighted average U.S. unemployment rate peaking at 5.5% in the fourth quarter of 2024, and a weighted average U.S. real GDP level that is 1.5% lower than the central case at the end of the second quarter of 2025.

The following table presents the Firm's central case assumptions for the periods presented:

	Central case assumptions at December 31, 2023		
	2Q24	**4Q24**	**2Q25**
U.S. unemployment rate[(a)]	**4.1 %**	**4.4 %**	**4.1 %**
YoY growth in U.S. real GDP[(b)]	**1.8 %**	**0.7 %**	**1.0 %**

	Central case assumptions at December 31, 2022		
	2Q23	4Q23	2Q24
U.S. unemployment rate[(a)]	3.8 %	4.3 %	5.0 %
YoY growth in U.S. real GDP[(b)]	1.5 %	0.4 %	– %

(a) Reflects quarterly average of forecasted U.S. unemployment rate.
(b) The year over year growth in U.S. real GDP in the forecast horizon of the central scenario is calculated as the percentage change in U.S. real GDP levels from the prior year.

Subsequent changes to this forecast and related estimates will be reflected in the provision for credit losses in future periods.

Refer to Critical Accounting Estimates Used by the Firm on pages 155–158 for further information on the allowance for credit losses and related management judgments. Refer to Consumer Credit Portfolio on pages 114–119, Wholesale Credit Portfolio on pages 120–130 for additional information on the consumer and wholesale credit portfolios.

Allowance for credit losses and related information

Year ended December 31, (in millions, except ratios)	2023 Consumer, excluding credit card	2023 Credit card	2023 Wholesale	2023 Total	2022 Consumer, excluding credit card	2022 Credit card	2022 Wholesale	2022 Total
Allowance for loan losses								
Beginning balance at January 1,	**$ 2,040**	**$ 11,200**	**$ 6,486**	**$ 19,726**	$ 1,765	$ 10,250	$ 4,371	$ 16,386
Cumulative effect of a change in accounting principle[a]	(489)	(100)	2	(587)	NA	NA	NA	NA
Gross charge-offs	**1,151**	**5,491**	**1,011**	**7,653**	812	3,192	322	4,326
Gross recoveries collected	**(519)**	**(793)**	**(132)**	**(1,444)**	(543)	(789)	(141)	(1,473)
Net charge-offs	**632**	**4,698**	**879**	**6,209**	269	2,403	181	2,853
Provision for loan losses	**936**	**6,048**	**2,484**	**9,468**	543	3,353	2,293	6,189
Other	**1**	**–**	**21**	**22**	1	–	3	4
Ending balance at December 31,	**$ 1,856**	**$ 12,450**	**$ 8,114**	**$ 22,420**	$ 2,040	$ 11,200	$ 6,486	$ 19,726
Allowance for lending-related commitments								
Beginning balance at January 1,	**$ 76**	**$ –**	**$ 2,306**	**$ 2,382**	$ 113	$ –	$ 2,148	$ 2,261
Provision for lending-related commitments	**(1)**	**–**	**(407)**	**(408)**	(37)	–	157	120
Other	**–**	**–**	**–**	**–**	–	–	1	1
Ending balance at December 31,	**$ 75**	**$ –**	**$ 1,899**	**$ 1,974**	$ 76	$ –	$ 2,306	$ 2,382
Impairment methodology								
Asset-specific[b]	**$ (876)**	**$ –**	**$ 392**	**$ (484)**	$ (624)	$ 223	$ 467	$ 66
Portfolio-based	**2,732**	**12,450**	**7,722**	**22,904**	2,664	10,977	6,019	19,660
Total allowance for loan losses	**$ 1,856**	**$ 12,450**	**$ 8,114**	**$ 22,420**	$ 2,040	$ 11,200	$ 6,486	$ 19,726
Impairment methodology								
Asset-specific	**$ –**	**$ –**	**$ 89**	**$ 89**	$ –	$ –	$ 90	$ 90
Portfolio-based	**75**	**–**	**1,810**	**1,885**	76	–	2,216	2,292
Total allowance for lending-related commitments	**$ 75**	**$ –**	**$ 1,899**	**$ 1,974**	$ 76	$ –	$ 2,306	$ 2,382
Total allowance for investment securities	**NA**	**NA**	**NA**	**$ 128**	NA	NA	NA	$ 96
Total allowance for credit losses[c][d]	**$ 1,931**	**$ 12,450**	**$ 10,013**	**$ 24,522**	$ 2,116	$ 11,200	$ 8,792	$ 22,204
Memo:								
Retained loans, end of period	**$397,275**	**$211,123**	**$672,472**	**$1,280,870**	$300,753	$185,175	$603,670	$1,089,598
Retained loans, average	**364,061**	**191,412**	**646,875**	**1,202,348**	299,409	163,335	582,021	1,044,765
Credit ratios								
Allowance for loan losses to retained loans	**0.47 %**	**5.90 %**	**1.21 %**	**1.75 %**	0.68 %	6.05 %	1.07 %	1.81 %
Allowance for loan losses to retained nonaccrual loans[e]	**51**	**NA**	**346**	**374**	53	NM	330	338
Allowance for loan losses to retained nonaccrual loans excluding credit card	**51**	**NA**	**346**	**166**	53	NM	330	146
Net charge-off rates	**0.17**	**2.45**	**0.14**	**0.52**	0.09	1.47	0.03	0.27

(a) Represents the impact to the allowance for loan losses upon the adoption of changes to the TDR accounting guidance on January 1, 2023. Refer to Note 1 for further information.

(b) Includes collateral-dependent loans, including those for which foreclosure is deemed probable, and nonaccrual risk-rated loans for all periods presented. Prior periods also include non collateral-dependent TDRs or reasonably expected TDRs and modified PCD loans.

(c) At December 31, 2023 and 2022, in addition to the allowance for credit losses in the table above, the Firm also had an allowance for credit losses of $243 million and $21 million, respectively, associated with certain accounts receivable in CIB.

(d) As of December 31, 2023, included the allowance for credit losses associated with First Republic.

(e) The Firm's policy is generally to exempt credit card loans from being placed on nonaccrual status as permitted by regulatory guidance.

Allocation of allowance for loan losses

The table below presents a breakdown of the allowance for loan losses by loan class. Refer to Note 12 for further information on loan classes.

December 31, (in millions, except ratios)	2023		2022	
	Allowance for loan losses	Percent of retained loans to total retained loans	Allowance for loan losses	Percent of retained loans to total retained loans
Residential real estate	**$ 817**	**25 %**	$ 1,070	22 %
Auto and other	**1,039**	**6**	970	6
Consumer, excluding credit card	**1,856**	**31**	2,040	28
Credit card	**12,450**	**16**	11,200	17
Total consumer	**14,306**	**47**	13,240	45
Secured by real estate	**2,997**	**13**	1,782	12
Commercial and industrial	**3,519**	**13**	3,507	15
Other	**1,598**	**27**	1,197	28
Total wholesale	**8,114**	**53**	6,486	55
Total[(a)]	**$ 22,420**	**100 %**	$ 19,726	100 %

(a) As of December 31, 2023, included the allowance for loan losses associated with First Republic.

INVESTMENT PORTFOLIO RISK MANAGEMENT

Investment portfolio risk is the risk associated with the loss of principal or a reduction in expected returns on investments arising from the investment securities portfolio or from principal investments. The investment securities portfolio is predominantly held by Treasury and CIO in connection with the Firm's balance sheet and asset-liability management objectives. Principal investments are predominantly privately-held financial instruments and are managed in the LOBs and Corporate. Investments are typically intended to be held over extended periods and, accordingly, the Firm has no expectation for short-term realized gains with respect to these investments.

Investment securities risk

Investment securities risk includes the exposure associated with a default in the payment of principal and interest. This risk is mitigated given that the investment securities portfolio held by Treasury and CIO predominantly consists of high-quality securities. At December 31, 2023, the Treasury and CIO investment securities portfolio, net of the allowance for credit losses, was $569.2 billion, and the average credit rating of the securities comprising the portfolio was AA+ (based upon external ratings where available, and where not available, based primarily upon internal risk ratings). Refer to Corporate segment results on pages 84–85 and Note 10 for further information on the investment securities portfolio and internal risk ratings. Refer to Liquidity Risk Management on pages 102–109 for further information on related liquidity risk. Refer to Market Risk Management on pages 135–143 for further information on the market risk inherent in the portfolio.

Governance and oversight

Investment securities risks are governed by the Firm's Risk Appetite framework, and reviewed at the CTC Risk Committee with regular updates provided to the Board Risk Committee.

The Firm's independent control functions are responsible for reviewing the appropriateness of the carrying value of investment securities in accordance with relevant policies. Approved levels for investment securities are established for each risk category, including capital and credit risks.

Principal investment risk

Principal investments are typically privately-held financial instruments representing ownership interests or other forms of junior capital. In general, principal investments include tax-oriented investments and investments made to enhance or accelerate the Firm's business strategies and exclude those that are consolidated on the Firm's balance sheets. These investments are made by dedicated investing businesses or as part of a broader business strategy. The Firm's principal investments are managed by the LOBs and Corporate and are reflected within their respective financial results. The Firm's investments will continue to evolve based on market circumstances and in line with its strategic initiatives, including the Firm's environmental and social goals.

The table below presents the aggregate carrying values of the principal investment portfolios as of December 31, 2023 and 2022.

(in billions)	December 31, 2023	December 31, 2022
Tax-oriented investments, primarily in alternative energy and affordable housing[(a)]	**$ 28.8**	$ 26.2
Private equity, various debt and equity instruments, and real assets	**10.5**	10.8
Total carrying value	**$ 39.3**	$ 37.0

(a) As of December 31, 2023, included approximately $1.0 billion in tax-oriented investments in CIB associated with First Republic.

Governance and oversight

The Firm's approach to managing principal investment risk is consistent with the Firm's risk governance structure. The Firm has established a Firmwide risk policy framework for all principal investing activities that includes approval by executives who are independent from the investing businesses, as appropriate.

The Firm's independent control functions are responsible for reviewing the appropriateness of the carrying value of investments in accordance with relevant policies. As part of the risk governance structure, approved levels for investments are established and monitored for each relevant business or segment in order to manage the overall size of the portfolios. The Firm also conducts stress testing on these portfolios using specific scenarios that estimate losses based on significant market moves and/or other risk events.

Market risk is the risk associated with the effect of changes in market factors such as interest and foreign exchange rates, equity and commodity prices, credit spreads or implied volatilities, on the value of assets and liabilities held for both the short and long term.

Market Risk Management

Market Risk Management monitors market risks throughout the Firm and defines market risk policies and procedures.

Market Risk Management seeks to manage risk, facilitate efficient risk/return decisions, reduce volatility in operating performance and provide transparency into the Firm's market risk profile for senior management, the Board of Directors and regulators. Market Risk Management is responsible for the following functions:

- Maintaining a market risk policy framework
- Independently measuring, monitoring and controlling LOB, Corporate, and Firmwide market risk
- Defining, approving and monitoring limits
- Performing stress testing and qualitative risk assessments

Risk measurement

Measures used to capture market risk

There is no single measure to capture market risk and therefore Market Risk Management uses various metrics, both statistical and nonstatistical, to assess risk including:

- Value-at-risk
- Stress testing
- Profit and loss drawdowns
- Earnings-at-risk
- Economic Value Sensitivity
- Other sensitivity-based measures

Risk monitoring and control

Market risk exposure is managed primarily through a series of limits set in the context of the market environment and business strategy. In setting limits, Market Risk Management takes into consideration factors such as market volatility, product liquidity, accommodation of client business, and management judgment. Market Risk Management maintains different levels of limits. Firm level limits include VaR and stress limits. Similarly, LOB and Corporate limits include VaR and stress limits and may be supplemented by certain nonstatistical risk measures such as profit and loss drawdowns. Limits may also be set within the LOBs and Corporate, as well as at the legal entity level.

Market Risk Management sets limits and regularly reviews and updates them as appropriate. Senior management is responsible for reviewing and approving certain of these risk limits on an ongoing basis. Limits that have not been reviewed within specified time periods by Market Risk Management are reported to senior management. The LOBs and Corporate are responsible for adhering to established limits against which exposures are monitored and reported.

Limit breaches are required to be reported in a timely manner to limit approvers, which include Market Risk Management and senior management. In the event of a breach, Market Risk Management consults with senior members of appropriate groups within the Firm to determine the suitable course of action required to return the applicable positions to compliance, which may include a reduction in risk in order to remedy the breach or granting a temporary increase in limits to accommodate an expected increase in client activity and/or market volatility. Firm, Corporate or LOB-level limit breaches are escalated as appropriate.

Models used to measure market risk are inherently imprecise and are limited in their ability to measure certain risks or to predict losses. This imprecision may be heightened when sudden or severe shifts in market conditions occur. For additional discussion on model uncertainty refer to Estimations and Model Risk Management on page 154.

Market Risk Management periodically reviews the Firm's existing market risk measures to identify opportunities for enhancement, and to the extent appropriate, will calibrate those measures accordingly over time.

The following table summarizes the predominant business activities and related market risks, as well as positions which give rise to market risk and certain measures used to capture those risks, for each LOB and Corporate.

In addition to the predominant business activities, each LOB and Corporate may engage in principal investing activities. To the extent principal investments are deemed market risk sensitive, they are reflected in relevant risk measures and captured in the table below. Refer to Investment Portfolio Risk Management on page 134 for additional discussion on principal investments.

LOBs and Corporate	Predominant business activities	Related market risks	Positions included in Risk Management VaR	Positions included in earnings-at-risk	Positions included in other sensitivity-based measures
CCB	• Originates and services mortgage loans • Originates loans and takes deposits	• Risk from changes in the probability of newly originated mortgage commitments closing • Interest rate risk and prepayment risk	• Mortgage commitments, classified as derivatives • Warehouse loans that are fair value option elected, classified as loans – debt instruments • MSRs • Hedges of mortgage commitments, warehouse loans and MSRs, classified as derivatives • Interest-only and mortgage-backed securities, classified as trading assets debt instruments, and related hedges, classified as derivatives • Fair value option elected liabilities[(a)]	• Retained loan portfolio • Deposits	• Fair value option elected liabilities DVA[(a)]
CIB	• Makes markets and services clients across fixed income, foreign exchange, equities and commodities • Originates loans and takes deposits	• Risk of loss from adverse movements in market prices and implied volatilities across interest rate, foreign exchange, credit, commodity and equity instruments • Basis and correlation risk from changes in the way asset values move relative to one another • Interest rate risk and prepayment risk	• Trading assets/liabilities – debt and marketable equity instruments, and derivatives, including hedges of the retained loan portfolio • Certain securities purchased, loaned or sold under resale agreements and securities borrowed • Fair value option elected liabilities[(a)] • Certain fair value option elected loans • Derivative CVA and associated hedges • Marketable equity investments	• Retained loan portfolio • Deposits	• Privately held equity and other investments measured at fair value; and certain real estate-related fair value option elected loans • Derivatives FVA and fair value option elected liabilities DVA[(a)] • Credit risk component of CVA and associated hedges for counterparties with credit spreads that have widened to elevated levels
CB	• Originates loans and takes deposits	• Interest rate risk and prepayment risk	• Marketable equity investments[(b)]	• Retained loan portfolio • Deposits	
AWM	• Provides initial capital investments in products such as mutual funds and capital invested alongside third-party investors • Originates loans and takes deposits	• Risk from adverse movements in market factors (e.g., market prices, rates and credit spreads) • Interest rate risk and prepayment risk	• Debt securities held in advance of distribution to clients, classified as trading assets - debt instruments[(b)] • Trading assets/liabilities - derivatives that hedge the retained loan portfolio[(b)]	• Retained loan portfolio • Deposits	• Initial seed capital investments and related hedges, classified as derivatives • Certain deferred compensation and related hedges, classified as derivatives • Capital invested alongside third-party investors, typically in privately distributed collective vehicles managed by AWM (i.e., co-investments)
Corporate	• Manages the Firm's liquidity, funding, capital, structural interest rate and foreign exchange risks	• Structural interest rate risk from the Firm's traditional banking activities • Structural non-USD foreign exchange risks	• Derivative positions measured through noninterest revenue in earnings • Marketable equity investments	• Deposits with banks • Investment securities portfolio and related interest rate hedges • Long-term debt and related interest rate hedges • Deposits	• Privately held equity and other investments measured at fair value • Foreign exchange exposure related to Firm-issued non-USD long-term debt ("LTD") and related hedges

(a) Reflects structured notes in Risk Management VaR and the DVA on structured notes in other sensitivity-based measures.
(b) The AWM and CB contributions to Firmwide average VaR were not material for the years ended December 31, 2023 and 2022.

Value-at-risk

JPMorgan Chase utilizes value-at-risk ("VaR"), a statistical risk measure, to estimate the potential loss from adverse market moves in the current market environment. The Firm has a single VaR framework used as a basis for calculating Risk Management VaR and Regulatory VaR.

The framework is employed across the Firm using historical simulation based on data for the previous 12 months. The framework's approach assumes that historical changes in market values are representative of the distribution of potential outcomes in the immediate future. The Firm believes the use of Risk Management VaR provides a daily measure of risk that is closely aligned to risk management decisions made by the LOBs and Corporate and, along with other market risk measures, provides the appropriate information needed to respond to risk events.

The Firm's Risk Management VaR is calculated assuming a one-day holding period and an expected tail-loss methodology which approximates a 95% confidence level. Risk Management VaR provides a consistent framework to measure risk profiles and levels of diversification across product types and is used for aggregating risks and monitoring limits across businesses. VaR results are reported as appropriate to various groups including senior management, the Board Risk Committee and regulators.

Underlying the overall VaR model framework are individual VaR models that simulate historical market returns for individual risk factors and/or product types. To capture material market risks as part of the Firm's risk management framework, comprehensive VaR model calculations are performed daily for businesses whose activities give rise to market risk. These VaR models are granular and incorporate numerous risk factors and inputs to simulate daily changes in market values over the historical period; inputs are selected based on the risk profile of each portfolio, as sensitivities and historical time series used to generate daily market values may be different across product types or risk management systems. The VaR model results across all portfolios are aggregated at the Firm level.

As VaR is based on historical data, it is an imperfect measure of market risk exposure and potential future losses. In addition, based on their reliance on available historical data, limited time horizons, and other factors, VaR measures are inherently limited in their ability to measure certain risks and to predict losses, particularly those associated with market illiquidity and sudden or severe shifts in market conditions.

For certain products, specific risk parameters are not captured in VaR due to the lack of liquidity and availability of appropriate historical data. The Firm uses proxies to estimate the VaR for these and other products when daily time series are not available. It is likely that using an actual price-based time series for these products, if available, would affect the VaR results presented. The Firm therefore considers other nonstatistical measures such as stress testing, in addition to VaR, to capture and manage its market risk positions.

As VaR model calculations require daily data and a consistent source for valuation, the daily market data used may be different than the independent third-party data collected for VCG price testing in its monthly valuation process. For example, in cases where market prices are not observable, or where proxies are used in VaR historical time series, the data sources may differ. Refer to Valuation process in Note 2 for further information on the Firm's valuation process.

The Firm's VaR model calculations are periodically evaluated and enhanced in response to changes in the composition of the Firm's portfolios, changes in market conditions, improvements in the Firm's modeling techniques and measurements, and other factors. Such changes may affect historical comparisons of VaR results. Refer to Estimations and Model Risk Management on page 154 for information regarding model reviews and approvals.

The Firm calculates separately a daily aggregated VaR in accordance with regulatory rules ("Regulatory VaR"), which is used to derive the Firm's regulatory VaR-based capital requirements under Basel III capital rules. This Regulatory VaR model framework currently assumes a ten business-day holding period and an expected tail loss methodology which approximates a 99% confidence level. Regulatory VaR is applied to "covered" positions as defined by Basel III capital rules, which may be different than the positions included in the Firm's Risk Management VaR. For example, credit derivative hedges of accrual loans are included in the Firm's Risk Management VaR, while Regulatory VaR excludes these credit derivative hedges. In addition, in contrast to the Firm's Risk Management VaR, Regulatory VaR currently excludes the diversification benefit for certain VaR models.

Refer to JPMorgan Chase's Basel III Pillar 3 Regulatory Capital Disclosures reports, which are available on the Firm's website, for additional information on Regulatory VaR and the other components of market risk regulatory capital for the Firm (e.g., VaR-based measure, stressed VaR-based measure and the respective backtesting).

The table below shows the results of the Firm's Risk Management VaR measure using a 95% confidence level. VaR can vary significantly as positions change, market volatility fluctuates, and diversification benefits change.

Total VaR

As of or for the year ended December 31,	2023			2022		
(in millions)	Avg.	Min	Max	Avg.	Min	Max
CIB trading VaR by risk type						
Fixed income	**$ 49**	**$ 31**	**$ 71**	$ 59	$ 33	$ 82
Foreign exchange	**12**	**6**	**26**	8	3	15
Equities	**7**	**3**	**11**	12	7	20
Commodities and other	**11**	**6**	**19**	15	10	28
Diversification benefit to CIB trading VaR [(a)]	**(42)**	**NM**	**NM**	(43)	NM	NM
CIB trading VaR	**37**	**24**	**55**	51	34	69
Credit Portfolio VaR[(b)]	**14**	**8**	**26**	16	4	235 [(d)]
Diversification benefit to CIB VaR[(a)]	**(11)**	**NM**	**NM**	(10)	NM	NM
CIB VaR	**40**	**23**	**58**	57	35	240
CCB VaR	**7**	**1**	**15**	6	2	20
Corporate and other LOB VaR[(c)]	**12**	**9**	**17**	12	9	16
Diversification benefit to other VaR[(a)]	**(5)**	**NM**	**NM**	(4)	NM	NM
Other VaR	**14**	**9**	**22**	14	10	24
Diversification benefit to CIB and other VaR[(a)]	**(11)**	**NM**	**NM**	(13)	NM	NM
Total VaR	**$ 43**	**$ 26**	**$ 57**	$ 58	$ 34	$ 242 [(d)]

(a) Diversification benefit represents the difference between the portfolio VaR and the sum of its individual components. This reflects the non-additive nature of VaR due to imperfect correlation across LOBs, Corporate, and risk types. For maximum and minimum VaR, diversification benefit is not meaningful as the maximum and minimum VaR for each portfolio may have occurred on different trading days than the components.

(b) Credit Portfolio VaR includes the derivative CVA, hedges of the CVA and hedges of the retained loan portfolio, which are reported in principal transactions revenue. This VaR does not include the retained loan portfolio, which is not reported at fair value. In line with the Firm's internal model governance, the credit risk component of CVA related to certain counterparties was removed from Credit Portfolio VaR due to the widening of the credit spreads for those counterparties to elevated levels. The related hedges were also removed to maintain consistency. This exposure is now reflected in other sensitivity-based measures.

(c) Corporate and other LOB VaR includes a legacy private equity position in Corporate which is publicly traded.

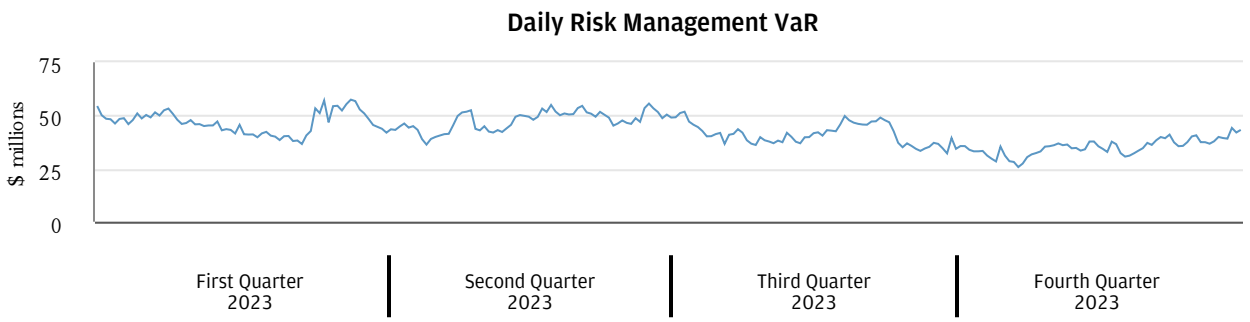
(d) In March 2022, the effects of nickel price increases and the associated volatility in the nickel market resulted in elevated maximum Credit Portfolio VaR, as well as maximum Total VaR.

2023 compared with 2022

Average Total VaR decreased by $15 million for the year ended December 31, 2023 when compared with the prior year.

The decrease was driven by reduced market volatility and risk reductions predominantly impacting fixed income, commodities and equities.

The following graph presents daily Risk Management VaR for the four trailing quarters.



VaR backtesting

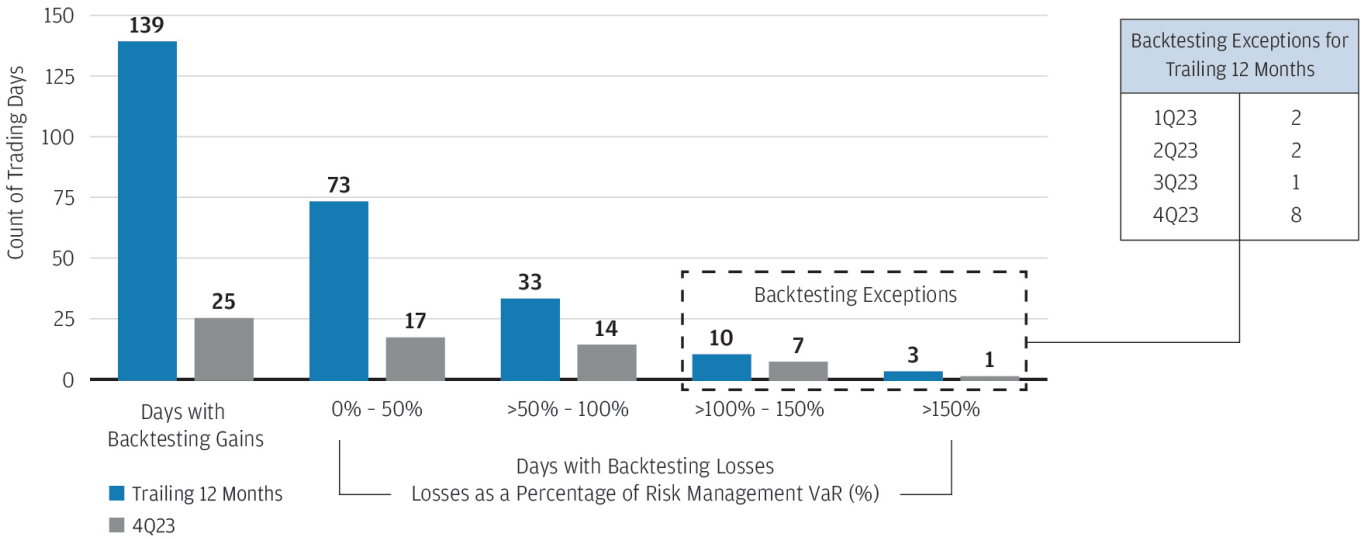
The Firm performs daily VaR model backtesting, which compares the daily Risk Management VaR results with the daily gains and losses that are utilized for VaR backtesting purposes. The gains and losses depicted in the chart below do not reflect the Firm's reported revenue as they exclude certain components of total net revenue, such as those associated with the execution of new transactions (i.e., intraday client-driven trading and intraday risk management activities), fees, commissions, other valuation adjustments and net interest income. These excluded components of total net revenue may more than offset the backtesting gain or loss on a particular day. The definition of backtesting gains and losses above is consistent with the requirements for backtesting under Basel III capital rules.

A backtesting exception occurs when the daily backtesting loss exceeds the daily Risk Management VaR for the prior day. Under the Firm's Risk Management VaR methodology, assuming current changes in market values are consistent with the historical changes used in the simulation, the Firm would expect to incur VaR backtesting exceptions five times every 100 trading days on average. The number of VaR backtesting exceptions observed can differ from the statistically expected number of backtesting exceptions if the current level of market volatility is materially different from the level of market volatility during the 12 months of historical data used in the VaR calculation.

For the 12 months ended December 31, 2023, the Firm posted backtesting gains on 139 of the 258 days, and observed 13 VaR backtesting exceptions, of which eight were in the three months ended December 31, 2023. Firmwide backtesting loss days can differ from the loss days for which Fixed Income Markets and Equity Markets posted losses, as disclosed in CIB Markets revenue, as the population of positions which comprise each metric are different and due to the exclusion of certain components of total net revenue in backtesting gains and losses as described above.

The following chart presents the distribution of Firmwide daily backtesting gains and losses for the trailing 12 months and three months ended December 31, 2023. The daily backtesting losses are displayed as a percentage of the corresponding daily Risk Management VaR. The count of days with backtesting losses are shown in aggregate, in fifty percentage point intervals. Backtesting exceptions are displayed within the intervals that are greater than one hundred percent. The results in the chart below differ from the results of backtesting disclosed in the Market Risk section of the Firm's Basel III Pillar 3 Regulatory Capital Disclosures reports, which are based on Regulatory VaR applied to the Firm's covered positions.

Distribution of Daily Backtesting Gains and Losses



Other risk measures

Stress testing

Along with VaR, stress testing is an important tool used to assess risk. While VaR reflects the risk of loss due to adverse changes in markets using recent historical market behavior, stress testing reflects the risk of loss from hypothetical changes in the value of market risk sensitive positions applied simultaneously. Stress testing measures the Firm's vulnerability to losses under a range of stressed but possible economic and market scenarios. The results are used to understand the exposures responsible for those potential losses and are measured against limits.

The Firm's stress framework covers market risk sensitive positions in the LOBs and Corporate. The framework is used to calculate multiple magnitudes of potential stress for both market rallies and market sell-offs, assuming significant changes in market factors such as credit spreads, equity prices, interest rates, currency rates and commodity prices, and combines them in multiple ways to capture an array of hypothetical economic and market scenarios.

The Firm generates a number of scenarios that focus on tail events in specific asset classes and geographies, including how the event may impact multiple market factors simultaneously. Scenarios also incorporate specific idiosyncratic risks and stress basis risk between different products. The flexibility in the stress framework allows the Firm to construct new scenarios that can test the outcomes against possible future stress events. Stress testing results are reported periodically to senior management of the Firm, as appropriate.

Stress scenarios are governed by the overall stress framework, under the oversight of Market Risk Management, and the models to calculate the stress results are subject to the Firm's Estimations and Model Risk Management Policy. The Firmwide Market Risk Stress Methodology Committee reviews and approves changes to stress testing methodology and scenarios across the Firm. Significant changes to the framework are escalated to senior management, as appropriate.

The Firm's stress testing framework is utilized in calculating the Firm's CCAR and other stress test results, which are reported periodically to the Board of Directors. In addition, stress testing results are incorporated into the Firm's Risk Appetite framework, and are reported periodically to the Board Risk Committee.

Profit and loss drawdowns

Profit and loss drawdowns are used to highlight trading losses above certain levels of risk tolerance. A profit and loss drawdown is a decline in revenue from its year-to-date peak level.

Structural interest rate risk management

The effect of interest rate exposure on the Firm's reported net income is important as interest rate risk represents one of the Firm's significant market risks. Interest rate risk arises not only from trading activities which are included in VaR, but also from the Firm's traditional banking activities, which include extension of loans and credit facilities, taking deposits, issuing debt, as well as the investment securities portfolio, and associated derivative instruments. Refer to the table on page 136 for a summary by LOB and Corporate identifying positions included in earnings-at-risk.

Governance

The CTC Risk Committee establishes the Firm's interest rate risk management policy and related limits, which are subject to approval by the Board Risk Committee. Treasury and CIO, working in partnership with the LOBs, calculates the Firm's structural interest rate risk profile and reviews it with senior management, including the CTC Risk Committee. In addition, oversight of structural interest rate risk is managed through a dedicated risk function reporting to the CTC CRO. This risk function is responsible for providing independent oversight and governance around assumptions and establishing and monitoring limits for structural interest rate risk, including limits related to Earnings-at-Risk and Economic Value Sensitivity. The Firm manages structural interest rate risk generally through its investment securities portfolio and interest rate derivatives.

Key Risk Drivers and Risk Management Process

Structural interest rate risk can arise due to a variety of factors, including:

- Differences in timing among the maturity or repricing of assets, liabilities and off-balance sheet instruments
- Differences in the amounts of assets, liabilities and off-balance sheet instruments that are maturing or repricing at the same time
- Differences in the amounts by which short-term and long-term market interest rates change (for example, changes in the slope of the yield curve)
- The impact of changes in the maturity of various assets, liabilities or off-balance sheet instruments as interest rates change

The Firm manages interest rate exposure related to its assets and liabilities on a consolidated, Firmwide basis. Business units transfer their interest rate risk to Treasury and CIO through funds transfer pricing, which takes into account the elements of interest rate exposure that can be risk-managed in financial markets. These elements include asset and liability balances and contractual rates of interest, contractual principal payment schedules, expected prepayment experience, interest rate reset dates and maturities, rate indices used for repricing, and any interest rate ceilings or floors for adjustable rate products.

Earnings-at-Risk

One way that the Firm evaluates its structural interest rate risk is through earnings-at-risk. Earnings-at-risk estimates the Firm's interest rate exposure for a given interest rate scenario. It is presented as a sensitivity to a baseline, which includes net interest income and certain interest rate sensitive fees. The baseline uses market interest rates and,

in the case of deposits, pricing assumptions. The Firm conducts simulations of changes to this baseline for interest rate-sensitive assets and liabilities denominated in U.S. dollars and other currencies ("non-U.S. dollar" currencies). These simulations primarily include retained loans, deposits, deposits with banks, investment securities, long-term debt and any related interest rate hedges, and funds transfer pricing of other positions in risk management VaR and other sensitivity-based measures as described on page 136. These simulations exclude hedges of exposure from non-U.S. dollar foreign exchange risk arising from the Firm's capital investments. The inclusion of the hedges in these simulations would increase U.S. dollar sensitivities and decrease non-U.S. dollar sensitivities. Refer to non-U.S. dollar foreign exchange risk on page 145 for more information.

Earnings-at-risk scenarios estimate the potential change to a net interest income baseline over the following 12 months utilizing multiple assumptions. These scenarios include a parallel shift involving changes to both short-term and long-term rates by an equal amount; a steeper yield curve involving holding short-term rates constant and increasing long-term rates; and a flatter yield curve involving increasing short-term rates and holding long-term rates constant or holding short-term rates constant and decreasing long-term rates. These scenarios consider many different factors, including:

- The impact on exposures as a result of instantaneous changes in interest rates from baseline rates.
- Forecasted balance sheet, as well as modeled prepayment and reinvestment behavior, but excluding assumptions about actions that could be taken by the Firm or its clients and customers in response to instantaneous rate changes. Mortgage prepayment assumptions are based on the interest rates used in the scenarios compared with underlying contractual rates, the time since origination, and other factors which are updated periodically based on historical experience. Deposit forecasts are a key assumption in the Firm's earnings-at-risk. The baseline reflects certain assumptions relating to the reversal of Quantitative Easing that are highly uncertain and require management judgment. Therefore, the actual amount of deposits held by the Firm at any particular time could be impacted by actions the Federal Reserve may take as part of monetary policy, including through the use of the Reverse Repurchase Facility. In addition, there are other factors that impact the amount of deposits held at the Firm such as the level of loans across the industry and competition for deposits.
- The pricing sensitivity of deposits, known as deposit betas, represent the amount by which deposit rates paid could change upon a given change in market interest rates. As part of the Firm's continuous evaluation and periodic enhancements to its earnings-at-risk calculations, the Firm updated its model in the second quarter of 2023 to incorporate deposit repricing lags impacting both consumer and wholesale deposits. The model change incorporated observed pricing and customer behavior in both rising and falling interest rate environments. Actual deposit rates paid may differ from the modeled assumptions, primarily due to customer behavior and competition for deposits.

The Firm performs sensitivity analyses of the assumptions used in earnings-at-risk scenarios, including with respect to deposit betas and forecasts of deposit balances, both of which are especially significant in the case of consumer deposits. The results of these sensitivity analyses are reported to the CTC Risk Committee and the Board Risk Committee.

The Firm's earnings-at-risk scenarios are periodically evaluated and enhanced in response to changes in the composition of the Firm's balance sheet, changes in market conditions, improvements in the Firm's simulation and other factors. While a relevant measure of the Firm's interest rate exposure, the earnings-at-risk analysis does not represent a forecast of the Firm's net interest income (Refer to Outlook on page 52 for additional information).

The Firm's U.S. dollar and non-U.S. dollar sensitivities are presented in the table below.

December 31, (in billions)		2023		2022
U.S. dollar: [(a)]				
Parallel shift: [(b)]				
+100 bps shift in rates	**$**	**2.4**	$	(2.0)
-100 bps shift in rates		**(2.1)**		2.4
+200 bps shift in rates		**4.8**		(4.2)
-200 bps shift in rates		**(4.6)**		3.3
Steeper yield curve:				
+100 bps shift in long-term rates		**0.6**		0.8
-100 bps shift in short-term rates		**(1.5)**		3.2
Flatter yield curve:				
+100 bps shift in short-term rates		**1.8**		(2.8)
-100 bps shift in long-term rates		**(0.5)**		(0.9)
Non-U.S. dollar:				
Parallel shift: [(b)]				
+100 bps shift in rates	**$**	**0.7**	$	0.7
-100 bps shift in rates		**(0.7)**		(0.6)

(a) Reflects the impact of the aforementioned model update to incorporate deposit repricing lags. Prior periods have not been revised.

(b) Reflects the simultaneous shift of U.S. dollar and non-U.S. dollar rates.

In the absence of the model update to incorporate deposit repricing lags in the second quarter of 2023, the Firm's U.S. dollar sensitivities as of December 31, 2023, would have been lower by $4.1 billion to the +100 basis points shift in short-term and parallel rate scenarios and higher by $3.7 billion to the -100 basis points shift in short-term and parallel rate scenarios.

The change in the Firm's U.S. dollar sensitivities as of December 31, 2023 compared to December 31, 2022 also reflected the impact of changes in the Firm's balance sheet including the impact of the First Republic acquisition.

As of December 31, 2023, the Firm's sensitivity to a parallel shift in rates is primarily the result of a greater impact from assets repricing compared to the impact of liabilities repricing.

Economic Value Sensitivity

In addition to earnings-at-risk, which is measured as a sensitivity to a baseline of earnings over the next 12 months, the Firm also measures Economic Value Sensitivity ("EVS"). EVS stress tests the longer-term economic value of equity by measuring the sensitivity of the Firm's current balance sheet, primarily retained loans, deposits, debt and investment securities as well as related hedges, under various interest rate scenarios. In accordance with the CTC interest rate risk management policy, the Firm has established limits on EVS as a percentage of TCE. Additional information on long-term debt and held to maturity investment securities is disclosed on page 195 in Note 2 financial instruments that are not carried at fair value on the Consolidated balance sheets.

Non-U.S. dollar foreign exchange risk

Non-U.S. dollar FX risk is the risk that changes in foreign exchange rates affect the value of the Firm's assets or liabilities or future results. The Firm has structural non-U.S. dollar FX exposures arising from capital investments, forecasted expense and revenue, the investment securities portfolio and non-U.S. dollar-denominated debt issuance. Treasury and CIO, working in partnership with the LOBs, primarily manage these risks on behalf of the Firm. Treasury and CIO may hedge certain of these risks using derivatives. Refer to Business Segment Results on page 66 for additional information.

Other sensitivity-based measures

The Firm quantifies the market risk of certain debt and equity and credit and funding-related exposures by assessing the potential impact on net revenue, other comprehensive income ("OCI") and noninterest expense due to changes in relevant market variables. Refer to the predominant business activities that give rise to market risk on page 136 for additional information on the positions captured in other sensitivity-based measures.

The table below represents the potential impact to net revenue, OCI or noninterest expense for market risk sensitive instruments that are not included in VaR or earnings-at-risk. Where appropriate, instruments used for hedging purposes are reported net of the positions being hedged. The sensitivities disclosed in the table below may not be representative of the actual gain or loss that would have been realized at December 31, 2023 and 2022, as the movement in market parameters across maturities may vary and are not intended to imply management's expectation of future changes in these sensitivities.

Gain/(loss) (in millions)				
Activity	**Description**	**Sensitivity measure**	**December 31, 2023**	December 31, 2022
Debt and equity[a]				
Asset Management activities	Consists of seed capital and related hedges; fund co-investments[c]; and certain deferred compensation and related hedges[d]	10% decline in market value	**$ (61)**	$ (56)
Other debt and equity	Consists of certain real estate-related fair value option elected loans, privately held equity and other investments held at fair value[c]	10% decline in market value	**(1,044)**	(1,046)
Credit- and funding-related exposures				
Non-USD LTD cross-currency basis	Represents the basis risk on derivatives used to hedge the foreign exchange risk on the non-USD LTD[e]	1 basis point parallel tightening of cross currency basis	**(12)**	(12)
Non-USD LTD hedges foreign currency ("FX") exposure	Primarily represents the foreign exchange revaluation on the fair value of the derivative hedges[e]	10% depreciation of currency	**16**	3
Derivatives – funding spread risk	Impact of changes in the spread related to derivatives FVA[c]	1 basis point parallel increase in spread	**(3)**	(4)
CVA - counterparty credit risk[b]	Credit risk component of CVA and associated hedges	10% credit spread widening	**–**	(1)
Fair value option elected liabilities - funding spread risk	Impact of changes in the spread related to fair value option elected liabilities DVA[e]	1 basis point parallel increase in spread	**46**	43
Fair value option elected liabilities – interest rate sensitivity	Interest rate sensitivity on fair value option elected liabilities resulting from a change in the Firm's own credit spread[e]	1 basis point parallel increase in spread	**–**	–
	Interest rate sensitivity related to risk management of changes in the Firm's own credit spread on the fair value option elected liabilities noted above[c]	1 basis point parallel increase in spread	**–**	–

(a) Excludes equity securities without readily determinable fair values that are measured under the measurement alternative. Refer to Note 2 for additional information.
(b) In line with the Firm's internal model governance, the credit risk component of CVA related to certain counterparties was removed from Credit Portfolio VaR due to the widening of the credit spreads for those counterparties to elevated levels. The related hedges were also removed to maintain consistency. This exposure is now reflected in other sensitivity-based measures.
(c) Impact recognized through net revenue.
(d) Impact recognized through noninterest expense.
(e) Impact recognized through OCI.

COUNTRY RISK MANAGEMENT

The Firm, through its LOBs and Corporate, may be exposed to country risk resulting from financial, economic, political or other significant developments which adversely affect the value of the Firm's exposures related to a particular country or set of countries. The Country Risk Management group actively monitors the various portfolios which may be impacted by these developments and measures the extent to which the Firm's exposures are diversified given the Firm's strategy and risk tolerance relative to a country.

Organization and management

Country Risk Management is an independent risk management function that assesses, manages and monitors exposure to country risk across the Firm.

The Firm's country risk management function includes the following activities:

- Maintaining policies, procedures and standards consistent with a comprehensive country risk framework
- Assigning sovereign ratings, assessing country risks and establishing risk tolerance relative to a country
- Measuring and monitoring country risk exposure and stress across the Firm
- Managing and approving country limits and reporting trends and limit breaches to senior management
- Developing surveillance tools, such as signaling models and ratings indicators, for early identification of potential country risk concerns
- Providing country risk scenario analysis

Sources and measurement

The Firm is exposed to country risk through its lending and deposits, investing, and market-making activities, whether cross-border or locally funded. Country exposure includes activity with both government and private-sector entities in a country.

Under the Firm's internal country risk management approach, attribution of exposure to an individual country is based on the country where the largest proportion of the assets of the counterparty, issuer, obligor or guarantor are located or where the largest proportion of its revenue is derived, which may be different than the domicile (i.e. legal residence) or country of incorporation.

Individual country exposures reflect an aggregation of the Firm's risk to an immediate default, with zero recovery, of the counterparties, issuers, obligors or guarantors attributed to that country. Activities which result in contingent or indirect exposure to a country are not included in the country exposure measure (for example, providing clearing services or secondary exposure to collateral on securities financing receivables).

Assumptions are sometimes required in determining the measurement and allocation of country exposure, particularly in the case of certain non-linear or index products, or where the nature of the counterparty, issuer, obligor or guarantor is not suitable for attribution to an individual country. The use of different measurement approaches or assumptions could affect the amount of reported country exposure.

Under the Firm's internal country risk measurement framework:

- Deposits with banks are measured as the cash balances placed with central banks, commercial banks, and other financial institutions
- Lending exposures are measured at the total committed amount (funded and unfunded), net of the allowance for credit losses and eligible cash and marketable securities collateral received
- Securities financing exposures are measured at their receivable balance, net of eligible collateral received
- Debt and equity securities are measured at the fair value of all positions, including both long and short positions
- Counterparty exposure on derivative receivables is measured at the derivative's fair value, net of the fair value of the eligible collateral received
- Credit derivatives exposure is measured at the net notional amount of protection purchased or sold for the same underlying reference entity, inclusive of the fair value of the derivative receivable or payable, reflecting the manner in which the Firm manages these exposures

The Firm's internal country risk reporting differs from the reporting provided under the FFIEC bank regulatory requirements.

Stress testing

Stress testing is an important component of the Firm's country risk management framework, which aims to estimate and limit losses arising from a country crisis by measuring the impact of adverse asset price movements to a country based on market shocks combined with counterparty specific assumptions. Country Risk Management periodically designs and runs tailored stress scenarios to test vulnerabilities to individual countries or sets of countries in response to specific or potential market events, sector performance concerns, sovereign actions and geopolitical risks. These tailored stress results are used to inform potential risk reduction across the Firm, as necessary.

Risk reporting

Country exposure and stress are measured and reported regularly, and used by Country Risk Management to identify trends and monitor high usages and breaches against limits.

For country risk management purposes, the Firm may report exposure to jurisdictions that are not fully autonomous, including Special Administrative Regions ("SAR") and dependent territories, separately from the independent sovereign states with which they are associated.

The following table presents the Firm's top 20 exposures by country (excluding the U.S.) as of December 31, 2023, and their comparative exposures as of December 31, 2022. The top 20 country exposures represent the Firm's largest total exposures by individual country. Country exposures may fluctuate from period to period due to a variety of factors, including client activity, market flows and liquidity management activities undertaken by the Firm.

The decrease in exposure to Japan when compared to December 31, 2022, was driven by a reduction in cash placed with the central bank of Japan as a result of liquidity management activities undertaken by the Firm.

The decrease in exposure to Australia when compared to December 31, 2022, was predominantly driven by a reduction in cash placed with the central bank of Australia due to client-driven activities resulting from changes in interest rates.

The Firm continues to monitor its exposure to Russia which was approximately $350 million as of December 31, 2023. This amount excludes certain deposits placed on behalf of clients at the Depository Insurance Agency of Russia.

Top 20 country exposures (excluding the U.S.)[a]

December 31, (in billions)	2023					2022[f]
	Deposits with banks[b]	Lending[c]	Trading and investing[d]	Other[e]	Total exposure	Total exposure
Germany	$ 69.8	$ 12.1	$ 2.1	$ 0.8	$ 84.8	$ 93.2
United Kingdom	36.4	25.5	13.5	1.7	77.1	70.1
Japan	29.4	2.4	3.9	0.3	36.0	55.8
Australia	9.7	6.9	1.7	–	18.3	25.7
Brazil	5.2	5.3	6.2	–	16.7	17.8
Canada	2.3	11.4	2.0	0.3	16.0	14.4
China	3.5	5.5	5.0	–	14.0	13.7
Switzerland	5.2	3.6	1.2	0.9	10.9	15.3
France	0.6	10.9	(2.2)	0.8	10.1	18.1
Singapore	1.9	3.8	3.8	0.3	9.8	9.9
India	1.2	3.8	4.3	0.4	9.7	9.0
Mexico	1.1	3.7	3.4	–	8.2	5.4
Belgium	5.6	2.1	0.3	–	8.0	9.2
South Korea	0.8	3.2	3.5	0.3	7.8	10.0
Saudi Arabia	0.6	5.2	1.9	–	7.7	7.9
Spain	0.3	5.2	0.8	–	6.3	3.4
Italy	0.1	5.9	(0.2)	0.2	6.0	5.8
Netherlands	0.1	6.4	(1.2)	0.3	5.6	7.1
Malaysia	3.5	0.2	0.4	0.1	4.2	5.3
Luxembourg	0.9	2.2	0.9	–	4.0	4.2

(a) Country exposures presented in the table reflect 88% of total Firmwide non-U.S. exposure, where exposure is attributed to an individual country based on the Firm's internal country risk management approach, at both December 31, 2023 and 2022.
(b) Predominantly represents cash placed with central banks.
(c) Includes loans and accrued interest receivable, lending-related commitments (net of eligible collateral and the allowance for credit losses). Excludes intra-day and operating exposures, such as those from settlement and clearing activities.
(d) Includes market-making positions and hedging, investment securities, and counterparty exposure on derivative and securities financings net of eligible collateral. Market-making positions and hedging includes exposure from single reference entity ("single-name"), index and other multiple reference entity transactions for which one or more of the underlying reference entities is in a country listed in the above table.
(e) Includes clearing house guarantee funds and physical commodities.
(f) The country rankings presented in the table as of December 31, 2022, are based on the country rankings of the corresponding exposures at December 31, 2023, not actual rankings of such exposures at December 31, 2022.

CLIMATE RISK MANAGEMENT

Climate risk is the risk associated with the impacts of climate change on the Firm's clients, customers, operations and business strategy. Climate change is viewed as a driver of risk that may impact existing types of risks managed by the Firm. Climate risk is categorized into physical risk and transition risk.

Physical risk refers to economic costs and financial loss associated with a changing climate. Acute physical risk drivers include the increased frequency or severity of climate and weather events, such as floods, wildfires and tropical cyclones. Chronic physical risk drivers include more gradual shifts in the climate, such as sea level rise, persistent changes in precipitation levels and increases in average ambient temperatures.

Transition risk refers to the financial and economic implications associated with a societal adjustment to a low-carbon economy. Transition risk drivers include possible changes in public policy, adoption of new technologies and shifts in consumer preferences. Transition risks may also be influenced by changes in the physical climate.

Organization and management

The Firm has a Climate Risk Management function that is responsible for establishing and maintaining the Firmwide framework and strategy for managing climate risks that may impact the Firm. The Climate Risk Management function engages across the Firm to help integrate climate risk considerations into existing risk management frameworks, as appropriate.

Other responsibilities of Climate Risk Management include:

- Setting policies, standards, procedures and processes to support identification, escalation, monitoring and management of climate risk across the Firm
- Developing metrics, scenarios and stress testing mechanisms designed to assess the range of potential climate-related financial and economic impacts to the Firm
- Establishing a Firmwide climate risk data strategy and the supporting climate risk technology infrastructure

The LOBs and Corporate are responsible for the identification, assessment and management of climate risks present in their business activities and for adherence to applicable climate-related laws, rules and regulations.

Governance and oversight

The Firm's approach to managing climate risk is consistent with the Firm's risk governance structure. The LOBs and Corporate are responsible for integrating climate risk management into existing governance frameworks, or creating new governance frameworks, as appropriate.

The LOBs, Corporate and Climate Risk Management are responsible for providing the Board Risk Committee with information on significant climate risks and climate-related initiatives, as appropriate.

Operational risk is the risk of an adverse outcome resulting from inadequate or failed internal processes or systems; human factors; or external events impacting the Firm's processes or systems. Operational Risk includes compliance, conduct, legal, and estimations and model risk. Operational risk is inherent in the Firm's activities and can manifest itself in various ways, including fraudulent acts, business disruptions (including those caused by extraordinary events beyond the Firm's control), cyber attacks, inappropriate employee behavior, failure to comply with applicable laws, rules and regulations or failure of vendors or other third party providers to perform in accordance with their agreements. Operational Risk Management attempts to manage operational risk at appropriate levels in light of the Firm's financial position, the characteristics of its businesses, and the markets and regulatory environments in which it operates.

Operational Risk Management Framework

The Firm's Compliance, Conduct, and Operational Risk ("CCOR") Management Framework is designed to enable the Firm to govern, identify, measure, monitor and test, manage and report on the Firm's operational risk.

Operational Risk Governance

The LOBs and Corporate are responsible for the management of operational risk. The Control Management Organization, which consists of control managers within each LOB and Corporate, is responsible for the day-to-day execution of the CCOR Framework.

The Firm's Global Chief Compliance Officer ("CCO") and FRE for Operational Risk and Qualitative Risk Appetite is responsible for defining the CCOR Management Framework and establishing the minimum standards for its execution. The LOB and Corporate aligned CCOR Lead Officers report to the Global CCO and FRE for Operational Risk and Qualitative Risk Appetite and are independent of the respective businesses or functions they oversee. The CCOR Management Framework is included in the Risk Governance and Oversight Policy that is reviewed and approved by the Board Risk Committee periodically.

Operational Risk Identification

The Firm utilizes a structured risk and control self-assessment process that is executed by the LOBs and Corporate. As part of this process, the LOBs and Corporate evaluate the effectiveness of their respective control environment to assess circumstances in which controls have failed, and to determine where remediation efforts may be required. The Firm's Operational Risk and Compliance organization ("Operational Risk and Compliance") provides oversight of and challenge to these evaluations and may also perform independent assessments of significant operational risk events and areas of concentrated or emerging risk.

Operational Risk Measurement

Operational Risk and Compliance performs an independent assessment of the operational risks inherent within the LOBs and Corporate, which includes evaluating the effectiveness of the control environments and reporting the results to senior management.

In addition, Operational Risk and Compliance assesses operational risks through quantitative means, including operational risk-based capital and estimation of operational risk losses under both baseline and stressed conditions.

The primary component of the operational risk-based capital estimate is the Loss Distribution Approach ("LDA") statistical model, which simulates the projected frequency and severity of operational risk losses based on historical data. The LDA model is used to estimate an aggregate operational risk loss over a one-year time horizon, at a 99.9% confidence level. The LDA model incorporates actual internal operational risk losses in the quarter following the period in which those losses were realized, and the calculation generally continues to reflect such losses even after the issues or business activities giving rise to the losses have been remediated or reduced.

As required under the Basel III capital framework, the Firm's operational risk capital methodology, which uses the Advanced Measurement Approach ("AMA"), incorporates internal and external losses as well as management's view of tail risk captured through operational risk scenario analysis, and evaluation of key business environment and internal control metrics. The Firm does not reflect the impact of insurance in its AMA estimate of operational risk capital.

The Firm considers the impact of stressed economic conditions on operational risk losses and develops a forward looking view of material operational risk events that may occur in a stressed environment. The Firm's operational risk stress testing framework is utilized in calculating results for the Firm's CCAR and other stress testing processes.

Refer to Capital Risk Management on pages 91-101 for information related to operational risk RWA, and CCAR.

Operational Risk Monitoring and testing

The results of risk assessments performed by Operational Risk and Compliance are used in connection with their independent monitoring and testing compliance of the LOBs and Corporate with laws, rules and regulations. Through monitoring and testing, Operational Risk and Compliance independently identify areas of heightened operational risk and tests the effectiveness of controls within the LOBs and Corporate.

Management of Operational Risk
The operational risk areas or issues identified through monitoring and testing are escalated to the LOBs and Corporate to be remediated through action plans, as needed, to mitigate operational risk. Operational Risk and Compliance may advise the LOBs and Corporate in the development and implementation of action plans.

Operational Risk Reporting
All employees of the Firm are expected to escalate risks appropriately. Risks identified by Operational Risk and Compliance are escalated to the appropriate LOB and Corporate Control Committees, as needed. Operational Risk and Compliance has established standards designed to ensure that consistent operational risk reporting and operational risk reports are produced on a Firmwide basis as well as by the LOBs and Corporate. Reporting includes the evaluation of key risk and performance indicators against established thresholds as well as the assessment of different types of operational risk against stated risk appetite. The standards establish escalation protocols to senior management and to the Board of Directors.

Insurance

One of the ways in which operational risk may be mitigated is through insurance maintained by the Firm. The Firm purchases insurance from commercial insurers and maintains a wholly-owned captive insurer, Park Assurance Company. Insurance may also be required by third parties with whom the Firm does business.

Subcategories and examples of operational risks

Operational risk can manifest itself in various ways. Operational risk subcategories include Compliance risk, Conduct risk, Legal risk, and Estimations and Model risk. Refer to pages 151, 152, 153 and 154, respectively for more information on Compliance, Conduct, Legal, and Estimations and Model risk. Details on other select examples of operational risks such as business and technology resiliency, payment fraud and third-party outsourcing, as well as cybersecurity, are provided below.

War in Ukraine and Sanctions
In response to the war in Ukraine, numerous financial and economic sanctions have been imposed on Russia and Russia-associated entities and individuals by various governments around the world, including the authorities in the U.S., U.K. and EU. These sanctions are complex and continue to evolve. The Firm continues to face increased operational and other risks associated with addressing these complex compliance-related matters. To manage this increased risk, the Firm has implemented controls reasonably designed to mitigate the risk of non-compliance and to prevent dealing with sanctioned persons or in property subject to sanctions, as well as to block or restrict payments as required by the applicable regulations.

Business and technology resiliency risk
Disruptions can occur due to forces beyond the Firm's control such as the spread of infectious diseases or pandemics, severe weather, natural disasters, the effects of climate change, power or telecommunications loss, failure of a third party to provide expected services, cyberattacks, civil or political unrest or terrorism. The Firmwide Business Resiliency Program is designed to enable the Firm to prepare for, adapt to, withstand and recover from business disruptions including occurrence of extraordinary events beyond its control that may impact critical business functions and supporting assets including staff, technology, facilities and third parties. The program includes governance, awareness training, planning and testing of recovery strategies, as well as strategic and tactical initiatives to identify, assess, and manage business resiliency risks. The program is required to be managed in accordance with the Firm's overall approach to Operational Risk Management, including alignment with technology, cybersecurity, data, physical security, crisis management, real estate and outsourcing programs.

Payment fraud risk
Payment fraud risk is the risk of external and internal parties unlawfully obtaining personal monetary benefit through misdirected or otherwise improper payment. The Firm employs various controls for managing payment fraud risk as well as providing employee and client education and awareness trainings.

Third-party outsourcing risk
The Firm's Third-Party Oversight ("TPO") and Inter-affiliates Oversight ("IAO") frameworks assist the LOBs and Corporate in selecting, documenting, onboarding, monitoring and managing their supplier relationships including services provided by affiliates. The objectives of the TPO framework are to hold suppliers and other third parties to an appropriate standard of operational performance and to mitigate key risks, including data loss and business disruptions. The Corporate Third-Party Oversight group is responsible for Firmwide training, monitoring, reporting and standards with respect to third-party outsourcing risks.

Cybersecurity risk
Cybersecurity risk is the risk of harm or loss resulting from misuse or abuse of technology or the unauthorized disclosure of data.

Overview

Cybersecurity risk is an important and continuously evolving focus for the Firm. Significant resources are devoted to protecting and enhancing the security of computer systems, software, networks, storage devices, and other technology. The Firm's security efforts are designed to protect against, among other things, cybersecurity attacks that can result in unauthorized access to confidential information, the destruction of data, disruptions to or degradations of service, the sabotaging of systems or other damage.

The Firm has experienced, and expects that it will continue to experience, a higher volume and complexity of cyber attacks against the backdrop of heightened geopolitical tensions. The Firm has implemented measures and controls reasonably designed to address this evolving environment, including enhanced threat monitoring. In addition, the Firm continues to review and enhance its capabilities to address associated risks, such as those relating to the management of administrative access to systems.

Third parties with which the Firm does business, that facilitate the Firm's business activities (e.g., vendors, supply chain, exchanges, clearing houses, central depositories, and financial intermediaries) or that the Firm has acquired are also sources of cybersecurity risk to the Firm. Third party incidents such as system breakdowns or failures, misconduct by the employees of such parties, or cyber attacks, including ransomware and supply-chain compromises, could have a material adverse effect on the Firm, including in circumstances in which an affected third party is unable to deliver a product or service to the Firm or where the incident delivers compromised software to the Firm or results in lost or compromised information of the Firm or its clients or customers.

Clients and customers are also sources of cybersecurity risk to the Firm and its information assets, particularly when their activities and systems are beyond the Firm's own security and control systems. The Firm engages in periodic discussions with its clients, customers and other external parties concerning cybersecurity risks including opportunities to improve cybersecurity.

Risks from cybersecurity threats, including any previous cybersecurity events, have not materially affected the Firm or its business strategy, results of operations or financial condition. Notwithstanding the comprehensive approach that the Firm takes to address cybersecurity risk, the Firm may not be successful in preventing or mitigating a future cybersecurity incident that could have a material adverse effect on the Firm or its business strategy, results of operations or financial condition.

Organization and management

The Global Chief Information Security Officer ("CISO") reports to the Global Chief Information Officer, and is a member of key cybersecurity governance forums. The CISO leads the Global Cybersecurity and Technology Controls organization, which is responsible for identifying technology and cybersecurity risks and for implementing and maintaining controls to manage cybersecurity threats. The CISO is responsible for the Firm's Information Security Program, which is designed to prevent, detect and respond to cyber attacks in order to help safeguard the confidentiality, integrity and availability of the Firm's infrastructure, resources and information. The program includes managing the Firm's global cybersecurity operations centers, providing training, conducting cybersecurity event simulation exercises, implementing the Firm's policies and standards relating to technology risk and cybersecurity management, and enhancing, as needed, the Firm's cybersecurity capabilities.

The Firm's Information Security Program includes the following functions:

Cyber Operations, which is responsible for implementing and maintaining controls designed to detect and defend the Firm against cyber attacks, and includes a dedicated function for incident response and ongoing monitoring for cybersecurity threats and vulnerabilities, including those among the Firm's third-party suppliers.

Technology Governance, Risk & Controls, which is responsible for operationalizing technology risk and control frameworks, analyzing regulatory developments that may impact the Firm, and developing control catalogs and assessments of controls, as well as overseeing governance and reporting of technology and cybersecurity risk.

Security Awareness, which provides awareness and training that reinforces information risk and security management practices and compliance with the Firm's policies, standards and practices. The training is mandatory for all employees globally on a periodic basis, and it is supplemented by Firmwide testing initiatives, including periodic phishing tests. The Firm also provides specialized security training to employees in specific roles, such as application developers. The Firm's Global Privacy Program requires all employees to take periodic training on data privacy that focuses on confidentiality and security, as well as responding to unauthorized access to or use of information.

Technology Resiliency, which establishes control requirements for planning and testing the prioritized recovery of technology services in the event of degradation or outage, including incident response planning, data backup and retention, and recovery readiness in support of the Firmwide Business Resiliency Program and operational risk management practices.

The Firm has a cybersecurity incident response plan designed to enable the Firm to respond to attempted cybersecurity incidents, coordinate as appropriate with law enforcement and other government agencies, notify clients and customers, as applicable, and recover from such incidents. In addition, the Firm actively partners with appropriate government and law enforcement agencies and peer industry forums, participating in discussions and simulations to assist in understanding the full spectrum of cybersecurity risks and in enhancing defenses and improving resiliency in the Firm's operating environment.

Governance and oversight

The governance structure for the Global Cybersecurity and Technology Controls organization is designed to appropriately identify, escalate and mitigate cybersecurity risks. Cybersecurity risk management and its governance and oversight are integrated into the Firm's operational risk management framework, including through the escalation of key risk and control issues to management and the development of risk mitigation plans for heightened risk and control issues. IRM independently assesses and challenges the activities and risk management practices of the Global Cybersecurity and Technology Controls organization related to the identification, assessment, measurement and mitigation of cybersecurity risk. As needed, the Firm engages third-party assessors or auditing firms with industry-recognized expertise on cybersecurity matters to review specific aspects of the Firm's cybersecurity risk management framework, processes and controls.

The governance and oversight for cybersecurity risk management includes governance forums that inform management of key areas of concern regarding the prevention, detection, mitigation and remediation of cybersecurity risks.

The Cybersecurity and Technology Controls Operating Committee ("CTOC") is the principal management committee that oversees the Firm's assessment and management of cybersecurity risk, including oversight of the implementation and maintenance of appropriate controls in support of the Firm's Information Security Program. The membership of the CTOC includes senior representatives from the Global Cybersecurity and Technology Controls organization and relevant corporate functions, including IRM and Internal Audit. CTOC members have extensive experience and qualifications in various technology and information security disciplines, including relevant experience at the Firm, at other financial services companies or in other highly-regulated industries.

The CTOC escalates key operational risk and control issues, as appropriate, to the Global Technology Operating Committee ("GTOC") or its business control committee or to the appropriate LOB and Corporate Control Committees. The GTOC is responsible for the governance of the Firmwide Global Technology organization, including oversight of Firmwide technology strategies, the delivery of technology and technology operations, the effective use of information technology resources, and monitoring and resolving key operational risk and control matters arising in the Global Technology organization.

As part of its oversight of management's implementation and maintenance of the Firm's risk management framework, the Firm's Board of Directors receives periodic updates from the CIO, the CISO and senior members of the CTOC concerning cybersecurity matters. These updates generally include information regarding cybersecurity and technology developments, the Firm's Information Security Program and recommended changes to that program, cybersecurity policies and practices, and ongoing initiatives to improve information security, as well as any significant cybersecurity incidents and the Firm's efforts to address those incidents. The Audit Committee and the Risk Committee assist the Board in this oversight.

Compliance risk, a subcategory of operational risk, is the risk of failing to comply with laws, rules, regulations or codes of conduct and standards of self-regulatory organizations.

Overview

Each of the LOBs and Corporate hold primary ownership of and accountability for managing their compliance risk. The Firm's Operational Risk and Compliance Organization ("Operational Risk and Compliance"), which is independent of the LOBs and Corporate, provides independent review, monitoring and oversight of business operations with a focus on compliance with the laws, rules, and regulations applicable to the delivery of the Firm's products and services to clients and customers.

These compliance risks relate to a wide variety of laws, rules and regulations across the LOBs and Corporate, and jurisdictions, and include risks related to financial products and services, relationships and interactions with clients and customers, and employee activities. For example, compliance risks include those associated with anti-money laundering compliance, trading activities, market conduct, and complying with the laws, rules, and regulations related to the offering of products and services across jurisdictional borders. Compliance risk is also inherent in the Firm's fiduciary activities, including the failure to exercise the applicable standard of care to act in the best interest of fiduciary clients and customers or to treat fiduciary clients and customers fairly.

Other functions provide oversight of significant regulatory obligations that are specific to their respective areas of responsibility.

Operational Risk and Compliance implements policies and standards designed to govern, identify, measure, monitor and test, manage, and report on compliance risk.

Governance and oversight

Operational Risk and Compliance is led by the Firm's Global CCO and FRE for Operational Risk and Qualitative Risk Appetite.

The Firm maintains oversight and coordination of its compliance risk through the CCOR Management Framework. The Firm's Global CCO and FRE for Operational Risk and Qualitative Risk Appetite also provides regular updates to the Board Risk Committee and the Audit Committee on significant compliance risk issues, as appropriate.

Code of Conduct

The Firm has a Code of Conduct (the "Code") that sets forth the Firm's expectation that employees will conduct themselves with integrity, at all times. The Code provides the principles that help govern employee conduct with clients, customers, suppliers, vendors, shareholders, regulators, other employees, as well as with the markets and communities in which the Firm operates. The Code requires employees to promptly report any potential or actual violation of the Code, any Firm policy, or any law or regulation applicable to the Firm's business. It also requires employees to report any illegal or unethical conduct, or conduct that violates the underlying principles of the Code, by any of the Firm's employees, consultants, clients, customers, suppliers, contract or temporary workers, or business partners or agents. Training is assigned to newly hired employees upon joining the Firm, and to current employees periodically thereafter. Employees are required to affirm their compliance with the Code annually.

Employees can report any potential or actual violations of the Code through the Firm's Conduct Hotline (the "Hotline") by phone or the internet. The Hotline is anonymous, where permitted by law, and is available at all times globally, with translation services and is administered by an outside service provider. The Code prohibits retaliation against anyone who raises an issue or concern in good faith or assists with an inquiry or investigation. Periodically, the Audit Committee receives reports on the Code of Conduct program.

CONDUCT RISK MANAGEMENT

Conduct risk, a subcategory of operational risk, is the risk that any action or misconduct by an employee could lead to unfair client or customer outcomes, impact the integrity of the markets in which the Firm operates, harm employees or the Firm, or compromise the Firm's reputation.

Overview

Each LOB and Corporate is accountable for identifying and managing its conduct risk to provide appropriate engagement, ownership and sustainability of a culture consistent with the Firm's Business Principles. The Business Principles serve as a guide for how employees are expected to conduct themselves. With the Business Principles serving as a guide, the Firm's Code sets out the Firm's expectations for each employee and provides information and resources to help employees conduct business ethically and in compliance with applicable laws, rules and regulations everywhere the Firm operates. Refer to Compliance Risk Management on page 151 for further discussion of the Code.

Governance and oversight

The Firm maintains oversight and coordination of its conduct risk through the CCOR Management Framework.

The Firm has a senior forum that provides oversight of the Firm's conduct initiatives to develop a more holistic view of conduct risks and to connect key programs across the Firm in order to identify opportunities and emerging areas of focus. This forum is responsible for setting overall program direction for strategic enhancements to the Firm's employee conduct framework and reviewing the consolidated Firmwide Conduct Risk Appetite Assessment.

Conduct risk management encompasses various aspects of people management practices throughout the employee life cycle, including recruiting, onboarding, training and development, performance management, promotion and compensation processes. Each LOB, Treasury and CIO, and each designated corporate function completes an assessment of conduct risk periodically, reviews metrics and issues which may involve conduct risk, and provides conduct education as appropriate.

Legal risk, a subcategory of operational risk, is the risk of loss primarily caused by the actual or alleged failure to meet legal obligations that arise from the rule of law in jurisdictions in which the Firm operates, agreements with clients and customers, and products and services offered by the Firm.

Overview

The global Legal function ("Legal") provides legal services and advice to the Firm. Legal is responsible for managing the Firm's exposure to legal risk by:

- managing actual and potential litigation and enforcement matters, including internal reviews and investigations related to such matters
- advising on products and services, including contract negotiation and documentation
- advising on offering and marketing documents and new business initiatives
- managing dispute resolution
- interpreting existing laws, rules and regulations, and advising on changes to them
- advising on advocacy in connection with contemplated and proposed laws, rules and regulations, and
- providing legal advice to the LOBs, Corporate and the Board.

Legal selects, engages and manages outside counsel for the Firm on all matters in which outside counsel is engaged. In addition, Legal advises the Firm's Conflicts Office which reviews the Firm's wholesale transactions that may have the potential to create conflicts of interest for the Firm.

Governance and oversight

The Firm's General Counsel reports to the CEO and is a member of the Operating Committee, the Firmwide Risk Committee and the Firmwide Control Committee. The Firm's General Counsel and other members of Legal report on significant legal matters to the Firm's Board of Directors and to the Audit Committee.

Legal serves on and advises various committees and advises the Firm's LOBs and Corporate on potential reputation risk issues.

ESTIMATIONS AND MODEL RISK MANAGEMENT

Estimations and Model risk, a subcategory of operational risk, is the potential for adverse consequences from decisions based on incorrect or misused estimation outputs.

The Firm uses models and other analytical and judgment-based estimations across various businesses and functions. The estimation methods are of varying levels of sophistication and are used for many purposes, such as the valuation of positions and measurement of risk, assessing regulatory capital requirements, conducting stress testing, evaluating the allowance for credit losses and making business decisions. A dedicated independent function, Model Risk Governance and Review ("MRGR"), defines and governs the Firm's policies relating to the management of model risk and risks associated with certain analytical and judgment-based estimations, such as those used in risk management, budget forecasting and capital planning and analysis.

The governance of analytical and judgment-based estimations within MRGR's scope follows a consistent approach which is used for models, as described in detail below.

Model risks are owned by the users of the models within the LOBs and Corporate based on the specific purposes of such models. Users and developers of models are responsible for developing, implementing and testing their models, as well as referring models to MRGR for review and approval. Once models have been approved, model users and developers are responsible for maintaining a robust operating environment, and must monitor and evaluate the performance of the models on an ongoing basis. Model users and developers may seek to enhance models in response to changes in the relevant portfolios and in product and market developments, as well as to capture improvements in available modeling techniques and systems capabilities.

Models are tiered based on an internal standard according to their complexity, the exposure associated with the model and the Firm's reliance on the model. This tiering is subject to the approval of MRGR. In its review of a model, MRGR considers whether the model is suitable for the specific purposes for which it will be used. When reviewing a model, MRGR analyzes and challenges the model methodology and the reasonableness of model assumptions, and may perform or require additional testing, including back-testing of model outcomes. Model reviews are approved by the appropriate level of management within MRGR based on the relevant model tier.

Under the Firm's Estimations and Model Risk Management Policy, MRGR reviews and approves new models, as well as material changes to existing models, prior to their use. In certain circumstances, exceptions may be granted to the Firm's policy to allow a model to be used prior to review or approval. MRGR may also require the user to take appropriate actions to mitigate the model risk if it is to be used in the interim. These actions will depend on the model and may include, for example, limitation of trading activity.

While models are inherently imprecise, the degree of imprecision or uncertainty can be heightened by the market or economic environment. This is particularly true when the current and forecasted environments are significantly different from the historical environments upon which the models were developed. This increased uncertainty may necessitate a greater degree of judgment and analytics to inform any adjustments that the Firm may make to model outputs than would otherwise be the case. In addition, the Firm may experience increased uncertainty in its estimates if assets acquired differ from those used to develop the models.

Refer to Critical Accounting Estimates Used by the Firm on pages 155–158 and Note 2 for a summary of model-based valuations and other valuation techniques.

JPMorgan Chase's accounting policies and use of estimates are integral to understanding its reported results. The Firm's most complex accounting estimates require management's judgment to ascertain the appropriate carrying value of assets and liabilities. The Firm has established policies and control procedures intended to ensure that estimation methods, including any judgments made as part of such methods, are well-controlled, independently reviewed and applied consistently from period to period. The methods used and judgments made reflect, among other factors, the nature of the assets or liabilities and the related business and risk management strategies, which may vary across the Firm's businesses and portfolios. In addition, the policies and procedures are intended to ensure that the process for changing methodologies occurs in an appropriate manner. The Firm believes its estimates for determining the carrying value of its assets and liabilities are appropriate. The following is a brief description of the Firm's critical accounting estimates involving significant judgments.

Allowance for credit losses

The Firm's allowance for credit losses represents management's estimate of expected credit losses over the remaining expected life of the Firm's financial assets measured at amortized cost and certain off-balance sheet lending-related commitments. The allowance for credit losses generally comprises:

- The allowance for loan losses, which covers the Firm's retained loan portfolios (scored and risk-rated),
- The allowance for lending-related commitments and
- The allowance for credit losses on investment securities.

The allowance for credit losses involves significant judgment on a number of matters including development and weighting of macroeconomic forecasts, incorporation of historical loss experience, assessment of risk characteristics, assignment of risk ratings, valuation of collateral, and the determination of remaining expected life. Refer to Note 10 and Note 13 for further information on these judgments as well as the Firm's policies and methodologies used to determine the Firm's allowance for credit losses.

One of the most significant judgments involved in estimating the Firm's allowance for credit losses relates to the macroeconomic forecasts used to estimate credit losses over the eight-quarter forecast period within the Firm's methodology. The eight-quarter forecast incorporates hundreds of macroeconomic variables ("MEVs") that are relevant for exposures across the Firm, with modeled credit losses being driven primarily by a subset of less than twenty variables. The specific variables that have the greatest effect on the modeled losses of each portfolio vary by portfolio and geography.

- Key MEVs for the consumer portfolio include regional U.S. unemployment rates and U.S. HPI.
- Key MEVs for the wholesale portfolio include U.S. unemployment, U.S. real GDP, U.S. equity prices, U.S. interest rates, U.S. corporate credit spreads, oil prices, U.S. commercial real estate prices and U.S. HPI.

Changes in the Firm's assumptions and forecasts of economic conditions could significantly affect its estimate of expected credit losses in the portfolio at the balance sheet date or lead to significant changes in the estimate from one reporting period to the next.

As a result of the First Republic acquisition, the Firm recorded an allowance for credit losses for the loans acquired and lending-related commitments assumed as of May 1, 2023. Given the differences in risk rating methodologies for the First Republic portfolio, and the ongoing integration of products and systems, the allowance for credit losses for the acquired wholesale portfolio was measured based on other facilities underwritten by the Firm with similar risk characteristics and not based on modeled estimates. As such, the First Republic wholesale portfolio is excluded from the modeled estimates sensitivity analysis below. The allowance for credit losses for predominantly all of the consumer portfolio was measured using the Firm's modeled approach, as the consumer portfolio is predominantly residential real estate that has more commonly defined risk characteristics including loan to value ratio and credit score, and therefore is reflected in the sensitivity analysis below. Refer to Note 34 for additional information on the First Republic acquisition.

It is difficult to estimate how potential changes in any one factor or input might affect the overall allowance for credit losses because management considers a wide variety of factors and inputs in estimating the allowance for credit losses. Changes in the factors and inputs considered may not occur at the same rate and may not be consistent across all geographies or product types, and changes in factors and inputs may be directionally inconsistent, such that improvement in one factor or input may offset deterioration in others.

To consider the impact of a hypothetical alternate macroeconomic forecast, the Firm compared the modeled credit losses determined using its central and relative adverse macroeconomic scenarios, which are two of the five scenarios considered in estimating the allowances for loan losses and lending-related commitments. The central and relative adverse scenarios each included a full suite of MEVs, but differed in the levels, paths and peaks/troughs of those variables over the eight-quarter forecast period.

For example, compared to the Firm's central scenario shown on page 131 and in Note 13, the Firm's relative adverse scenario assumes an elevated U.S. unemployment rate, averaging approximately 2.1% higher over the eight-quarter forecast, with a peak difference of approximately 2.7% in the fourth quarter of 2024; lower U.S. real GDP with a slower recovery, remaining nearly 3.3% lower at the end of the eight-quarter forecast, with a peak difference of

approximately 3.9% in the fourth quarter of 2024; and lower HPI with a peak difference of approximately 17.9% in the third quarter of 2025.

This analysis is not intended to estimate expected future changes in the allowance for credit losses, for a number of reasons, including:

- The allowance as of December 31, 2023, reflects credit losses beyond those estimated under the central scenario due to the weight placed on the adverse scenarios.
- The impacts of changes in many MEVs are both interrelated and nonlinear, so the results of this analysis cannot be simply extrapolated for more severe changes in macroeconomic variables.
- Expectations of future changes in portfolio composition and borrower behavior can significantly affect the allowance for credit losses.

To demonstrate the sensitivity of credit loss estimates to macroeconomic forecasts as of December 31, 2023, the Firm compared the modeled estimates under its relative adverse scenario to its central scenario. Without considering offsetting or correlated effects in other qualitative components of the Firm's allowance for credit losses, the comparison between these two scenarios for the exposures below reflect the following differences:

- An increase of approximately $850 million for residential real estate loans and lending-related commitments
- An increase of approximately $3.1 billion for credit card loans
- An increase of approximately $3.9 billion for wholesale loans and lending-related commitments

This analysis relates only to the modeled credit loss estimates and is not intended to estimate changes in the overall allowance for credit losses as it does not reflect any potential changes in other adjustments to the quantitative calculation, which would also be influenced by the judgment management applies to the modeled lifetime loss estimates to reflect the uncertainty and imprecision of these modeled lifetime loss estimates based on then-current circumstances and conditions.

Recognizing that forecasts of macroeconomic conditions are inherently uncertain, the Firm believes that its process to consider the available information and associated risks and uncertainties is appropriately governed and that its estimates of expected credit losses were reasonable and appropriate for the period ended December 31, 2023.

Fair value

JPMorgan Chase carries a portion of its assets and liabilities at fair value. The majority of such assets and liabilities are measured at fair value on a recurring basis, including derivatives, structured note products and certain securities financing agreements. Certain assets and liabilities are measured at fair value on a nonrecurring basis, including certain mortgage, home equity and other loans, where the carrying value is based on the fair value of the underlying collateral.

Assets measured at fair value

The following table includes the Firm's assets measured at fair value and the portion of such assets that are classified within level 3 of the fair value hierarchy. Refer to Note 2 for further information.

December 31, 2023 (in millions, except ratios)	Total assets at fair value	Total level 3 assets
Federal funds sold and securities purchased under resale agreements	$ 259,813	$ –
Securities borrowed	70,086	–
Trading assets:		
Trading-debt and equity instruments	485,701	2,373
Derivative receivables[(a)]	54,864	8,924
Total trading assets	540,565	11,297
AFS securities	201,704	–
Loans	38,851	3,079
MSRs	8,522	8,522
Other	11,322	758
Total assets measured at fair value on a recurring basis	1,130,863	23,656
Total assets measured at fair value on a nonrecurring basis	3,141	2,490
Total assets measured at fair value	$ 1,134,004	$ 26,146
Total Firm assets	$ 3,875,393	
Level 3 assets at fair value as a percentage of total Firm assets[(a)]		1%
Level 3 assets at fair value as a percentage of total Firm assets at fair value[(a)]		2%

(a) For purposes of the table above, the derivative receivables total reflects the impact of netting adjustments; however, the $8.9 billion of derivative receivables classified as level 3 does not reflect the netting adjustment as such netting is not relevant to a presentation based on the transparency of inputs to the valuation of an asset. The level 3 balances would be reduced if netting were applied, including the netting benefit associated with cash collateral.

Valuation

Details of the Firm's processes for determining fair value are set out in Note 2. Estimating fair value requires the application of judgment. The type and level of judgment required is largely dependent on the amount of observable market information available to the Firm. For instruments valued using internally developed valuation models and other valuation techniques that use significant unobservable inputs and are therefore classified within level 3 of the fair value hierarchy, judgments used to estimate fair value are more significant than those required when estimating the fair value of instruments classified within levels 1 and 2.

In arriving at an estimate of fair value for an instrument within level 3, management must first determine the appropriate valuation model or other valuation technique to use. Second, the lack of observability of certain significant inputs requires management to assess relevant empirical data in deriving valuation inputs including, for example, transaction details, yield curves, interest rates, prepayment speeds, default rates, volatilities, correlations, prices (such as commodity, equity or debt prices), valuations of comparable instruments, foreign exchange rates and credit curves. Refer to Note 2 for a further discussion of the valuation of level 3 instruments, including unobservable inputs used.

For instruments classified in levels 2 and 3, management judgment must be applied to assess the appropriate level of valuation adjustments to reflect counterparty credit quality, the Firm's creditworthiness, market funding rates, liquidity considerations, unobservable parameters, and for portfolios that meet specified criteria, the size of the net open risk position. The judgments made are typically affected by the type of product and its specific contractual terms, and the level of liquidity for the product or within the market as a whole. In periods of heightened market volatility and uncertainty judgments are further affected by the wider variation of reasonable valuation estimates, particularly for positions that are less liquid. Refer to Note 2 for a further discussion of valuation adjustments applied by the Firm.

Imprecision in estimating unobservable market inputs or other factors can affect the amount of gain or loss recorded for a particular position. Furthermore, while the Firm believes its valuation methods are appropriate and consistent with those of other market participants, the methods and assumptions used reflect management judgment and may vary across the Firm's businesses and portfolios.

The Firm uses various methodologies and assumptions in the determination of fair value. The use of methodologies or assumptions different than those used by the Firm could result in a different estimate of fair value at the reporting date. Refer to Note 2 for a detailed discussion of the Firm's valuation process and hierarchy, and its determination of fair value for individual financial instruments.

Goodwill impairment

Under U.S. GAAP, goodwill must be allocated to reporting units and tested for impairment at least annually. The Firm's process and methodology used to conduct goodwill impairment testing is described in Note 15.

Management applies significant judgment when testing goodwill for impairment. The goodwill associated with each business combination is allocated to the related reporting units for goodwill impairment testing.

For the year ended December 31, 2023, the Firm reviewed current economic conditions, estimated market cost of equity, as well as actual business results and projections of business performance. Based on such reviews, the Firm has concluded that goodwill was not impaired as of December 31, 2023. For each of the reporting units, fair value exceeded carrying value by at least 9% and there was no indication of a significant risk of goodwill impairment based on current projections and valuations.

The projections for the Firm's reporting units are consistent with management's current business outlook assumptions in the short term, and the Firm's best estimates of long-term growth and return on equity in the longer term. Where possible, the Firm uses third-party and peer data to benchmark its assumptions and estimates.

Refer to Note 15 for additional information on goodwill, including the goodwill impairment assessment as of December 31, 2023.

Credit card rewards liability

JPMorgan Chase offers credit cards with various rewards programs which allow cardholders to earn rewards points based on their account activity and the terms and conditions of the rewards program. Generally, there are no limits on the points that an eligible cardholder can earn, nor do the points expire, and the points can be redeemed for a variety of rewards, including cash (predominantly in the form of account credits), gift cards and travel. The Firm maintains a rewards liability which represents the estimated cost of rewards points earned and expected to be redeemed by cardholders. The liability is accrued as the cardholder earns the benefit and is reduced when the cardholder redeems points. This liability was $13.2 billion and $11.3 billion at December 31, 2023 and 2022, respectively, and is recorded in accounts payable and other liabilities on the Consolidated balance sheets. The increase in the liability was predominantly driven by continued growth in rewards points earned on higher spend and promotional offers outpacing redemptions throughout 2023, and, to a lesser extent, adjustments to certain reward program terms in the second quarter of 2023.

The rewards liability is sensitive to redemption rate ("RR") and cost per point ("CPP") assumptions. The RR assumption is used to estimate the number of points earned by customers that will be redeemed over the life of the account. The CPP assumption is used to estimate the cost of future point redemptions. These assumptions are evaluated periodically considering historical actuals, cardholder

redemption behavior and management judgment. Updates to these assumptions will impact the rewards liability. As of December 31, 2023, a combined increase of 25 basis points in RR and 1 basis point in CPP would increase the rewards liability by approximately $376 million.

Income taxes

JPMorgan Chase is subject to the income tax laws of the various jurisdictions in which it operates, including U.S. federal, state and local, and non-U.S. jurisdictions. These laws are often complex and may be subject to different interpretations. To determine the financial statement impact of accounting for income taxes, including the provision for income tax expense and unrecognized tax benefits, JPMorgan Chase must make assumptions and judgments about how to interpret and apply these complex tax laws to numerous transactions and business events, as well as make judgments regarding the timing of when certain items may affect taxable income in the U.S. and non-U.S. tax jurisdictions.

JPMorgan Chase's interpretations of tax laws around the world are subject to review and examination by the various taxing authorities in the jurisdictions where the Firm operates, and disputes may occur regarding its view on a tax position. These disputes over interpretations with the various taxing authorities may be settled by audit, administrative appeals or adjudication in the court systems of the tax jurisdictions in which the Firm operates. JPMorgan Chase regularly reviews whether it may be assessed additional income taxes as a result of the resolution of these matters, and the Firm records additional unrecognized tax benefits, as appropriate. In addition, the Firm may revise its estimate of income taxes due to changes in income tax laws, legal interpretations, and business strategies. It is possible that revisions in the Firm's estimate of income taxes may materially affect the Firm's results of operations in any reporting period.

Deferred taxes arise from differences between assets and liabilities measured for financial reporting versus income tax return purposes. Deferred tax assets are recognized if, in management's judgment, their realizability is determined to be more likely than not. Deferred taxes are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred taxes of a change in tax rates is recognized within the provision for income taxes in the period enacted.

The Firm has also recognized deferred tax assets in connection with certain tax attributes, including net operating loss ("NOL") carryforwards and foreign tax credit ("FTC") carryforwards. The Firm performs regular reviews to ascertain whether its deferred tax assets are realizable. These reviews include management's estimates and assumptions regarding future taxable income, including foreign source income, and may incorporate various tax planning strategies, including strategies that may be available to utilize NOLs and FTCs before they expire. In connection with these reviews, if it is determined that a deferred tax asset is not realizable, a valuation allowance is established. The valuation allowance may be reversed in a subsequent reporting period if the Firm determines that, based on revised estimates of future taxable income or changes in tax planning strategies, it is more likely than not that all or part of the deferred tax asset will become realizable. As of December 31, 2023, management has determined it is more likely than not that the Firm will realize its deferred tax assets, net of the existing valuation allowance.

The Firm adjusts its unrecognized tax benefits as necessary when new information becomes available, including changes in tax law and regulations, and interactions with taxing authorities. Uncertain tax positions that meet the more-likely-than-not recognition threshold are measured to determine the amount of benefit to recognize. An uncertain tax position is measured at the largest amount of benefit that management believes is more likely than not to be realized upon settlement. It is possible that the reassessment of JPMorgan Chase's unrecognized tax benefits may have a material impact on its effective income tax rate in the period in which the reassessment occurs. Although the Firm believes that its estimates are reasonable, the final tax amount could be different from the amounts reflected in the Firm's income tax provisions and accruals. To the extent that the final outcome of these amounts is different than the amounts recorded, such differences will generally impact the Firm's provision for income taxes in the period in which such a determination is made.

The Firm's provision for income taxes is composed of current and deferred taxes. The current and deferred tax provisions are calculated based on estimates and assumptions that could differ from the actual results reflected in income tax returns filed during the subsequent year. Adjustments based on filed returns are generally recorded in the period when the tax returns are filed and the global tax implications are known, which could impact the Firm's effective tax rate.

Refer to Note 25 for additional information on income taxes.

Litigation reserves

Refer to Note 30 for a description of the significant estimates and judgments associated with establishing litigation reserves.

Financial Accounting Standards Board ("FASB") Standards Adopted since January 1, 2021

Standard	Summary of guidance	Effects on financial statements
Reference Rate Reform *Issued March 2020 and updated January 2021 and December 2022*	• Provides optional expedients and exceptions to current accounting guidance when financial instruments, hedge accounting relationships, and other transactions are amended due to reference rate reform.	• Issued and effective March 12, 2020. The January 7, 2021 and December 21, 2022 updates were effective when issued.

FASB Standards Adopted since January 1, 2023

Standard	Summary of guidance	Effects on financial statements
Derivatives and Hedging: Fair Value Hedging – Portfolio Layer Method *Issued March 2022*	• Expands the ability to hedge a portfolio of fixed-rate assets to allow more types of assets to be included in the portfolio, and to allow more of the portfolio to be hedged. • Clarifies the types of derivatives that can be used as hedges, and the balance sheet presentation and disclosure requirements for the hedge accounting adjustments. • Allows a one-time reclassification from HTM to AFS upon adoption.	• Adopted prospectively on January 1, 2023. • Refer to Note 1 for further information.
Financial Instruments – Credit Losses: Troubled Debt Restructurings and Vintage Disclosures *Issued March 2022*	• Eliminates existing accounting and disclosure requirements for Troubled Debt Restructurings, including the requirement to measure the allowance using a discounted cash flow methodology. • Requires disclosure of loan modifications for borrowers experiencing financial difficulty involving principal forgiveness, interest rate reduction, other-than-insignificant payment delay, term extension or a combination of these modifications. • Requires disclosure of current period loan charge-off information by origination year. • May be adopted prospectively, or by using a modified retrospective method wherein the effect of adoption is reflected as an adjustment to retained earnings at the effective date.	• Adopted under the modified retrospective method on January 1, 2023. • Refer to Note 1 for further information.

FASB Standards Issued but not yet Adopted as of December 31, 2023

Standard	Summary of guidance	Effects on financial statements
Investments - Equity Method and Joint Ventures: Accounting for Investments in Tax Credit Structures Using the Proportional Amortization Method *Issued March 2023*	• Expands the ability to elect proportional amortization for more types of tax-oriented investments (beyond low income housing tax credit investments) on a program-by-program basis. • May be adopted using a full retrospective method, or a modified retrospective method wherein the effect of adoption is reflected as an adjustment to retained earnings at the effective date.	• Adopted under the modified retrospective method on January 1, 2024, which resulted in a decrease to retained earnings of approximately $200 million.
Segment Reporting: Improvements to Reportable Segment Disclosures *Issued November 2023*	• Requires disclosure of significant segment expenses that are readily provided to the chief operating decision maker ("CODM") and included in segment profit or loss. • Requires disclosure of the composition and aggregate amount of other segment items, which represent the difference between profit or loss and segment revenues less significant segment expenses. • Requires disclosure of the title and position of the CODM and an explanation of how the CODM uses the reported segment measures in assessing segment performance and deciding how to allocate resources.	• Required effective date: Annual financial statements for the year ending December 31, 2024 and interim financial statements for the year ending December 31, 2025.[(a)] • The Firm is currently assessing the potential impact on its segment disclosures.
Income Taxes: Improvements to Income Tax Disclosures *Issued December 2023*	• Requires disclosure of income taxes paid disaggregated by 1) federal, state, and foreign taxes and 2) individual jurisdiction on the basis of a quantitative threshold of equal to or greater than 5 percent of total income taxes paid (net of refunds received). • Requires disclosure of the effective tax rate reconciliation by specific categories, at a minimum, with accompanying qualitative disclosures, and separate disclosure of reconciling items based on quantitative thresholds. • Requires categories within the effective tax rate reconciliation to be further disaggregated if quantitative thresholds are met.	• Required effective date: Annual financial statements for the year ending December 31, 2025.[(a)] • The guidance can be applied on a prospective basis with the option to apply the standard retrospectively. • The Firm is evaluating the potential impact on the Consolidated Financial Statements disclosures, as well as the Firm's planned date of adoption.

(a) Early adoption is permitted.

FORWARD-LOOKING STATEMENTS

From time to time, the Firm has made and will make forward-looking statements. These statements can be identified by the fact that they do not relate strictly to historical or current facts. Forward-looking statements often use words such as “anticipate,” “target,” “expect,” “estimate,” “intend,” “plan,” “goal,” “believe,” or other words of similar meaning. Forward-looking statements provide JPMorgan Chase’s current expectations or forecasts of future events, circumstances, results or aspirations. JPMorgan Chase’s disclosures in this 2023 Form 10-K contain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. The Firm also may make forward-looking statements in its other documents filed or furnished with the SEC. In addition, the Firm’s senior management may make forward-looking statements orally to investors, analysts, representatives of the media and others.

All forward-looking statements are, by their nature, subject to risks and uncertainties, many of which are beyond the Firm’s control. JPMorgan Chase’s actual future results may differ materially from those set forth in its forward-looking statements. While there is no assurance that any list of risks and uncertainties or risk factors is complete, below are certain factors which could cause actual results to differ from those in the forward-looking statements:

- Local, regional and global business, economic and political conditions and geopolitical events, including geopolitical tensions and hostilities;
- Changes in laws, rules and regulatory requirements, including capital and liquidity requirements affecting the Firm’s businesses, and the ability of the Firm to address those requirements;
- Heightened regulatory and governmental oversight and scrutiny of JPMorgan Chase’s business practices, including dealings with retail customers;
- Changes in trade, monetary and fiscal policies and laws;
- Changes in the level of inflation;
- Changes in income tax laws, rules, and regulations;
- Changes in FDIC assessments;
- Securities and capital markets behavior, including changes in market liquidity and volatility;
- Changes in investor sentiment or consumer spending or savings behavior;
- Ability of the Firm to manage effectively its capital and liquidity;
- Changes in credit ratings assigned to the Firm or its subsidiaries;
- Damage to the Firm’s reputation;
- Ability of the Firm to appropriately address social, environmental and sustainability concerns that may arise, including from its business activities;
- Ability of the Firm to deal effectively with an economic slowdown or other economic or market disruption, including, but not limited to, in the interest rate environment;
- Technology changes instituted by the Firm, its counterparties or competitors;
- The effectiveness of the Firm’s control agenda;
- Ability of the Firm to develop or discontinue products and services, and the extent to which products or services previously sold by the Firm require the Firm to incur liabilities or absorb losses not contemplated at their initiation or origination;
- Acceptance of the Firm’s new and existing products and services by the marketplace and the ability of the Firm to innovate and to increase market share;
- Ability of the Firm to attract and retain qualified and diverse employees;
- Ability of the Firm to control expenses;
- Competitive pressures;
- Changes in the credit quality of the Firm’s clients, customers and counterparties;
- Adequacy of the Firm’s risk management framework, disclosure controls and procedures and internal control over financial reporting;
- Adverse judicial or regulatory proceedings;
- Ability of the Firm to determine accurate values of certain assets and liabilities;
- Occurrence of natural or man-made disasters or calamities, including health emergencies, the spread of infectious diseases, epidemics or pandemics, an outbreak or escalation of hostilities or other geopolitical instabilities, the effects of climate change or extraordinary events beyond the Firm’s control, and the Firm’s ability to deal effectively with disruptions caused by the foregoing;
- Ability of the Firm to maintain the security of its financial, accounting, technology, data processing and other operational systems and facilities;
- Ability of the Firm to withstand disruptions that may be caused by any failure of its operational systems or those of third parties;
- Ability of the Firm to effectively defend itself against cyber attacks and other attempts by unauthorized parties to access information of the Firm or its customers or to disrupt the Firm’s systems; and
- The other risks and uncertainties detailed in Part I, Item 1A: Risk Factors in JPMorgan Chase’s 2023 Form 10-K.

Any forward-looking statements made by or on behalf of the Firm speak only as of the date they are made, and JPMorgan Chase does not undertake to update any forward-looking statements. The reader should, however, consult any further disclosures of a forward-looking nature the Firm may make in any subsequent Annual Reports on Form 10-Ks, Quarterly Reports on Form 10-Qs, or Current Reports on Form 8-K.

Management's report on internal control over financial reporting

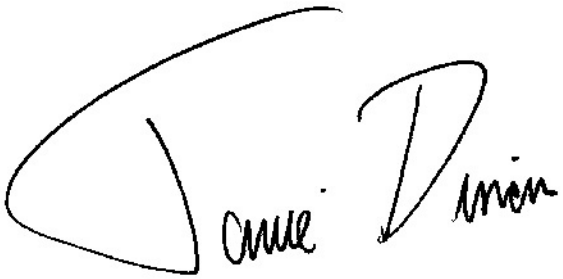
Management of JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm") is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, the Firm's principal executive and principal financial officers, or persons performing similar functions, and effected by JPMorgan Chase's Board of Directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America ("U.S. GAAP").

JPMorgan Chase's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records, that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the Firm's assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with U.S. GAAP, and that receipts and expenditures of the Firm are being made only in accordance with authorizations of JPMorgan Chase's management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Firm's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Management has completed an assessment of the effectiveness of the Firm's internal control over financial reporting as of December 31, 2023. In making the assessment, management used the "Internal Control – Integrated Framework" ("COSO 2013") promulgated by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO").

Based upon the assessment performed, management concluded that as of December 31, 2023, JPMorgan Chase's internal control over financial reporting was effective based upon the COSO 2013 framework. Additionally, based upon management's assessment, the Firm determined that there were no material weaknesses in its internal control over financial reporting as of December 31, 2023.

The effectiveness of the Firm's internal control over financial reporting as of December 31, 2023, has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears herein.



James Dimon
Chairman and Chief Executive Officer

Jeremy Barnum
Executive Vice President and Chief Financial Officer

February 16, 2024

To the Board of Directors and Shareholders of JPMorgan Chase & Co.:

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of JPMorgan Chase & Co. and its subsidiaries (the "Firm") as of December 31, 2023 and 2022, and the related consolidated statements of income, comprehensive income, changes in stockholders' equity and cash flows for each of the three years in the period ended December 31, 2023, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Firm's internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Firm as of December 31, 2023 and 2022, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2023 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Firm maintained, in all material respects, effective internal control over financial reporting as of December 31, 2023, based on criteria established in *Internal Control – Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Firm's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's report on internal control over financial reporting. Our responsibility is to express opinions on the Firm's consolidated financial statements and on the Firm's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Firm in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

PricewaterhouseCoopers LLP • 300 Madison Avenue • New York, NY 10017

Critical Audit Matters

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that (i) relate to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Allowance for Loan Losses – Portfolio-based component of Wholesale Loan and Credit Card Loan Portfolios

As described in Note 13 to the consolidated financial statements, the allowance for loan losses for the portfolio-based component of the wholesale and credit card loan portfolios was $20.2 billion on total portfolio-based retained loans of $881.3 billion at December 31, 2023. The Firm's allowance for loan losses represents management's estimate of expected credit losses over the remaining expected life of the Firm's loan portfolios and considers expected future changes in macroeconomic conditions. The portfolio-based component of the Firm's allowance for loan losses for the wholesale and credit card retained loan portfolios begins with a quantitative calculation of expected credit losses over the expected life of the loan by applying credit loss factors to the estimated exposure at default. The credit loss factors applied are determined based on the weighted average of five internally developed macroeconomic scenarios that take into consideration the Firm's economic outlook as derived through forecast macroeconomic variables, the most significant of which are U.S. unemployment and U.S. real gross domestic product. This quantitative calculation is further adjusted to take into consideration model imprecision, emerging risk assessments, trends and other subjective factors that are not yet otherwise reflected in the credit loss estimate.

The principal considerations for our determination that performing procedures relating to the allowance for loan losses for the portfolio-based component of the wholesale and credit card loan portfolios is a critical audit matter are (i) the significant judgment and estimation by management in the forecast of macroeconomic variables, specifically U.S. unemployment and U.S. real gross domestic product, as the Firm's forecasts of economic conditions significantly affect its estimate of expected credit losses at the balance sheet date, (ii) the significant judgment and estimation by management in determining the quantitative calculation utilized in their credit loss estimates and the adjustments to take into consideration model imprecision, emerging risk assessments, trends and other subjective factors that are not yet otherwise reflected in the credit loss estimate, which both in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures and in evaluating audit evidence obtained relating to the credit loss estimates and the appropriateness of the adjustments to the credit loss estimates, and (iii) the audit effort involved the use of professionals with specialized skill and knowledge.

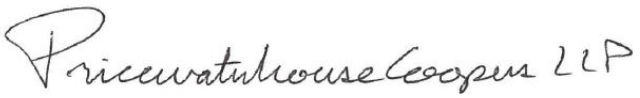
Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the Firm's allowance for loan losses, including controls over model validation and generation of macroeconomic scenarios. These procedures also included, among others, testing management's process for estimating the allowance for loan losses, which involved (i) evaluating the appropriateness of the models and methodologies used in quantitative calculations; (ii) evaluating the reasonableness of forecasts of U.S. unemployment and U.S. real gross domestic product; (iii) testing the completeness and accuracy of data used in the estimate; and (iv) evaluating the reasonableness of management's adjustments to the quantitative output for the impacts of model imprecision, emerging risk assessments, trends and other subjective factors that are not yet otherwise reflected in the credit loss estimate. These procedures also included the use of professionals with specialized skill and knowledge to assist in evaluating the appropriateness of certain models, methodologies and macroeconomic variables.

Fair Value of Certain Level 3 Financial Instruments

As described in Notes 2 and 3 to the consolidated financial statements, the Firm carries $1.1 trillion of its assets and $541.4 billion of its liabilities at fair value on a recurring basis. Included in these balances are $11.3 billion of trading assets and $42.2 billion of liabilities measured at fair value on a recurring basis, collectively financial instruments, which are classified as level 3 as they contain one or more inputs to valuation which are unobservable and significant to their fair value measurement. The Firm utilized internally developed valuation models and unobservable inputs to estimate fair value of the level 3 financial instruments. The unobservable inputs used by management to estimate the fair value of certain of these financial instruments include interest rate volatility, interest rate spread volatility, Bermudan switch value, and correlation relating to interest rates, interest rate-to-foreign exchange, equity prices, equity-to-foreign exchange, equity-to-interest rate and credit.

The principal considerations for our determination that performing procedures relating to the fair value of certain level 3 financial instruments is a critical audit matter are (i) the significant judgment and estimation by management in determining the inputs to estimate fair value, which in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures and in evaluating audit evidence obtained related to the fair value of these financial instruments, and (ii) the audit effort involved the use of professionals with specialized skill and knowledge.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the Firm's determination of the fair value, including controls over models, inputs, and data. These procedures also included, among others, the involvement of professionals with specialized skill and knowledge to assist in developing an independent estimate of fair value for a sample of these financial instruments and comparing management's estimate to the independently developed estimate of fair value. Developing the independent estimate involved testing the completeness and accuracy of data provided by management, developing independent inputs and, as appropriate, evaluating and utilizing management's aforementioned unobservable inputs.



February 16, 2024

We have served as the Firm's auditor since 1965.

JPMorgan Chase & Co.
Consolidated statements of income

Year ended December 31, (in millions, except per share data)	2023	2022	2021
Revenue			
Investment banking fees	**$ 6,519**	$ 6,686	$ 13,216
Principal transactions	**24,460**	19,912	16,304
Lending- and deposit-related fees	**7,413**	7,098	7,032
Asset management fees	**15,220**	14,096	14,405
Commissions and other fees	**6,836**	6,581	6,624
Investment securities losses	**(3,180)**	(2,380)	(345)
Mortgage fees and related income	**1,176**	1,250	2,170
Card income	**4,784**	4,420	5,102
Other income	**5,609**	4,322	4,830
Noninterest revenue	**68,837**	61,985	69,338
Interest income	**170,588**	92,807	57,864
Interest expense	**81,321**	26,097	5,553
Net interest income	**89,267**	66,710	52,311
Total net revenue	**158,104**	128,695	121,649
Provision for credit losses	**9,320**	6,389	(9,256)
Noninterest expense			
Compensation expense	**46,465**	41,636	38,567
Occupancy expense	**4,590**	4,696	4,516
Technology, communications and equipment expense	**9,246**	9,358	9,941
Professional and outside services	**10,235**	10,174	9,814
Marketing	**4,591**	3,911	3,036
Other expense	**12,045**	6,365	5,469
Total noninterest expense	**87,172**	76,140	71,343
Income before income tax expense	**61,612**	46,166	59,562
Income tax expense	**12,060**	8,490	11,228
Net income	**$ 49,552**	$ 37,676	$ 48,334
Net income applicable to common stockholders	**$ 47,760**	$ 35,892	$ 46,503
Net income per common share data			
Basic earnings per share	**$ 16.25**	$ 12.10	$ 15.39
Diluted earnings per share	**16.23**	12.09	15.36
Weighted-average basic shares	**2,938.6**	2,965.8	3,021.5
Weighted-average diluted shares	**2,943.1**	2,970.0	3,026.6

The Notes to Consolidated Financial Statements are an integral part of these statements.

JPMorgan Chase & Co.
Consolidated statements of comprehensive income

Year ended December 31, (in millions)	2023	2022	2021
Net income	**$ 49,552**	$ 37,676	$ 48,334
Other comprehensive income/(loss), after-tax			
Unrealized gains/(losses) on investment securities	**5,381**	(11,764)	(5,540)
Translation adjustments, net of hedges	**329**	(611)	(461)
Fair value hedges	**(101)**	98	(19)
Cash flow hedges	**1,724**	(5,360)	(2,679)
Defined benefit pension and OPEB plans	**373**	(1,241)	922
DVA on fair value option elected liabilities	**(808)**	1,621	(293)
Total other comprehensive income/(loss), after-tax	**6,898**	(17,257)	(8,070)
Comprehensive income	**$ 56,450**	$ 20,419	$ 40,264

The Notes to Consolidated Financial Statements are an integral part of these statements.

JPMorgan Chase & Co.
Consolidated balance sheets

December 31, (in millions, except share data)	2023	2022
Assets		
Cash and due from banks	**$ 29,066**	$ 27,697
Deposits with banks	**595,085**	539,537
Federal funds sold and securities purchased under resale agreements (included **$259,813** and $311,883 at fair value)	**276,152**	315,592
Securities borrowed (included **$70,086** and $70,041 at fair value)	**200,436**	185,369
Trading assets (included assets pledged of **$128,994** and $93,687)	**540,607**	453,799
Available-for-sale securities (amortized cost of **$205,456** and $216,188; included assets pledged of **$9,219** and $9,158)	**201,704**	205,857
Held-to-maturity securities	**369,848**	425,305
Investment securities, net of allowance for credit losses	**571,552**	631,162
Loans (included **$38,851** and $42,079 at fair value)	**1,323,706**	1,135,647
Allowance for loan losses	**(22,420)**	(19,726)
Loans, net of allowance for loan losses	**1,301,286**	1,115,921
Accrued interest and accounts receivable	**107,363**	125,189
Premises and equipment	**30,157**	27,734
Goodwill, MSRs and other intangible assets	**64,381**	60,859
Other assets (included **$12,306** and $14,921 at fair value and assets pledged of **$6,764** and $7,998)	**159,308**	182,884
Total assets[(a)]	**$ 3,875,393**	$ 3,665,743
Liabilities		
Deposits (included **$78,384** and $28,620 at fair value)	**$ 2,400,688**	$ 2,340,179
Federal funds purchased and securities loaned or sold under repurchase agreements (included **$169,003** and $151,999 at fair value)	**216,535**	202,613
Short-term borrowings (included **$20,042** and $15,792 at fair value)	**44,712**	44,027
Trading liabilities	**180,428**	177,976
Accounts payable and other liabilities (included **$5,637** and $7,038 at fair value)	**290,307**	300,141
Beneficial interests issued by consolidated VIEs (included **$1** and $5 at fair value)	**23,020**	12,610
Long-term debt (included **$87,924** and $72,281 at fair value)	**391,825**	295,865
Total liabilities[(a)]	**3,547,515**	3,373,411
Commitments and contingencies (refer to Notes 28, 29 and 30)		
Stockholders' equity		
Preferred stock ($1 par value; authorized 200,000,000 shares: issued **2,740,375** and 2,740,375 shares)	**27,404**	27,404
Common stock ($1 par value; authorized 9,000,000,000 shares; issued 4,104,933,895 shares)	**4,105**	4,105
Additional paid-in capital	**90,128**	89,044
Retained earnings	**332,901**	296,456
Accumulated other comprehensive losses	**(10,443)**	(17,341)
Treasury stock, at cost (**1,228,275,301** and 1,170,676,094 shares)	**(116,217)**	(107,336)
Total stockholders' equity	**327,878**	292,332
Total liabilities and stockholders' equity	**$ 3,875,393**	$ 3,665,743

(a) The following table presents information on assets and liabilities related to VIEs that are consolidated by the Firm at December 31, 2023 and 2022. The assets of the consolidated VIEs are used to settle the liabilities of those entities. The holders of the beneficial interests do not have recourse to the general credit of JPMorgan Chase. The assets and liabilities in the table below include third-party assets and liabilities of consolidated VIEs and exclude intercompany balances that eliminate in consolidation. Refer to Note 14 for a further discussion.

December 31, (in millions)	2023	2022
Assets		
Trading assets	**$ 2,170**	$ 2,151
Loans	**37,611**	34,411
All other assets	**591**	550
Total assets	**$ 40,372**	$ 37,112
Liabilities		
Beneficial interests issued by consolidated VIEs	**$ 23,020**	$ 12,610
All other liabilities	**263**	279
Total liabilities	**$ 23,283**	$ 12,889

The Notes to Consolidated Financial Statements are an integral part of these statements.

JPMorgan Chase & Co.
Consolidated statements of changes in stockholders' equity

Year ended December 31, (in millions, except per share data)	2023	2022	2021
Preferred stock			
Balance at January 1	**$ 27,404**	$ 34,838	$ 30,063
Issuance	**–**	–	7,350
Redemption	**–**	(7,434)	(2,575)
Balance at December 31	**27,404**	27,404	34,838
Common stock			
Balance at January 1 and December 31	**4,105**	4,105	4,105
Additional paid-in capital			
Balance at January 1	**89,044**	88,415	88,394
Shares issued and commitments to issue common stock for employee share-based compensation awards, and related tax effects	**1,084**	629	152
Other	**–**	–	(131)
Balance at December 31	**90,128**	89,044	88,415
Retained earnings			
Balance at January 1	**296,456**	272,268	236,990
Cumulative effect of change in accounting principles	**449**	–	–
Net income	**49,552**	37,676	48,334
Dividends declared:			
Preferred stock	**(1,501)**	(1,595)	(1,600)
Common stock (**$4.10**, $4.00 and $3.80 per share for 2023, 2022 and 2021, respectively)	**(12,055)**	(11,893)	(11,456)
Balance at December 31	**332,901**	296,456	272,268
Accumulated other comprehensive income/(loss)			
Balance at January 1	**(17,341)**	(84)	7,986
Other comprehensive income/(loss), after-tax	**6,898**	(17,257)	(8,070)
Balance at December 31	**(10,443)**	(17,341)	(84)
Treasury stock, at cost			
Balance at January 1	**(107,336)**	(105,415)	(88,184)
Repurchase	**(9,980)**	(3,122)	(18,448)
Reissuance	**1,099**	1,201	1,217
Balance at December 31	**(116,217)**	(107,336)	(105,415)
Total stockholders' equity	**$ 327,878**	$ 292,332	$ 294,127

Effective January 1, 2023, the Firm adopted the Financial Instruments – Credit Losses: Troubled Debt Restructurings and Derivatives and Hedging: Fair Value Hedging – Portfolio Layer Method accounting guidance. Refer to Note 1 for further information.

The Notes to Consolidated Financial Statements are an integral part of these statements.

JPMorgan Chase & Co.
Consolidated statements of cash flows

Year ended December 31, (in millions)	2023	2022	2021
Operating activities			
Net income	**$ 49,552**	$ 37,676	$ 48,334
Adjustments to reconcile net income to net cash provided by operating activities:			
Provision for credit losses	**9,320**	6,389	(9,256)
Depreciation and amortization	**7,512**	7,051	7,932
Deferred tax (benefit)/expense	**(4,534)**	(2,738)	3,748
Bargain purchase gain associated with the First Republic acquisition	**(2,775)**	–	–
Other	**4,301**	5,174	3,274
Originations and purchases of loans held-for-sale	**(115,245)**	(149,167)	(347,864)
Proceeds from sales, securitizations and paydowns of loans held-for-sale	**116,430**	167,709	336,413
Net change in:			
Trading assets	**(74,091)**	(31,449)	85,710
Securities borrowed	**(14,902)**	20,203	(45,635)
Accrued interest and accounts receivable	**19,928**	(22,970)	(12,401)
Other assets	**32,970**	(2,882)	(11,745)
Trading liabilities	**5,315**	11,170	(23,190)
Accounts payable and other liabilities	**(25,388)**	58,614	43,162
Other operating adjustments	**4,581**	2,339	(398)
Net cash provided by operating activities	**12,974**	107,119	78,084
Investing activities			
Net change in:			
Federal funds sold and securities purchased under resale agreements	**39,740**	(54,278)	34,473
Held-to-maturity securities:			
Proceeds from paydowns and maturities	**53,056**	48,626	50,897
Purchases	**(4,141)**	(33,676)	(111,756)
Available-for-sale securities:			
Proceeds from paydowns and maturities	**53,744**	39,159	50,075
Proceeds from sales	**108,434**	84,616	162,748
Purchases	**(115,499)**	(126,258)	(248,785)
Proceeds from sales and securitizations of loans held-for-investment	**47,312**	44,892	35,845
Other changes in loans, net	**(88,343)**	(128,968)	(91,797)
Net cash used in First Republic Acquisition	**(9,920)**	–	–
All other investing activities, net	**(16,740)**	(11,932)	(11,044)
Net cash provided by/(used in) investing activities	**67,643**	(137,819)	(129,344)
Financing activities			
Net change in:			
Deposits	**(32,196)**	(136,895)	293,764
Federal funds purchased and securities loaned or sold under repurchase agreements	**13,801**	8,455	(20,799)
Short-term borrowings	**(1,934)**	(8,984)	7,773
Beneficial interests issued by consolidated VIEs	**9,029**	2,205	(4,254)
Proceeds from long-term borrowings	**75,417**	78,442	82,409
Payments of long-term borrowings	**(64,880)**	(45,556)	(54,932)
Proceeds from issuance of preferred stock	**–**	–	7,350
Redemption of preferred stock	**–**	(7,434)	(2,575)
Treasury stock repurchased	**(9,824)**	(3,162)	(18,408)
Dividends paid	**(13,463)**	(13,562)	(12,858)
All other financing activities, net	**(1,521)**	234	(1,477)
Net cash provided by/(used in) financing activities	**(25,571)**	(126,257)	275,993
Effect of exchange rate changes on cash and due from banks and deposits with banks	**1,871**	(16,643)	(11,508)
Net increase/(decrease) in cash and due from banks and deposits with banks	**56,917**	(173,600)	213,225
Cash and due from banks and deposits with banks at the beginning of the period	**567,234**	740,834	527,609
Cash and due from banks and deposits with banks at the end of the period	**$ 624,151**	$ 567,234	$ 740,834
Cash interest paid	**$ 77,114**	$ 23,143	$ 5,142
Cash income taxes paid, net	**9,908**	4,355	18,737

The Notes to Consolidated Financial Statements are an integral part of these statements.

Note 1 – Basis of presentation

JPMorgan Chase & Co. ("JPMorgan Chase" or the "Firm"), a financial holding company incorporated under Delaware law in 1968, is a leading financial services firm based in the U.S., with operations worldwide. The Firm is a leader in investment banking, financial services for consumers and small businesses, commercial banking, financial transaction processing and asset management. On May 1, 2023, JPMorgan Chase acquired certain assets and assumed certain liabilities of First Republic Bank (the "First Republic acquisition") from the Federal Deposit Insurance Corporation ("FDIC"). The Firm continues to convert certain operations, and to integrate clients, products and services associated with the First Republic acquisition, to align with the Firm's businesses and operations. Accordingly, reporting classification and internal risk rating profiles in the wholesale portfolio may change in future periods. Refer to Note 34 for additional information on the First Republic acquisition.

The accounting and financial reporting policies of JPMorgan Chase and its subsidiaries conform to U.S. GAAP. Additionally, where applicable, the policies conform to the accounting and reporting guidelines prescribed by regulatory authorities.

Consolidation

The Consolidated Financial Statements include the accounts of JPMorgan Chase and other entities in which the Firm has a controlling financial interest. All material intercompany balances and transactions have been eliminated.

Assets held for clients in an agency or fiduciary capacity by the Firm are not assets of JPMorgan Chase and are not included on the Consolidated balance sheets.

The Firm determines whether it has a controlling financial interest in an entity by first evaluating whether the entity is a voting interest entity or a variable interest entity.

Voting interest entities

Voting interest entities are entities that have sufficient equity and provide the equity investors voting rights that enable them to make significant decisions relating to the entity's operations. For these types of entities, the Firm's determination of whether it has a controlling interest is primarily based on the amount of voting equity interests held. Entities in which the Firm has a controlling financial interest, through ownership of the majority of the entities' voting equity interests, or through other contractual rights that give the Firm control, are consolidated by the Firm.

Investments in companies in which the Firm has significant influence over operating and financing decisions (but does not own a majority of the voting equity interests) are accounted for (i) in accordance with the equity method of accounting, or (ii) at fair value if the fair value option was elected. These investments are generally included in other assets, with income or loss included in noninterest revenue.

Certain Firm-sponsored asset management funds are structured as limited partnerships or limited liability companies. For many of these entities, the Firm is the general partner or managing member, but the non-affiliated partners or members have the ability to remove the Firm as the general partner or managing member without cause (i.e., kick-out rights), based on a simple majority vote, or the non-affiliated partners or members have rights to participate in important decisions. Accordingly, the Firm does not consolidate these voting interest entities. However, in the limited cases where the non-managing partners or members do not have substantive kick-out or participating rights, the Firm evaluates the funds as VIEs and consolidates the funds if the Firm is the general partner or managing member and has both power and a potentially significant interest.

The Firm's investment companies and asset management funds have investments in both publicly-held and privately-held entities, including investments in buyouts, growth equity and venture opportunities. These investments are accounted for under investment company guidelines and, accordingly, irrespective of the percentage of equity ownership interests held, are carried on the Consolidated balance sheets at fair value, and are recorded in other assets, with income or loss included in noninterest revenue. If consolidated, the Firm retains the accounting under such specialized investment company guidelines.

Variable interest entities

VIEs are entities that, by design, either (1) lack sufficient equity to permit the entity to finance its activities without additional subordinated financial support from other parties, or (2) have equity investors that do not have the ability to make significant decisions relating to the entity's operations through voting rights, or do not have the obligation to absorb the expected losses, or do not have the right to receive the residual returns of the entity.

The most common type of VIE is an SPE. SPEs are commonly used in securitization transactions in order to isolate certain assets and distribute the cash flows from those assets to investors. The basic SPE structure involves a company selling assets to the SPE; the SPE funds the purchase of those assets by issuing securities to investors. The legal documents that govern the transaction specify how the cash earned on the assets must be allocated to the SPE's investors and other parties that have rights to those cash flows. SPEs are generally structured to insulate investors from claims on the SPE's assets by creditors of other entities, including the creditors of the seller of the assets.

The primary beneficiary of a VIE (i.e., the party that has a controlling financial interest) is required to consolidate the assets and liabilities of the VIE. The primary beneficiary is the party that has both (1) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance; and (2) through its interests in the VIE, the

obligation to absorb losses or the right to receive benefits from the VIE that could potentially be significant to the VIE.

To assess whether the Firm has the power to direct the activities of a VIE that most significantly impact the VIE's economic performance, the Firm considers all the facts and circumstances, including its role in establishing the VIE and its ongoing rights and responsibilities. This assessment includes, first, identifying the activities that most significantly impact the VIE's economic performance; and second, identifying which party, if any, has power over those activities. In general, the parties that make the most significant decisions affecting the VIE (such as asset managers, collateral managers, servicers, or owners of call options or liquidation rights over the VIE's assets) or have the right to unilaterally remove those decision-makers are deemed to have the power to direct the activities of a VIE.

To assess whether the Firm has the obligation to absorb losses of the VIE or the right to receive benefits from the VIE that could potentially be significant to the VIE, the Firm considers all of its economic interests, including debt and equity investments, servicing fees, and derivatives or other arrangements deemed to be variable interests in the VIE. This assessment requires that the Firm apply judgment in determining whether these interests, in the aggregate, are considered potentially significant to the VIE. Factors considered in assessing significance include: the design of the VIE, including its capitalization structure; subordination of interests; payment priority; relative share of interests held across various classes within the VIE's capital structure; and the reasons why the interests are held by the Firm.

The Firm performs on-going reassessments of: (1) whether entities previously evaluated under the majority voting-interest framework have become VIEs, based on certain events, and are therefore subject to the VIE consolidation framework; and (2) whether changes in the facts and circumstances regarding the Firm's involvement with a VIE cause the Firm's consolidation conclusion to change.

Refer to Note 14 for further discussion of Firm-sponsored VIEs.

Revenue recognition

Interest income

The Firm recognizes interest income on loans, debt securities, and other debt instruments, generally on a level-yield basis, based on the underlying contractual rate. Refer to Note 7 for further information.

Revenue from contracts with customers

JPMorgan Chase recognizes noninterest revenue from certain contracts with customers, in investment banking fees, deposit-related fees, asset management fees, commissions and other fees, and components of card income, when the Firm's related performance obligations are satisfied. Refer to Note 6 for further discussion of the Firm's revenue from contracts with customers.

Principal transactions revenue

JPMorgan Chase carries a portion of its assets and liabilities at fair value. Changes in fair value are reported primarily in principal transactions revenue. Refer to Notes 2 and 3 for further discussion of fair value measurement. Refer to Note 6 for further discussion of principal transactions revenue.

Use of estimates in the preparation of consolidated financial statements

The preparation of the Consolidated Financial Statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, revenue and expense, and disclosures of contingent assets and liabilities. Actual results could be different from these estimates.

Foreign currency translation

JPMorgan Chase revalues assets, liabilities, revenue and expense denominated in non-U.S. currencies into U.S. dollars using applicable exchange rates.

Gains and losses relating to translating functional currency financial statements for U.S. reporting are included in the Consolidated statements of comprehensive income. Gains and losses relating to nonfunctional currency transactions, including non-U.S. operations where the functional currency is the U.S. dollar, are reported in the Consolidated statements of income.

Offsetting assets and liabilities

U.S. GAAP permits entities to present derivative receivables and derivative payables with the same counterparty and the related cash collateral receivables and payables on a net basis on the Consolidated balance sheets when a legally enforceable master netting agreement exists. U.S. GAAP also permits securities sold and purchased under repurchase agreements and securities borrowed or loaned under securities loan agreements to be presented net when specified conditions are met, including the existence of a legally enforceable master netting agreement. The Firm has elected to net such balances where it has determined that the specified conditions are met.

The Firm uses master netting agreements to mitigate counterparty credit risk in certain transactions, including derivative contracts, resale, repurchase, securities borrowed and securities loaned agreements. A master netting agreement is a single agreement with a counterparty that permits multiple transactions governed by that agreement to be terminated or accelerated and settled through a single payment in a single currency in the event of a default (e.g., bankruptcy, failure to make a required payment or securities transfer or deliver collateral or margin when due). Upon the exercise of derivatives termination rights by the non-defaulting party (i) all transactions are terminated, (ii) all transactions are valued and the positive values of "in the money" transactions are netted against the negative values of "out of the money" transactions and (iii) the only remaining payment obligation is of one of the parties to pay the netted termination amount. Upon exercise of default rights under repurchase

agreements and securities loan agreements in general (i) all transactions are terminated and accelerated, (ii) all values of securities or cash held or to be delivered are calculated, and all such sums are netted against each other and (iii) the only remaining payment obligation is of one of the parties to pay the netted termination amount.

Typical master netting agreements for these types of transactions also often contain a collateral/margin agreement that provides for a security interest in, or title transfer of, securities or cash collateral/margin to the party that has the right to demand margin (the "demanding party"). The collateral/margin agreement typically requires a party to transfer collateral/margin to the demanding party with a value equal to the amount of the margin deficit on a net basis across all transactions governed by the master netting agreement, less any threshold. The collateral/margin agreement grants to the demanding party, upon default by the counterparty, the right to set-off any amounts payable by the counterparty against any posted collateral or the cash equivalent of any posted collateral/margin. It also grants to the demanding party the right to liquidate collateral/margin and to apply the proceeds to an amount payable by the counterparty.

Refer to Note 5 for further discussion of the Firm's derivative instruments. Refer to Note 11 for further discussion of the Firm's securities financing agreements.

Statements of cash flows

For JPMorgan Chase's Consolidated statements of cash flows, cash is defined as those amounts included in cash and due from banks and deposits with banks on the Consolidated balance sheets.

Accounting standards adopted January 1, 2023

Derivatives and Hedging: Fair Value Hedging – Portfolio Layer Method

The adoption of this guidance expanded the ability to hedge a portfolio of fixed-rate assets to allow more types of assets to be included in the portfolio, and to allow more of the portfolio to be hedged. This guidance also clarified the types of derivatives that could be used as hedges, and the balance sheet presentation and disclosure requirements for the hedge accounting adjustments. As permitted by the guidance, the Firm elected to transfer HTM securities to AFS and designated those securities in a portfolio layer method hedge upon adoption. The adoption impact of the transfer on retained earnings was not material.

Refer to Note 5 and Note 10 for additional information.

Financial Instruments – Credit Losses: Troubled Debt Restructurings ("TDRs")

The adoption of this guidance eliminated the accounting and disclosure requirements for TDRs, including the requirement to measure the allowance using a discounted cash flow ("DCF") methodology, and allowed the option of a non-DCF portfolio-based approach for modified loans to troubled borrowers. If a DCF methodology is still applied for these modified loans, the discount rate must be the post-modification effective interest rate, instead of the pre-modification effective interest rate.

The Firm elected to apply its non-DCF, portfolio-based allowance approach for modified loans to troubled borrowers for all portfolios except collateral-dependent loans and nonaccrual risk-rated loans which the Firm elected to continue applying a DCF methodology. Refer to Note 13 for a description of the portfolio-based allowance approach and the asset-specific allowance approach.

This guidance was adopted on January 1, 2023 under the modified retrospective method which resulted in a net decrease to the allowance for credit losses of $587 million and an increase to retained earnings of $446 million, after-tax, predominantly driven by residential real estate and credit card.

The adoption of this guidance eliminated the disclosure requirements for TDRs including the requirement to assess whether a modification is reasonably expected or involves a concession. The new guidance requires disclosure for loan modifications to borrowers experiencing financial difficulty consisting of principal forgiveness, interest rate reduction, other-than-insignificant payment delay, term extension or a combination of these modifications. The Firm has defined these types of modifications as financial difficulty modifications ("FDMs"). As a result of the elimination of the requirement to assess whether a modification is reasonably expected or involves a concession, the population of loans considered FDMs differs from those previously considered TDRs. This guidance also requires disclosure of current period gross charge-offs by vintage origination year.

Refer to Note 12 for further information.

Significant accounting policies

The following table identifies JPMorgan Chase's other significant accounting policies and the Note and page where a detailed description of each policy can be found.

Fair value measurement	Note 2	page 175
Fair value option	Note 3	page 197
Derivative instruments	Note 5	page 203
Noninterest revenue and noninterest expense	Note 6	page 217
Interest income and Interest expense	Note 7	page 221
Pension and other postretirement employee benefit plans	Note 8	page 222
Employee share-based incentives	Note 9	page 225
Investment securities	Note 10	page 227
Securities financing activities	Note 11	page 232
Loans	Note 12	page 235
Allowance for credit losses	Note 13	page 255
Variable interest entities	Note 14	page 261
Goodwill, mortgage servicing rights, and other intangible assets	Note 15	page 269
Premises and equipment	Note 16	page 274
Leases	Note 18	page 275
Accounts payable & other liabilities	Note 19	page 277
Long-term debt	Note 20	page 278
Earnings per share	Note 23	page 283
Income taxes	Note 25	page 285
Off-balance sheet lending-related financial instruments, guarantees and other commitments	Note 28	page 291
Litigation	Note 30	page 298

Note 2 – Fair value measurement

JPMorgan Chase carries a portion of its assets and liabilities at fair value. These assets and liabilities are predominantly carried at fair value on a recurring basis (i.e., assets and liabilities that are measured and reported at fair value on the Firm's Consolidated balance sheets). Certain assets, liabilities and unfunded lending-related commitments are measured at fair value on a nonrecurring basis; that is, they are not measured at fair value on an ongoing basis but are subject to fair value adjustments only in certain circumstances (for example, when there is evidence of impairment).

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Fair value is based on quoted market prices or inputs, where available. If prices or quotes are not available, fair value is based on valuation models and other valuation techniques that consider relevant transaction characteristics (such as maturity) and use, as inputs, observable or unobservable market parameters, including yield curves, interest rates, volatilities, prices (such as commodity, equity or debt prices), correlations, foreign exchange rates and credit curves. Fair value may also incorporate valuation adjustments.

The level of precision in estimating unobservable market inputs or other factors can affect the amount of gain or loss recorded for a particular position. Furthermore, while the Firm believes its valuation methods are appropriate and consistent with those of other market participants, the methods and assumptions used reflect management judgment and may vary across the Firm's businesses and portfolios.

The Firm uses various methodologies and assumptions in the determination of fair value. The use of different methodologies or assumptions by other market participants compared with those used by the Firm could result in the Firm deriving a different estimate of fair value at the reporting date.

Valuation process

Risk-taking functions are responsible for providing fair value estimates for assets and liabilities carried on the Consolidated balance sheets at fair value. The Firm's Valuation Control Group ("VCG"), which is part of the Firm's Finance function and independent of the risk-taking functions, is responsible for verifying these estimates and determining any fair value adjustments that may be required to ensure that the Firm's positions are recorded at fair value. In addition, the Firm's Valuation Governance Forum ("VGF"), which is composed of senior finance and risk executives, is responsible for overseeing the management of risks arising from valuation activities conducted across the Firm. The Firmwide VGF is chaired by the Firmwide head of the VCG (under the direction of the Firm's Controller), and includes sub-forums covering the CIB, CCB, CB, AWM and certain corporate functions including Treasury and CIO.

Price verification process

The VCG verifies fair value estimates provided by the risk-taking functions by leveraging independently derived prices, valuation inputs and other market data, where available. Where independent prices or inputs are not available, the VCG performs additional review to ensure the reasonableness of the estimates. The additional review may include evaluating the limited market activity including client unwinds, benchmarking valuation inputs to those used for similar instruments, decomposing the valuation of structured instruments into individual components, comparing expected to actual cash flows, reviewing profit and loss trends, and reviewing trends in collateral valuation. There are also additional levels of management review for more significant or complex positions.

The VCG determines any valuation adjustments that may be required to the estimates provided by the risk-taking functions. No adjustments to quoted prices are applied for instruments classified within level 1 of the fair value hierarchy (refer to the discussion below for further information on the fair value hierarchy). For other positions, judgment is required to assess the need for valuation adjustments to appropriately reflect liquidity considerations, unobservable parameters, and, for certain portfolios that meet specified criteria, the size of the net open risk position. The determination of such adjustments follows a consistent framework across the Firm:

- Liquidity valuation adjustments are considered where an observable external price or valuation parameter exists but is of lower reliability, potentially due to lower market activity. Liquidity valuation adjustments are made based on current market conditions. Factors that may be considered in determining the liquidity adjustment include analysis of: (1) the estimated bid-offer spread for the instrument being traded; (2) alternative pricing points for similar instruments in active markets; and (3) the range of reasonable values that the price or parameter could take.
- The Firm manages certain portfolios of financial instruments on the basis of net open risk exposure and, as permitted by U.S. GAAP, has elected to estimate the fair value of such portfolios on the basis of a transfer of the entire net open risk position in an orderly transaction. Where this is the case, valuation adjustments may be necessary to reflect the cost of exiting a larger-than-normal market-size net open risk position. Where applied, such adjustments are based on factors that a relevant market participant would consider in the transfer of the net open risk position, including the size of the adverse market move that is likely to occur during the period required to sufficiently reduce the net open risk position.
- Uncertainty adjustments related to unobservable parameters may be made when positions are valued using prices or input parameters to valuation models that are unobservable due to a lack of market activity or

because they cannot be implied from observable market data. Such prices or parameters must be estimated and are, therefore, subject to management judgment. Adjustments are made to reflect the uncertainty inherent in the resulting valuation estimate.

- Where appropriate, the Firm also applies adjustments to its estimates of fair value in order to appropriately reflect counterparty credit quality (CVA), the Firm's own creditworthiness (DVA) and the impact of funding (FVA), using a consistent framework across the Firm. Refer to Credit and funding adjustments on page 192 of this Note for more information on such adjustments.

Valuation model review and approval

If prices or quotes are not available for an instrument or a similar instrument, fair value is generally determined using valuation models that consider relevant transaction terms such as maturity and use as inputs market-based or independently sourced parameters. Where this is the case the price verification process described above is applied to the inputs in those models.

Under the Firm's Estimations and Model Risk Management Policy, MRGR reviews and approves new models, as well as material changes to existing models, prior to implementation in the operating environment. In certain circumstances exceptions may be granted to the Firm's policy to allow a model to be used prior to review or approval. MRGR may also require the user to take appropriate actions to mitigate the model risk if it is to be used in the interim. These actions will depend on the model and may include, for example, limitation of trading activity.

Fair value hierarchy

A three-level fair value hierarchy has been established under U.S. GAAP for disclosure of fair value measurements. The fair value hierarchy is based on the observability of inputs to the valuation of an asset or liability as of the measurement date. The three levels are defined as follows.

- Level 1 – inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.
- Level 2 – inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.
- Level 3 – one or more inputs to the valuation methodology are unobservable and significant to the fair value measurement.

A financial instrument's categorization within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement.

The following table describes the valuation methodologies generally used by the Firm to measure its significant products/instruments at fair value, including the general classification of such instruments pursuant to the fair value hierarchy.

Product/instrument	Valuation methodology	Classifications in the fair value hierarchy
Securities financing agreements	Valuations are based on discounted cash flows, which consider: • Derivative features: refer to the discussion of derivatives below for further information • Market rates for the respective maturity • Collateral characteristics	Predominantly level 2
Loans and lending-related commitments – wholesale Loans carried at fair value (trading loans and non-trading loans) and associated lending-related commitments	Where observable market data is available, valuations are based on: • Observed market prices (circumstances are infrequent) • Relevant broker quotes • Observed market prices for similar instruments Where observable market data is unavailable or limited, valuations are based on discounted cash flows, which consider the following: • Credit spreads derived from the cost of CDS; or benchmark credit curves developed by the Firm, by industry and credit rating • Prepayment speed • Collateral characteristics	Level 2 or 3
Loans – consumer Loans carried at fair value – conforming residential mortgage loans expected to be sold	Fair value is based on observable market prices for mortgage-backed securities with similar collateral and incorporates adjustments to these prices to account for differences between the securities and the value of the underlying loans, which include credit characteristics, portfolio composition, and liquidity.	Predominantly level 2
Investment and trading securities	Quoted market prices In the absence of quoted market prices, securities are valued based on: • Observable market prices for similar securities • Relevant broker quotes • Discounted cash flows In addition, the following inputs to discounted cash flows are used for the following products: Mortgage- and asset-backed securities specific inputs: • Collateral characteristics • Deal-specific payment and loss allocations • Current market assumptions related to yield, prepayment speed, conditional default rates and loss severity Collateralized loan obligations (“CLOs”) specific inputs: • Collateral characteristics • Deal-specific payment and loss allocations • Expected prepayment speed, conditional default rates, loss severity • Credit spreads • Credit rating data	Level 1 Level 2 or 3
Physical commodities	Valued using observable market prices or data.	Level 1 or 2

Product/instrument	Valuation methodology	Classifications in the fair value hierarchy
Derivatives	Actively traded derivatives, e.g., exchange-traded derivatives, that are valued using quoted prices.	Level 1
	Derivatives that are valued using models such as the Black-Scholes option pricing model, simulation models, or a combination of models that may use observable or unobservable valuation inputs as well as considering the contractual terms. The key valuation inputs used will depend on the type of derivative and the nature of the underlying instruments and may include equity prices, commodity prices, foreign exchange rates, volatilities, correlations, CDS spreads, recovery rates and prepayment speed. In addition, specific inputs used for derivatives that are valued based on models with significant unobservable inputs are as follows: Interest rate and FX exotic derivatives specific inputs include: • Interest rate curve • Interest rate volatility • Interest rate spread volatility • Bermudan switch value • Interest rate correlation • Interest rate-FX correlation • Foreign exchange correlation Credit derivatives specific inputs include: • Credit correlation between the underlying debt instruments Equity derivatives specific inputs include: • Forward equity price • Equity volatility • Equity correlation • Equity-FX correlation • Equity-IR correlation Commodity derivatives specific inputs include: • Forward commodity price • Commodity volatility • Commodity correlation Additionally, adjustments are made to reflect counterparty credit quality (CVA) and the impact of funding (FVA). Refer to page 192 of this Note.	Level 2 or 3
Mortgage servicing rights	Refer to Mortgage servicing rights in Note 15.	Level 3
Private equity direct investments	Fair value is estimated using all available information; the range of potential inputs include: • Transaction prices • Trading multiples of comparable public companies • Operating performance of the underlying portfolio company • Adjustments as required, since comparable public companies are not identical to the company being valued, and for company-specific issues including lack of liquidity • Additional available inputs relevant to the investment	Level 2 or 3
Fund investments (e.g., mutual/collective investment funds, private equity funds, hedge funds, and real estate funds)	Net asset value • NAV is supported by the ability to redeem and purchase at the NAV level • Adjustments to the NAV as required, for restrictions on redemption (e.g., lock-up periods or withdrawal limitations) or where observable activity is limited	Level 1 Level 2 or 3[(a)]
Beneficial interests issued by consolidated VIEs	Valued using observable market information, where available. In the absence of observable market information, valuations are based on the fair value of the underlying assets held by the VIE.	Level 2 or 3

(a) Excludes certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient.

Product/instrument	Valuation methodology	Classification in the fair value hierarchy
Structured notes (included in deposits, short-term borrowings and long-term debt)	Valuations are based on discounted cash flow analyses that consider the embedded derivative and the terms and payment structure of the note. The embedded derivative features are considered using models such as the Black-Scholes option pricing model, simulation models, or a combination of models that may use observable or unobservable valuation inputs, depending on the embedded derivative. The specific inputs used vary according to the nature of the embedded derivative features, as described in the discussion above regarding derivatives valuation. Adjustments are then made to this base valuation to reflect the Firm's own credit risk (DVA). Refer to page 192 of this Note.	Level 2 or 3

The following table presents the assets and liabilities reported at fair value as of December 31, 2023 and 2022, by major product category and fair value hierarchy.

Assets and liabilities measured at fair value on a recurring basis

	Fair value hierarchy				
December 31, 2023 (in millions)	Level 1	Level 2	Level 3	Derivative netting adjustments[f]	Total fair value
Federal funds sold and securities purchased under resale agreements	$ –	$ 259,813	$ –	$ –	$ 259,813
Securities borrowed	–	70,086	–	–	70,086
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. GSEs and government agencies[a]	–	73,840	758	–	74,598
Residential – nonagency	–	1,921	5	–	1,926
Commercial – nonagency	–	1,362	12	–	1,374
Total mortgage-backed securities	–	77,123	775	–	77,898
U.S. Treasury, GSEs and government agencies[a]	133,997	9,998	–	–	143,995
Obligations of U.S. states and municipalities	–	5,858	10	–	5,868
Certificates of deposit, bankers' acceptances and commercial paper	–	756	–	–	756
Non-U.S. government debt securities	24,846	55,557	179	–	80,582
Corporate debt securities	–	32,854	484	–	33,338
Loans	–	7,872	684	–	8,556
Asset-backed securities	–	2,199	6	–	2,205
Total debt instruments	158,843	192,217	2,138	–	353,198
Equity securities	107,926	679	127	–	108,732
Physical commodities[b]	2,479	3,305	7	–	5,791
Other	–	17,879	101	–	17,980
Total debt and equity instruments[c]	269,248	214,080	2,373	–	485,701
Derivative receivables:					
Interest rate	2,815	243,578	4,298	(224,367)	26,324
Credit	–	8,644	1,010	(9,103)	551
Foreign exchange	149	204,737	889	(187,756)	18,019
Equity	–	55,167	2,522	(52,761)	4,928
Commodity	–	15,234	205	(10,397)	5,042
Total derivative receivables	2,964	527,360	8,924	(484,384)	54,864
Total trading assets[d]	272,212	741,440	11,297	(484,384)	540,565
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. GSEs and government agencies[a]	–	85,170	–	–	85,170
Residential – nonagency	–	3,639	–	–	3,639
Commercial – nonagency	–	2,803	–	–	2,803
Total mortgage-backed securities	–	91,612	–	–	91,612
U.S. Treasury and government agencies	57,683	122	–	–	57,805
Obligations of U.S. states and municipalities	–	21,367	–	–	21,367
Non-U.S. government debt securities	13,095	8,187	–	–	21,282
Corporate debt securities	–	100	–	–	100
Asset-backed securities:					
Collateralized loan obligations	–	6,752	–	–	6,752
Other[a]	–	2,786	–	–	2,786
Total available-for-sale securities	70,778	130,926	–	–	201,704
Loans[e]	–	35,772	3,079	–	38,851
Mortgage servicing rights	–	–	8,522	–	8,522
Other assets[d]	6,635	3,929	758	–	11,322
Total assets measured at fair value on a recurring basis	$ 349,625	$ 1,241,966	$ 23,656	$ (484,384)	$ 1,130,863
Deposits	$ –	$ 76,551	$ 1,833	$ –	$ 78,384
Federal funds purchased and securities loaned or sold under repurchase agreements	–	169,003	–	–	169,003
Short-term borrowings	–	18,284	1,758	–	20,042
Trading liabilities:					
Debt and equity instruments[c]	107,292	32,252	37	–	139,581
Derivative payables:					
Interest rate	4,409	232,277	3,796	(228,586)	11,896
Credit	–	11,293	745	(10,949)	1,089
Foreign exchange	147	211,289	827	(199,643)	12,620
Equity	–	60,887	4,924	(56,443)	9,368
Commodity	–	15,894	484	(10,504)	5,874
Total derivative payables	4,556	531,640	10,776	(506,125)	40,847
Total trading liabilities	111,848	563,892	10,813	(506,125)	180,428
Accounts payable and other liabilities	3,968	1,617	52	–	5,637
Beneficial interests issued by consolidated VIEs	–	1	–	–	1
Long-term debt	–	60,198	27,726	–	87,924
Total liabilities measured at fair value on a recurring basis	$ 115,816	$ 889,546	$ 42,182	$ (506,125)	$ 541,419

December 31, 2022 (in millions)	Fair value hierarchy			Derivative netting adjustments[f]	Total fair value
	Level 1	Level 2	Level 3		
Federal funds sold and securities purchased under resale agreements	$ –	$ 311,883	$ –	$ –	$ 311,883
Securities borrowed	–	70,041	–	–	70,041
Trading assets:					
Debt instruments:					
Mortgage-backed securities:					
U.S. GSEs and government agencies[a]	–	68,162	759	–	68,921
Residential – nonagency	–	2,498	5	–	2,503
Commercial – nonagency	–	1,448	7	–	1,455
Total mortgage-backed securities	–	72,108	771	–	72,879
U.S. Treasury, GSEs and government agencies[a]	61,191	8,546	–	–	69,737
Obligations of U.S. states and municipalities	–	6,608	7	–	6,615
Certificates of deposit, bankers' acceptances and commercial paper	–	2,009	–	–	2,009
Non-U.S. government debt securities	18,213	48,429	155	–	66,797
Corporate debt securities	–	25,626	463	–	26,089
Loans	–	5,744	759	–	6,503
Asset-backed securities	–	2,536	23	–	2,559
Total debt instruments	79,404	171,606	2,178	–	253,188
Equity securities	82,483	2,060	665	–	85,208
Physical commodities[b]	9,595	16,673	2	–	26,270
Other	–	18,146	64	–	18,210
Total debt and equity instruments[c]	171,482	208,485	2,909	–	382,876
Derivative receivables:					
Interest rate	3,390	292,956	4,069	(271,996)	28,419
Credit	–	9,722	607	(9,239)	1,090
Foreign exchange	169	240,207	1,203	(218,214)	23,365
Equity	–	57,485	4,428	(52,774)	9,139
Commodity	–	24,982	375	(16,490)	8,867
Total derivative receivables	3,559	625,352	10,682	(568,713)	70,880
Total trading assets[d]	175,041	833,837	13,591	(568,713)	453,756
Available-for-sale securities:					
Mortgage-backed securities:					
U.S. GSEs and government agencies[a]	3	71,500	–	–	71,503
Residential – nonagency	–	4,620	–	–	4,620
Commercial – nonagency	–	1,958	–	–	1,958
Total mortgage-backed securities	3	78,078	–	–	78,081
U.S. Treasury and government agencies	92,060	–	–	–	92,060
Obligations of U.S. states and municipalities	–	6,786	–	–	6,786
Non-U.S. government debt securities	10,591	9,105	–	–	19,696
Corporate debt securities	–	118	239	–	357
Asset-backed securities:					
Collateralized loan obligations	–	5,792	–	–	5,792
Other	–	3,085	–	–	3,085
Total available-for-sale securities	102,654	102,964	239	–	205,857
Loans[e]	–	40,661	1,418	–	42,079
Mortgage servicing rights	–	–	7,973	–	7,973
Other assets[d]	7,544	6,065	405	–	14,014
Total assets measured at fair value on a recurring basis	$ 285,239	$ 1,365,451	$ 23,626	$ (568,713)	$ 1,105,603
Deposits	$ –	$ 26,458	$ 2,162	$ –	$ 28,620
Federal funds purchased and securities loaned or sold under repurchase agreements	–	151,999	–	–	151,999
Short-term borrowings	–	14,391	1,401	–	15,792
Trading liabilities:					
Debt and equity instruments[c]	98,719	28,032	84	–	126,835
Derivative payables:					
Interest rate	2,643	284,280	3,368	(274,321)	15,970
Credit	–	9,377	594	(9,217)	754
Foreign exchange	160	250,647	714	(232,665)	18,856
Equity	–	57,649	4,812	(53,657)	8,804
Commodity	–	22,748	521	(16,512)	6,757
Total derivative payables	2,803	624,701	10,009	(586,372)	51,141
Total trading liabilities	101,522	652,733	10,093	(586,372)	177,976
Accounts payable and other liabilities	5,702	1,283	53	–	7,038
Beneficial interests issued by consolidated VIEs	–	5	–	–	5
Long-term debt	–	48,189	24,092	–	72,281
Total liabilities measured at fair value on a recurring basis	$ 107,224	$ 895,058	$ 37,801	$ (586,372)	$ 453,711

(a) At December 31, 2023 and 2022, included total U.S. GSE obligations of $78.5 billion and $73.8 billion, respectively, which were mortgage-related.

(b) Physical commodities inventories are generally accounted for at the lower of cost or net realizable value. "Net realizable value" is a term defined in U.S. GAAP as not exceeding fair value less costs to sell ("transaction costs"). Transaction costs for the Firm's physical commodities inventories are either not applicable or immaterial to the value of the inventory. Therefore, net realizable value approximates fair value for the Firm's physical commodities inventories. When fair value hedging has been applied (or when net realizable value is below cost), the carrying value of physical commodities approximates fair value, because under fair value hedge accounting, the cost basis is adjusted for changes in fair value. Refer to Note 5 for a further discussion of the Firm's hedge accounting relationships. To provide consistent fair value disclosure information, all physical commodities inventories have been included in each period presented.

(c) Balances reflect the reduction of securities owned (long positions) by the amount of identical securities sold but not yet purchased (short positions).

(d) Certain investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not required to be classified in the fair value hierarchy. At December 31, 2023 and 2022, the fair values of these investments, which include certain hedge funds, private equity funds, real estate and other funds, were $1.0 billion and $950 million, respectively. Included in these balances at December 31, 2023 and 2022, were trading assets of $42 million and $43 million, respectively, and other assets of $984 million and $907 million, respectively.

(e) At December 31, 2023 and 2022, included $10.2 billion and $9.7 billion, respectively, of residential first-lien mortgages, and $6.0 billion and $6.8 billion, respectively, of commercial first-lien mortgages. Residential mortgage loans include conforming mortgage loans originated with the intent to sell to U.S. GSEs and government agencies of $2.9 billion and $2.4 billion, respectively.

(f) As permitted under U.S. GAAP, the Firm has elected to net derivative receivables and derivative payables and the related cash collateral received and paid when a legally enforceable master netting agreement exists. The level 3 balances would be reduced if netting were applied, including the netting benefit associated with cash collateral.

Level 3 valuations

The Firm has established well-structured processes for determining fair value, including for instruments where fair value is estimated using significant unobservable inputs (level 3). Refer to pages 175–179 of this Note for further information on the Firm's valuation process and a detailed discussion of the determination of fair value for individual financial instruments.

Estimating fair value requires the application of judgment. The type and level of judgment required is largely dependent on the amount of observable market information available to the Firm. For instruments valued using internally developed valuation models and other valuation techniques that use significant unobservable inputs and are therefore classified within level 3 of the fair value hierarchy, judgments used to estimate fair value are more significant than those required when estimating the fair value of instruments classified within levels 1 and 2.

In arriving at an estimate of fair value for an instrument within level 3, management must first determine the appropriate valuation model or other valuation technique to use. Second, due to the lack of observability of significant inputs, management must assess relevant empirical data in deriving valuation inputs including transaction details, yield curves, interest rates, prepayment speed, default rates, volatilities, correlations, prices (such as commodity, equity or debt prices), valuations of comparable instruments, foreign exchange rates and credit curves.

The following table presents the Firm's primary level 3 financial instruments, the valuation techniques used to measure the fair value of those financial instruments, the significant unobservable inputs, the range of values for those inputs and the weighted or arithmetic averages of such inputs. While the determination to classify an instrument within level 3 is based on the significance of the unobservable inputs to the overall fair value measurement, level 3 financial instruments typically include observable components (that is, components that are actively quoted and can be validated to external sources) in addition to the unobservable components. The level 1 and/or level 2 inputs are not included in the table. In addition, the Firm manages the risk of the observable components of level 3 financial instruments using securities and derivative positions that are classified within levels 1 or 2 of the fair value hierarchy.

The range of values presented in the table is representative of the highest and lowest level input used to value the significant groups of instruments within a product/instrument classification. Where provided, the weighted averages of the input values presented in the table are calculated based on the fair value of the instruments that the input is being used to value.

In the Firm's view, the input range, weighted and arithmetic average values do not reflect the degree of input uncertainty or an assessment of the reasonableness of the Firm's estimates and assumptions. Rather, they reflect the characteristics of the various instruments held by the Firm and the relative distribution of instruments within the range of characteristics. For example, two option contracts may have similar levels of market risk exposure and valuation uncertainty, but may have significantly different implied volatility levels because the option contracts have different underlyings, tenors, or strike prices. The input range and weighted and arithmetic average values will therefore vary from period-to-period and parameter-to-parameter based on the characteristics of the instruments held by the Firm at each balance sheet date.

Level 3 inputs[a]

December 31, 2023						
Product/Instrument	**Fair value (in millions)**	**Principal valuation technique**	**Unobservable inputs[g]**	**Range of input values**		**Average[i]**
Residential mortgage-backed securities and loans[b]	$ 1,743	Discounted cash flows	Yield	0%	72%	7%
			Prepayment speed	3%	12%	9%
			Conditional default rate	0%	6%	0%
			Loss severity	0%	110%	3%
Commercial mortgage-backed securities and loans[c]	1,460	Market comparables	Price	$0	$90	$80
Corporate debt securities	484	Market comparables	Price	$0	$242	$98
Loans[d]	1,335	Market comparables	Price	$0	$108	$79
Non-U.S. government debt securities	179	Market comparables	Price	$2	$109	$91
Net interest rate derivatives	495	Option pricing	Interest rate volatility	25bps	420bps	117bps
			Interest rate spread volatility	37bps	77bps	64bps
			Bermudan switch value	0%	54%	19%
			Interest rate correlation	(82)%	90%	19%
			IR-FX correlation	(35)%	60%	5%
	7	Discounted cash flows	Prepayment speed	0%	20%	5%
Net credit derivatives	233	Discounted cash flows	Credit correlation	35%	70%	51%
			Credit spread	0bps	3,617bps	384bps
			Recovery rate	10%	90%	55%
	32	Market comparables	Price	$0	$115	$73
Net foreign exchange derivatives	128	Option pricing	IR-FX correlation	(40)%	60%	20%
	(66)	Discounted cash flows	Prepayment speed	11%		11%
			Interest rate curve	2%	17%	7%
Net equity derivatives	(2,402)	Option pricing	Forward equity price[h]	74%	148%	100%
			Equity volatility	3%	145%	28%
			Equity correlation	15%	100%	57%
			Equity-FX correlation	(88)%	65%	(30)%
			Equity-IR correlation	(19)%	20%	12%
Net commodity derivatives	(279)	Option pricing	Oil commodity forward	$84 / BBL	$270 / BBL	$177 / BBL
			Natural gas commodity forward	$2 / MMBTU	$6 / MMBTU	$4 / MMBTU
			Commodity volatility	17%	20%	18%
			Commodity correlation	(35)%	98%	31%
MSRs	8,522	Discounted cash flows	Refer to Note 15			
Long-term debt, short-term borrowings, and deposits[e]	30,078	Option pricing	Interest rate volatility	25bps	420bps	117bps
			Bermudan switch value	0%	54%	19%
			Interest rate correlation	(82)%	90%	19%
			IR-FX correlation	(35)%	60%	5%
			Equity correlation	15%	100%	57%
			Equity-FX correlation	(88)%	65%	(30)%
			Equity-IR correlation	(19)%	20%	12%
	1,239	Discounted cash flows	Credit correlation	35%	70%	51%
			Yield	5%	20%	12%
			Loss severity	0%	100%	50%
Other level 3 assets and liabilities, net[f]	920					

(a) The categories presented in the table have been aggregated based upon the product type, which may differ from their classification on the Consolidated balance sheets. Furthermore, the inputs presented for each valuation technique in the table are, in some cases, not applicable to every instrument valued using the technique as the characteristics of the instruments can differ.
(b) Comprises U.S. GSE and government agency securities of $758 million, nonagency securities of $5 million and non-trading loans of $980 million.
(c) Comprises nonagency securities of $12 million, trading loans of $65 million and non-trading loans of $1.4 billion.
(d) Comprises trading loans of $619 million and non-trading loans of $716 million.
(e) Long-term debt, short-term borrowings and deposits include structured notes issued by the Firm that are financial instruments that typically contain embedded derivatives. The estimation of the fair value of structured notes includes the derivative features embedded within the instrument. The significant unobservable inputs are broadly consistent with those presented for derivative receivables.
(f) Includes equity securities of $671 million including $544 million in Other assets, for which quoted prices are not readily available and the fair value is generally based on internal valuation techniques such as EBITDA multiples and comparable analysis. All other level 3 assets and liabilities are insignificant both individually and in aggregate.
(g) Price is a significant unobservable input for certain instruments. When quoted market prices are not readily available, reliance is generally placed on price-based internal valuation techniques. The price input is expressed assuming a par value of $100.
(h) Forward equity price is expressed as a percentage of the current equity price.
(i) Amounts represent weighted averages except for derivative related inputs where arithmetic averages are used.

Changes in and ranges of unobservable inputs

The following discussion provides a description of the impact on a fair value measurement of a change in each unobservable input in isolation, and the interrelationship between unobservable inputs, where relevant and significant. The impact of changes in inputs may not be independent, as a change in one unobservable input may give rise to a change in another unobservable input. Where relationships do exist between two unobservable inputs, those relationships are discussed below. Relationships may also exist between observable and unobservable inputs (for example, as observable interest rates rise, unobservable prepayment rates decline); such relationships have not been included in the discussion below. In addition, for each of the individual relationships described below, the inverse relationship would also generally apply.

The following discussion also provides a description of attributes of the underlying instruments and external market factors that affect the range of inputs used in the valuation of the Firm's positions.

Yield – The yield of an asset is the interest rate used to discount future cash flows in a discounted cash flow calculation. An increase in the yield, in isolation, would result in a decrease in a fair value measurement.

Credit spread – The credit spread is the amount of additional annualized return over the market interest rate that a market participant would demand for taking exposure to the credit risk of an instrument. The credit spread for an instrument forms part of the discount rate used in a discounted cash flow calculation. Generally, an increase in the credit spread would result in a decrease in a fair value measurement.

The yield and the credit spread of a particular mortgage-backed security primarily reflect the risk inherent in the instrument. The yield is also impacted by the absolute level of the coupon paid by the instrument (which may not correspond directly to the level of inherent risk). Therefore, the range of yield and credit spreads reflects the range of risk inherent in various instruments owned by the Firm. The risk inherent in mortgage-backed securities is driven by the subordination of the security being valued and the characteristics of the underlying mortgages within the collateralized pool, including borrower FICO scores, LTV ratios for residential mortgages and the nature of the property and/or any tenants for commercial mortgages. For corporate debt securities, obligations of U.S. states and municipalities and other similar instruments, credit spreads reflect the credit quality of the obligor and the tenor of the obligation.

Prepayment speed – The prepayment speed is a measure of the voluntary unscheduled principal repayments of a prepayable obligation in a collateralized pool. Prepayment speeds generally decline as borrower delinquencies rise. An increase in prepayment speeds, in isolation, would result in a decrease in a fair value measurement of assets valued at a premium to par and an increase in a fair value measurement of assets valued at a discount to par.

Prepayment speeds may vary from collateral pool to collateral pool, and are driven by the type and location of the underlying borrower, and the remaining tenor of the obligation as well as the level and type (e.g., fixed or floating) of interest rate being paid by the borrower. Typically collateral pools with higher borrower credit quality have a higher prepayment rate than those with lower borrower credit quality, all other factors being equal.

Conditional default rate – The conditional default rate is a measure of the reduction in the outstanding collateral balance underlying a collateralized obligation as a result of defaults. While there is typically no direct relationship between conditional default rates and prepayment speeds, collateralized obligations for which the underlying collateral has high prepayment speeds will tend to have lower conditional default rates. An increase in conditional default rates would generally be accompanied by an increase in loss severity and an increase in credit spreads. An increase in the conditional default rate, in isolation, would result in a decrease in a fair value measurement. Conditional default rates reflect the quality of the collateral underlying a securitization and the structure of the securitization itself. Based on the types of securities owned in the Firm's market-making portfolios, conditional default rates are most typically at the lower end of the range presented.

Loss severity – The loss severity (the inverse concept is the recovery rate) is the expected amount of future realized losses resulting from the ultimate liquidation of a particular loan, expressed as the net amount of loss relative to the outstanding loan balance. An increase in loss severity is generally accompanied by an increase in conditional default rates. An increase in the loss severity, in isolation, would result in a decrease in a fair value measurement.

The loss severity applied in valuing a mortgage-backed security depends on factors relating to the underlying mortgages, including the LTV ratio, the nature of the lender's lien on the property and other instrument-specific factors.

Correlation – Correlation is a measure of the relationship between the movements of two variables. Correlation is a pricing input for a derivative product where the payoff is driven by one or more underlying risks. Correlation inputs are related to the type of derivative (e.g., interest rate, credit, equity, foreign exchange and commodity) due to the nature of the underlying risks. When parameters are positively correlated, an increase in one parameter will result in an increase in the other parameter. When parameters are negatively correlated, an increase in one parameter will result in a decrease in the other parameter. An increase in correlation can result in an increase or a decrease in a fair value measurement. Given a short correlation position, an increase in correlation, in isolation, would generally result in a decrease in a fair value measurement.

The level of correlation used in the valuation of derivatives with multiple underlying risks depends on a number of factors including the nature of those risks. For example, the correlation between two credit risk exposures would be different than that between two interest rate risk exposures. Similarly, the tenor of the transaction may also impact the correlation input, as the relationship between the underlying risks may be different over different time periods. Furthermore, correlation levels are very much dependent on market conditions and could have a relatively wide range of levels within or across asset classes over time, particularly in volatile market conditions.

Volatility – Volatility is a measure of the variability in possible returns for an instrument, parameter or market index given how much the particular instrument, parameter or index changes in value over time. Volatility is a pricing input for options, including equity options, commodity options, and interest rate options. Generally, the higher the volatility of the underlying, the riskier the instrument. Given a long position in an option, an increase in volatility, in isolation, would generally result in an increase in a fair value measurement.

The level of volatility used in the valuation of a particular option-based derivative depends on a number of factors, including the nature of the risk underlying the option (e.g., the volatility of a particular equity security may be significantly different from that of a particular commodity index), the tenor of the derivative as well as the strike price of the option.

Bermudan switch value – The switch value is the difference between the overall value of a Bermudan swaption, which can be exercised at multiple points in time, and its most expensive European swaption and reflects the additional value that the multiple exercise dates provide the holder. Switch values are dependent on market conditions and can vary greatly depending on a number of factors, such as the tenor of the underlying swap as well as the strike price of the option. An increase in switch value, in isolation, would generally result in an increase in a fair value measurement.

Interest rate curve – The interest rate curve represents the relationship of interest rates over differing tenors. The interest rate curve is used to set interest rate and foreign exchange derivative cash flows and is also a pricing input used in the discounting of any derivative cash flow.

Forward price – The forward price is the price at which the buyer agrees to purchase the asset underlying a forward contract on the predetermined future delivery date, and is such that the value of the contract is zero at inception.

The forward price is used as an input in the valuation of certain derivatives and depends on a number of factors including interest rates, the current price of the underlying asset, and the expected income to be received and costs to be incurred by the seller as a result of holding that asset until the delivery date. An increase in the forward can result in an increase or a decrease in a fair value measurement.

Changes in level 3 recurring fair value measurements

The following tables include a rollforward of the Consolidated balance sheets amounts (including changes in fair value) for financial instruments classified by the Firm within level 3 of the fair value hierarchy for the years ended December 31, 2023, 2022 and 2021. When a determination is made to classify a financial instrument within level 3, the determination is based on the significance of the unobservable inputs to the overall fair value measurement. However, level 3 financial instruments typically include, in addition to the unobservable or level 3 components, observable components (that is, components that are actively quoted and can be validated to external sources); accordingly, the gains and losses in the table below include changes in fair value due in part to observable factors that are part of the valuation methodology. The Firm risk-manages the observable components of level 3 financial instruments using securities and derivative positions that are classified within level 1 or 2 of the fair value hierarchy; as these level 1 and level 2 risk management instruments are not included below, the gains or losses in the following tables do not reflect the effect of the Firm's risk management activities related to such level 3 instruments.

Year ended December 31, 2023 (in millions)	Fair value measurements using significant unobservable inputs: Fair value at January 1, 2023	Total realized/ unrealized gains/(losses)	Purchases[g]	Sales	Settlements[h]	Transfers into level 3	Transfers (out of) level 3	Fair value at Dec. 31, 2023	Change in unrealized gains/(losses) related to financial instruments held at Dec. 31, 2023
Assets:[a]									
Federal funds sold and securities purchased under resale agreements	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. GSEs and government agencies	759	4	249	(133)	(107)	–	(14)	758	1
Residential – nonagency	5	6	–	(6)	(1)	1	–	5	1
Commercial – nonagency	7	6	–	–	(1)	8	(8)	12	7
Total mortgage-backed securities	771	16	249	(139)	(109)	9	(22)	775	9
Obligations of U.S. states and municipalities	7	–	1	–	(1)	3	–	10	–
Non-U.S. government debt securities	155	74	217	(254)	–	22	(35)	179	74
Corporate debt securities	463	36	322	(172)	(41)	114	(238)	484	35
Loans	759	(15)	1,027	(499)	(441)	382	(529)	684	30
Asset-backed securities	23	–	7	(12)	(1)	5	(16)	6	–
Total debt instruments	2,178	111	1,823	(1,076)	(593)	535	(840)	2,138	148
Equity securities	665	(53)	164	(239)	(384)	192	(218)	127	(422)
Physical commodities	2	–	7	–	(2)	–	–	7	–
Other	64	(58)	141	–	(5)	1	(42)	101	(28)
Total trading assets – debt and equity instruments	2,909	–	2,135	(1,315)	(984)	728	(1,100)	2,373	(302)[c]
Net derivative receivables:[b]									
Interest rate	701	556	251	(255)	654	(1,117)	(288)	502	419
Credit	13	304	(60)	(25)	47	15	(29)	265	230
Foreign exchange	489	31	151	(144)	(187)	144	(422)	62	(80)
Equity	(384)	191	928	(1,931)	(1,306)	700	(600)	(2,402)	(646)
Commodity	(146)	(59)	59	(290)	(51)	(11)	219	(279)	(144)
Total net derivative receivables	673	1,023[c]	1,329	(2,645)	(843)	(269)	(1,120)	(1,852)	(221)[c]
Available-for-sale securities:									
Corporate debt securities	239	24	–	(225)	–	–	(38)	–	–
Total available-for-sale securities	239	24[d]	–	(225)	–	–	(38)	–	–
Loans	1,418	289[c]	2,398	(120)	(1,147)	1,306	(1,065)	3,079	293[c]
Mortgage servicing rights	7,973	467[e]	1,281	(188)	(1,011)	–	–	8,522	467[e]
Other assets	405	(36)[c]	525	(20)	(147)	45	(14)	758	(82)[c]

Year ended December 31, 2023 (in millions)	Fair value measurements using significant unobservable inputs: Fair value at January 1, 2023	Total realized/ unrealized (gains)/losses	Purchases	Sales	Issuances	Settlements[h]	Transfers into level 3	Transfers (out of) level 3	Fair value at Dec. 31, 2023	Change in unrealized (gains)/losses related to financial instruments held at Dec. 31, 2023
Liabilities:[a]										
Deposits	$ 2,162	$ 95[c][f]	$ –	$ –	$ 940	$ (1,043)	$ –	$ (321)	$ 1,833	$ 73[c][f]
Short-term borrowings	1,401	201[c][f]	–	–	4,522	(4,345)	3	(24)	1,758	14[c][f]
Trading liabilities – debt and equity instruments	84	(21)[c]	(32)	9	–	(2)	19	(20)	37	–
Accounts payable and other liabilities	53	(4)[c]	(16)	24	–	–	8	(13)	52	(4)[c]
Long-term debt	24,092	3,010[c][f]	–	–	12,679	(11,555)	229	(729)	27,726	2,870[c][f]

Year ended December 31, 2022 (in millions)	Fair value at January 1, 2022	Total realized/ unrealized gains/ (losses)	Purchases[g]	Sales	Settlements[h]	Transfers into level 3	Transfers (out of) level 3	Fair value at Dec. 31, 2022	Change in unrealized gains/(losses) related to financial instruments held at Dec. 31, 2022
	Fair value measurements using significant unobservable inputs								
Assets:[a]									
Federal funds sold and securities purchased under resale agreements	$ –	$ –	$ 1	$ (1)	$ (1)	$ 1	$ –	$ –	$ –
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. GSEs and government agencies	265	31	673	(125)	(84)	4	(5)	759	29
Residential – nonagency	28	(1)	7	(5)	(12)	–	(12)	5	–
Commercial – nonagency	10	–	–	(1)	–	3	(5)	7	–
Total mortgage-backed securities	303	30	680	(131)	(96)	7	(22)	771	29
Obligations of U.S. states and municipalities	7	–	–	–	–	–	–	7	–
Non-U.S. government debt securities	81	(92)	494	(338)	(4)	84	(70)	155	(153)
Corporate debt securities	332	(30)	404	(178)	(100)	357	(322)	463	(48)
Loans	708	(51)	652	(605)	(230)	925	(640)	759	(26)
Asset-backed securities	26	5	19	(24)	(1)	5	(7)	23	1
Total debt instruments	1,457	(138)	2,249	(1,276)	(431)	1,378	(1,061)	2,178	(197)
Equity securities	662	(1,036)	473	(377)	(2)	1,066	(121)	665	(840)
Physical commodities	–	(1)	3	–	–	–	–	2	(1)
Other	160	93	37	–	(221)	1	(6)	64	46
Total trading assets – debt and equity instruments	2,279	(1,082)[c]	2,762	(1,653)	(654)	2,445	(1,188)	2,909	(992)[c]
Net derivative receivables:[b]									
Interest rate	(16)	187	325	(483)	329	732	(373)	701	332
Credit	74	226	17	(9)	(271)	5	(29)	13	170
Foreign exchange	(419)	726	215	(114)	83	3	(5)	489	459
Equity	(3,626)	5,016	1,226	(2,530)	96	(656)	90	(384)	3,435
Commodity	(907)	571	110	(331)	350	5	56	(146)	369
Total net derivative receivables	(4,894)	6,726[c]	1,893	(3,467)	587	89	(261)	673	4,765[c]
Available-for-sale securities:									
Corporate debt securities	161	5	88	–	(15)	–	–	239	5
Total available-for-sale securities	161	5[d]	88	–	(15)	–	–	239	5[d]
Loans	1,933	(158)[c]	568	(261)	(886)	1,053	(831)	1,418	(76)[c]
Mortgage servicing rights	5,494	2,039[e]	2,198	(822)	(936)	–	–	7,973	2,039[e]
Other assets	306	194[c]	50	(38)	(103)	2	(6)	405	191[c]

Year ended December 31, 2022 (in millions)	Fair value at January 1, 2022	Total realized/ unrealized (gains)/losses	Purchases	Sales	Issuances	Settlements[h]	Transfers into level 3	Transfers (out of) level 3	Fair value at Dec. 31, 2022	Change in unrealized (gains)/losses related to financial instruments held at Dec. 31, 2022
	Fair value measurements using significant unobservable inputs									
Liabilities:[a]										
Deposits	$ 2,317	$ (292)[c][f]	$ –	$ –	$ 531	$ (114)	$ –	$ (280)	$ 2,162	$ (76)[c][f]
Short-term borrowings	2,481	(358)[c][f]	–	–	3,963	(4,685)	15	(15)	1,401	90[c][f]
Trading liabilities – debt and equity instruments	30	(31)[c]	(41)	77	–	–	57	(8)	84	101[c]
Accounts payable and other liabilities	69	(16)[c]	(37)	42	–	–	1	(6)	53	(16)[c]
Long-term debt	24,374	(3,869)[c][f]	–	–	12,714	(8,876)	793	(1,044)	24,092	(3,447)[c][f]

Year ended December 31, 2021 (in millions)	Fair value measurements using significant unobservable inputs: Fair value at January 1, 2021	Total realized/ unrealized gains/(losses)	Purchases[g]	Sales	Settlements[h]	Transfers into level 3	Transfers (out of) level 3	Fair value at Dec. 31, 2021	Change in unrealized gains/(losses) related to financial instruments held at Dec. 31, 2021
Assets:[a]									
Federal funds sold and securities purchased under resale agreements	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Trading assets:									
Debt instruments:									
Mortgage-backed securities:									
U.S. GSEs and government agencies	449	(28)	21	(67)	(110)	1	(1)	265	(31)
Residential – nonagency	28	–	26	(24)	(5)	4	(1)	28	(3)
Commercial – nonagency	3	5	12	(7)	(17)	14	–	10	(2)
Total mortgage-backed securities	480	(23)	59	(98)	(132)	19	(2)	303	(36)
Obligations of U.S. states and municipalities	8	–	–	–	(1)	–	–	7	–
Non-U.S. government debt securities	182	(14)	359	(332)	(7)	–	(107)	81	(10)
Corporate debt securities	507	(23)	404	(489)	(4)	162	(225)	332	(16)
Loans	893	2	994	(669)	(287)	648	(873)	708	(20)
Asset-backed securities	28	28	76	(99)	(2)	2	(7)	26	(2)
Total debt instruments	2,098	(30)	1,892	(1,687)	(433)	831	(1,214)	1,457	(84)
Equity securities	476	(77)	378	(168)	–	164	(111)	662	(335)
Physical commodities	–	–	–	–	–	–	–	–	–
Other	49	74	233	–	(98)	5	(103)	160	31
Total trading assets – debt and equity instruments	2,623	(33)[c]	2,503	(1,855)	(531)	1,000	(1,428)	2,279	(388)[c]
Net derivative receivables:[b]									
Interest rate	258	1,789	116	(192)	(2,011)	112	(88)	(16)	282
Credit	(224)	130	6	(12)	146	34	(6)	74	141
Foreign exchange	(434)	(209)	110	(110)	222	(12)	14	(419)	13
Equity	(3,862)	(480)	1,285	(2,813)	1,758	315	171	(3,626)	(155)
Commodity	(731)	(728)	145	(493)	916	(4)	(12)	(907)	(426)
Total net derivative receivables	(4,993)	502[c]	1,662	(3,620)	1,031	445	79	(4,894)	(145)[c]
Available-for-sale securities:									
Corporate debt securities	–	(1)	162	–	–	–	–	161	(1)
Total available-for-sale securities	–	(1)[d]	162	–	–	–	–	161	(1)[d]
Loans	2,305	(87)[c]	612	(439)	(965)	1,301	(794)	1,933	(59)[c]
Mortgage servicing rights	3,276	98[e]	3,022	(114)	(788)	–	–	5,494	98[e]
Other assets	538	16[c]	9	(17)	(239)	–	(1)	306	11[c]

Year ended December 31, 2021 (in millions)	Fair value measurements using significant unobservable inputs: Fair value at January 1, 2021	Total realized/ unrealized (gains)/losses	Purchases	Sales	Issuances	Settlements[h]	Transfers into level 3	Transfers (out of) level 3	Fair value at Dec. 31, 2021	Change in unrealized (gains)/losses related to financial instruments held at Dec. 31, 2021
Liabilities:[a]										
Deposits	$ 2,913	$ (80)[c][f]	$ –	$ –	$ 431	$ (467)	$ 2	$ (482)	$ 2,317	$ (77)[c][f]
Short-term borrowings	2,420	(1,391)[c][f]	–	–	6,823	(5,308)	9	(72)	2,481	(83)[c][f]
Trading liabilities – debt and equity instruments	51	(8)[c]	(101)	38	–	–	64	(14)	30	(157)[c]
Accounts payable and other liabilities	68	8[c]	–	1	–	–	–	(8)	69	8[c]
Long-term debt	23,397	369[c][f]	–	–	13,505	(12,191)	103	(809)	24,374	87[c][f]

(a) Level 3 assets at fair value as a percentage of total Firm assets at fair value (including assets measured at fair value on a nonrecurring basis) were 2% at December 31, 2023, 2022 and 2021. Level 3 liabilities at fair value as a percentage of total Firm liabilities at fair value (including liabilities measured at fair value on a nonrecurring basis) were 8% at both December 31, 2023 and December 31, 2022 and 10% at December 31, 2021.

(b) All level 3 derivatives are presented on a net basis, irrespective of the underlying counterparty.

(c) Predominantly reported in principal transactions revenue, except for changes in fair value for CCB mortgage loans and lending-related commitments originated with the intent to sell, and mortgage loan purchase commitments, which are reported in mortgage fees and related income.
(d) Realized gains/(losses) on AFS securities are reported in investment securities gains/(losses). Unrealized gains/(losses) are reported in OCI. Realized and unrealized gains/(losses) recorded on level 3 AFS securities were not material for the years ended December 31, 2023, 2022 and 2021.
(e) Changes in fair value for MSRs are reported in mortgage fees and related income.
(f) Realized (gains)/losses due to DVA for fair value option elected liabilities are reported in principal transactions revenue, and were not material for the years ended December 31, 2023, 2022 and 2021. Unrealized (gains)/losses are reported in OCI, and were $(158) million, $(529) million and $258 million for the years ended December 31, 2023, 2022 and 2021, respectively.
(g) Loan originations are included in purchases.
(h) Includes financial assets and liabilities that have matured, been partially or fully repaid, impacts of modifications, deconsolidations associated with beneficial interests in VIEs and other items.

Level 3 analysis

Consolidated balance sheets changes

The following describes significant changes to level 3 assets since December 31, 2022, for those items measured at fair value on a recurring basis. Refer to Assets and liabilities measured at fair value on a nonrecurring basis on page 193 for further information on changes impacting items measured at fair value on a nonrecurring basis.

For the year ended December 31, 2023

Level 3 assets were $23.7 billion at December 31, 2023, reflecting an increase of $30 million from December 31, 2022.

The increase for the year ended December 31, 2023 was driven by:

- $1.7 billion increase in non-trading loans largely due to $1.1 billion of loans in CIB associated with First Republic.
- $549 million increase in MSRs,

predominantly offset by:

- $1.8 billion decrease in gross derivative receivables due to settlements and net transfers largely offset by gains and purchases.

Refer to Note 15 for information on MSRs.

Refer to the sections below for additional information.

Transfers between levels for instruments carried at fair value on a recurring basis

During the year ended December 31, 2023, significant transfers from level 2 into level 3 included the following:

- $951 million of gross interest rate derivative receivables as a result of a decrease in observability and an increase in the significance of unobservable inputs and $2.1 billion of gross interest rate derivative payables as a result of transition to term SOFR for certain interest rate options.
- $1.5 billion of gross equity derivative receivables and $829 million of gross equity derivative payables as a result of a decrease in observability and an increase in the significance of unobservable inputs.
- $1.3 billion of non-trading loans driven by a decrease in observability.

During the year ended December 31, 2023, significant transfers from level 3 into level 2 included the following:

- $1.1 billion of total debt and equity instruments, partially due to trading loans, driven by an increase in observability.
- $921 million of gross interest rate derivative receivables as a result of an increase in observability and a decrease in the significance of unobservable inputs.
- $2.3 billion of gross equity derivative receivables and $1.7 billion of gross equity derivative payables as a result of an increase in observability and a decrease in the significance of unobservable inputs.
- $1.1 billion of non-trading loans as a result of an increase in observability and a decrease in the significance of unobservable inputs.

During the year ended December 31, 2022, significant transfers from level 2 into level 3 included the following:

- $2.4 billion of total debt and equity instruments, predominantly due to equity securities of $1.1 billion driven by a decrease in observability predominantly as a result of restricted access to certain markets and trading loans of $925 million driven by a decrease in observability.
- $1.6 billion of gross interest rate derivative receivables and $878 million of gross interest rate derivative payables as a result of a decrease in observability and an increase in the significance of unobservable inputs.
- $1.6 billion of gross equity derivative receivables and $2.3 billion of gross equity derivative payables as a result of a decrease in observability and an increase in the significance of unobservable inputs.
- $1.1 billion of non-trading loans driven by a decrease in observability.
- $793 million of long-term debt driven by a decrease in observability and an increase in the significance of unobservable inputs for structured notes.

During the year ended December 31, 2022, significant transfers from level 3 into level 2 included the following:

- $1.2 billion of total debt and equity instruments, largely due to trading loans, driven by an increase in observability.
- $1.2 billion of gross interest rate derivative receivables and $807 million of gross interest rate derivative payables as a result of an increase in observability and a decrease in the significance of unobservable inputs.
- $2.2 billion of gross equity derivative receivables and $2.3 billion of gross equity derivative payables as a result of an increase in observability and a decrease in the significance of unobservable inputs.
- $831 million of non-trading loans driven by an increase in observability.
- $1.0 billion of long-term debt driven by an increase in observability and a decrease in the significance of unobservable inputs for structured notes.

During the year ended December 31, 2021, significant transfers from level 2 into level 3 included the following:

- $1.0 billion of total debt and equity instruments, largely due to trading loans, driven by a decrease in observability.
- $1.5 billion of gross equity derivative receivables and $1.2 billion of gross equity derivative payables as a result of a decrease in observability and an increase in the significance of unobservable inputs.
- $1.3 billion of non-trading loans driven by a decrease in observability.

During the year ended December 31, 2021, significant transfers from level 3 into level 2 included the following:

- $1.4 billion of total debt and equity instruments, largely due to trading loans, driven by an increase in observability.
- $1.9 billion of gross equity derivative receivables and $2.1 billion of gross equity derivative payables as a result of an increase in observability and a decrease in the significance of unobservable inputs.
- $794 million of non-trading loans driven by an increase in observability.
- $809 million of long-term debt driven by an increase in observability and a decrease in the significance of unobservable inputs for structured notes.

All transfers are based on changes in the observability and/or significance of the valuation inputs and are assumed to occur at the beginning of the quarterly reporting period in which they occur.

Gains and losses

The following describes significant components of total realized/unrealized gains/(losses) for instruments measured at fair value on a recurring basis for the years ended December 31, 2023, 2022 and 2021. These amounts exclude any effects of the Firm's risk management activities where the financial instruments are classified as level 1 and 2 of the fair value hierarchy. Refer to Changes in level 3 recurring fair value measurements rollforward tables on pages 186–190 for further information on these instruments.

2023

- $1.8 billion of net gains on assets, largely driven by gains in net interest rate derivative receivables due to market movements and gains in MSRs reflecting lower prepayment speeds on higher rates.
- $3.3 billion of net losses on liabilities, predominantly driven by losses in long-term debt due to market movements.

2022

- $7.7 billion of net gains on assets, predominantly driven by gains in net equity derivative receivables due to market movements and gains in MSRs reflecting lower prepayment speeds on higher rates.
- $4.6 billion of net gains on liabilities, predominantly driven by a decline in the fair value of long-term debt due to market movements.

2021

- $495 million of net gains on assets, driven by gains in net interest rate derivative receivables due to market movements, partially offset by losses in net equity derivative receivables and net commodity derivative receivables due to market movements.
- $1.1 billion of net gains on liabilities, driven by gains in short-term borrowings due to market movements.

Refer to Note 15 for information on MSRs.

Credit and funding adjustments – derivatives

Derivatives are generally valued using models that use as their basis observable market parameters. These market parameters generally do not consider factors such as counterparty nonperformance risk, the Firm's own credit quality, and funding costs. Therefore, it is generally necessary to make adjustments to the base estimate of fair value to reflect these factors.

CVA represents the adjustment, relative to the relevant benchmark interest rate, necessary to reflect counterparty nonperformance risk. The Firm estimates CVA using a scenario analysis to estimate the expected positive credit exposure across all of the Firm's existing positions with each counterparty, and then estimates losses based on the probability of default and estimated recovery rate as a result of a counterparty credit event considering contractual factors designed to mitigate the Firm's credit exposure, such as collateral and legal rights of offset. The key inputs to this methodology are (i) the probability of a default event occurring for each counterparty, as derived from observed or estimated CDS spreads; and (ii) estimated recovery rates implied by CDS spreads, adjusted to consider the differences in recovery rates as a derivative creditor relative to those reflected in CDS spreads, which generally reflect senior unsecured creditor risk.

FVA represents the adjustment to reflect the impact of funding and is recognized where there is evidence that a market participant in the principal market would incorporate it in a transfer of the instrument. The Firm's FVA framework, applied to uncollateralized (including partially collateralized) over-the-counter ("OTC") derivatives incorporates key inputs such as: (i) the expected funding requirements arising from the Firm's positions with each counterparty and collateral arrangements; and (ii) the estimated market funding cost in the principal market which, for derivative liabilities, considers the Firm's credit risk (DVA). For collateralized derivatives, the fair value is estimated by discounting expected future cash flows at the relevant overnight indexed swap rate given the underlying collateral agreement with the counterparty, and therefore a separate FVA is not necessary.

The following table provides the impact of credit and funding adjustments on principal transactions revenue in the respective periods, excluding the effect of any associated hedging activities. The FVA presented below includes the impact of the Firm's own credit quality on the inception value of liabilities as well as the impact of changes in the Firm's own credit quality over time.

Year ended December 31, (in millions)	**2023**	2022	2021
Credit and funding adjustments:			
Derivatives CVA	**$ 221**	$ 22	$ 362
Derivatives FVA	**114**	42	47

Valuation adjustments on fair value option elected liabilities

The valuation of the Firm's liabilities for which the fair value option has been elected requires consideration of the Firm's own credit risk. DVA on fair value option elected liabilities reflects changes (subsequent to the issuance of the liability) in the Firm's probability of default and LGD, which are estimated based on changes in the Firm's credit spread observed in the bond market. Realized (gains)/losses due to DVA for fair value option elected liabilities are reported in principal transactions revenue. Unrealized (gains)/losses are reported in OCI. Refer to page 190 in this Note and Note 24 for further information.

Assets and liabilities measured at fair value on a nonrecurring basis

The following tables present the assets and liabilities held as of December 31, 2023 and 2022, for which nonrecurring fair value adjustments were recorded during the years ended December 31, 2023 and 2022, by major product category and fair value hierarchy.

December 31, 2023 (in millions)	Fair value hierarchy			Total fair value
	Level 1	Level 2	Level 3	
Loans	**$ –**	**$ 599**	**$ 1,156**	**$ 1,755**
Other assets[(a)]	**–**	**52**	**1,334**	**1,386**
Total assets measured at fair value on a nonrecurring basis	**$ –**	**$ 651**	**$ 2,490**	**$ 3,141**
Accounts payable and other liabilities	**–**	**–**	**–**	**–**
Total liabilities measured at fair value on a nonrecurring basis	**$ –**	**$ –**	**$ –**	**$ –**

December 31, 2022 (in millions)	Fair value hierarchy			Total fair value
	Level 1	Level 2	Level 3	
Loans	$ –	$ 643	$ 627	$ 1,270
Other assets	–	36	1,352	1,388
Total assets measured at fair value on a nonrecurring basis	$ –	$ 679	$ 1,979	$ 2,658
Accounts payable and other liabilities	–	–	84	84
Total liabilities measured at fair value on a nonrecurring basis	$ –	$ –	$ 84	$ 84

(a) Included impairments on certain equity method investments, as well as equity securities without readily determinable fair values that were adjusted based on observable price changes in orderly transactions from an identical or similar investment of the same issuer (measurement alternative). Of the $1.3 billion in level 3 assets measured at fair value on a nonrecurring basis as of December 31, 2023, $412 million related to equity securities adjusted based on the measurement alternative. These equity securities are classified as level 3 due to the infrequency of the observable prices and/or the restrictions on the shares.

Nonrecurring fair value changes

The following table presents the total change in value of assets and liabilities for which fair value adjustments have been recognized for the years ended December 31, 2023, 2022 and 2021, related to assets and liabilities held at those dates.

December 31, (in millions)	**2023**	2022	2021
Loans	**$ (276)**	$ (55)	$ (72)
Other assets[(a)]	**(789)**	(409)	344
Accounts payable and other liabilities	**–**	(83)	5
Total nonrecurring fair value gains/ (losses)	**$ (1,065)**	$ (547)	$ 277

(a) Included $(232) million, $(338) million and $379 million for the years ended December 31, 2023, 2022 and 2021, respectively, of net gains/(losses) as a result of the measurement alternative. The current period also included impairments on certain equity method investments.

Refer to Note 12 for further information about the measurement of collateral-dependent loans.

Equity securities without readily determinable fair values

The Firm measures certain equity securities without readily determinable fair values at cost less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer (i.e., measurement alternative), with such changes recognized in other income.

In its determination of the new carrying values upon observable price changes, the Firm may adjust the prices if deemed necessary to arrive at the Firm's estimated fair values. Such adjustments may include adjustments to reflect the different rights and obligations of similar securities, and other adjustments that are consistent with the Firm's valuation techniques for private equity direct investments.

The following table presents the carrying value of equity securities without readily determinable fair values held as of December 31, 2023 and 2022, that are measured under the measurement alternative and the related adjustments recorded during the periods presented for those securities with observable price changes. These securities are included in the nonrecurring fair value tables when applicable price changes are observable.

As of or for the year ended December 31, (in millions)	2023	2022
Other assets		
Carrying value[a]	**$ 4,457**	$ 4,096
Upward carrying value changes[b]	**93**	488
Downward carrying value changes/impairment[c]	**(325)**	(826)

(a) The period-end carrying values reflect cumulative purchases and sales in addition to upward and downward carrying value changes.
(b) The cumulative upward carrying value changes between January 1, 2018 and December 31, 2023 were $1.2 billion.
(c) The cumulative downward carrying value changes/impairment between January 1, 2018 and December 31, 2023 were $(1.2) billion.

Included in other assets above is the Firm's interest in approximately 37 million Visa Class B common shares ("Visa B shares"). These shares are subject to certain transfer restrictions and are convertible into Visa Class A common shares ("Visa A shares") at a specified conversion rate upon final resolution of certain litigation matters involving Visa. The conversion rate of Visa B shares to Visa A shares was 1.5875 at December 31, 2023 and may be adjusted by Visa depending on developments related to the litigation matters. The outcome of those litigation matters, and the effect that the resolution of those matters may have on the conversion rate, is unknown. Accordingly, as of December 31, 2023, there is significant uncertainty regarding when the transfer restrictions on Visa B shares may be terminated and what the final conversion rate for the Visa B shares will be. As a result of these considerations, as well as differences in voting rights, Visa B shares are not considered to be similar to Visa A shares, and they continue to be held at their nominal carrying value.

In connection with prior sales of Visa B shares, the Firm has entered into derivative instruments with the purchasers of the shares under which the Firm retains the risk associated with changes in the conversion rate. Under the terms of the derivative instruments, the Firm will (a) make or receive payments based on subsequent changes in the conversion rate and (b) make periodic interest payments to the purchasers of the Visa B shares. The payments under the derivative instruments will continue as long as the Visa B shares remain subject to transfer restrictions. The derivative instruments are accounted for at fair value using a discounted cash flow methodology based upon the Firm's estimate of the timing and magnitude of final resolution of the litigation matters. The derivative instruments are recorded in trading liabilities, and changes in fair value are recognized in other income. As of December 31, 2023, the Firm held derivative instruments associated with 23 million Visa B shares that the Firm had previously sold, which are all subject to similar terms and conditions.

On January 24, 2024, Visa filed a Current Report on Form 8-K with the SEC announcing that Visa's stockholders approved amendments to its Certificate of Incorporation that redenominate the Visa B shares to Visa Class B-1 common shares ("Visa B-1 shares") and authorize Visa to conduct one or more exchange offers ("the Program") which, if conducted, would have the effect of releasing transfer restrictions on a portion of Visa's B-1 shares through an exchange for Visa Class C common shares ("Visa C shares"). The Program would entitle the Firm to exchange its Visa B-1 shares, for Visa Class B-2 common shares ("Visa B-2 shares") and Visa C shares, through an initial exchange offer if and when conducted by Visa. The Visa B-2 shares would continue to be subject to the transfer restrictions associated with the Visa B shares. The Firm is then entitled to sell the Visa C shares received after a brief lock-up period expires, and Visa is also authorized to extend offers for potential future exchanges, each enabling the release of additional Visa B shares if certain conditions are met. The timing and likelihood of any initial or future exchange offer is dependent upon actions taken by Visa and other factors that may be outside of the Firm's control.

Additional disclosures about the fair value of financial instruments that are not carried on the Consolidated balance sheets at fair value

U.S. GAAP requires disclosure of the estimated fair value of certain financial instruments, which are included in the following table. However, this table does not include other items, such as nonfinancial assets, intangible assets, certain financial instruments, and customer relationships. In the opinion of management, these items, in the aggregate, add significant value to JPMorgan Chase.

Financial instruments for which carrying value approximates fair value

Certain financial instruments that are not carried at fair value on the Consolidated balance sheets are carried at amounts that approximate fair value, due to their short-term nature and generally negligible credit risk. These instruments include cash and due from banks, deposits with banks, federal funds sold, securities purchased under resale agreements and securities borrowed, short-term receivables and accrued interest receivable, short-term borrowings, federal funds purchased, securities loaned and sold under repurchase agreements, accounts payable, and accrued liabilities. In addition, U.S. GAAP requires that the fair value of deposit liabilities with no stated maturity (i.e., demand, savings and certain money market deposits) be equal to their carrying value; recognition of the inherent funding value of these instruments is not permitted.

The following table presents, by fair value hierarchy classification, the carrying values and estimated fair values at December 31, 2023 and 2022, of financial assets and liabilities, excluding financial instruments that are carried at fair value on a recurring basis, and their classification within the fair value hierarchy.

	December 31, 2023					December 31, 2022				
	Estimated fair value hierarchy					Estimated fair value hierarchy				
(in billions)	Carrying value	Level 1	Level 2	Level 3	Total estimated fair value	Carrying value	Level 1	Level 2	Level 3	Total estimated fair value
Financial assets										
Cash and due from banks	**$ 29.1**	**$ 29.1**	**$ –**	**$ –**	**$ 29.1**	$ 27.7	$ 27.7	$ –	$ –	$ 27.7
Deposits with banks	**595.1**	**594.6**	**0.5**	**–**	**595.1**	539.5	539.3	0.2	–	539.5
Accrued interest and accounts receivable	**107.1**	**–**	**107.0**	**0.1**	**107.1**	124.7	–	124.6	0.1	124.7
Federal funds sold and securities purchased under resale agreements	**16.3**	**–**	**16.3**	**–**	**16.3**	3.7	–	3.7	–	3.7
Securities borrowed	**130.3**	**–**	**130.3**	**–**	**130.3**	115.3	–	115.3	–	115.3
Investment securities, held-to-maturity	**369.8**	**160.6**	**182.2**	**–**	**342.8**	425.3	189.1	199.5	–	388.6
Loans, net of allowance for loan losses[(a)]	**1,262.5**	**–**	**285.6**	**964.6**	**1,250.2**	1,073.9	–	194.0	853.9	1,047.9
Other	**76.1**	**–**	**74.9**	**1.4**	**76.3**	101.2	–	99.6	1.7	101.3
Financial liabilities										
Deposits	**$ 2,322.3**	**$ –**	**$ 2,322.6**	**$ –**	**$ 2,322.6**	$ 2,311.6	$ –	$ 2,311.5	$ –	$ 2,311.5
Federal funds purchased and securities loaned or sold under repurchase agreements	**47.5**	**–**	**47.5**	**–**	**47.5**	50.6	–	50.6	–	50.6
Short-term borrowings[(b)]	**24.7**	**–**	**24.7**	**–**	**24.7**	28.2	–	28.2	–	28.2
Accounts payable and other liabilities	**241.8**	**–**	**233.3**	**8.1**	**241.4**	257.5	–	251.2	5.6	256.8
Beneficial interests issued by consolidated VIEs	**23.0**	**–**	**23.0**	**–**	**23.0**	12.6	–	12.6	–	12.6
Long-term debt[(b)]	**303.9**	**–**	**252.2**	**51.3**	**303.5**	223.6	–	216.5	2.8	219.3

(a) Fair value is typically estimated using a discounted cash flow model that incorporates the characteristics of the underlying loans (including principal, contractual interest rate and contractual fees) and other key inputs, including expected lifetime credit losses, interest rates, prepayment rates, and primary origination or secondary market spreads. For certain loans, the fair value is measured based on the value of the underlying collateral. Carrying value of the loan takes into account the loan's allowance for loan losses, which represents the loan's expected credit losses over its remaining expected life. The difference between the estimated fair value and carrying value of a loan is generally attributable to changes in market interest rates, including credit spreads, market liquidity premiums and other factors that affect the fair value of a loan but do not affect its carrying value.

(b) Includes FHLB advances in level 2 of Long-term debt and Short-term borrowings and the Purchase Money Note in level 3 of Long-term debt associated with First Republic. Refer to Notes 20 and 34 for additional information.

The majority of the Firm's lending-related commitments are not carried at fair value on a recurring basis on the Consolidated balance sheets. The carrying value and the estimated fair value of these wholesale lending-related commitments were as follows for the periods indicated.

	December 31, 2023					December 31, 2022				
		Estimated fair value hierarchy					Estimated fair value hierarchy			
(in billions)	Carrying value[(a)(b)(c)]	Level 1	Level 2	Level 3	Total estimated fair value	Carrying value[(a)(b)]	Level 1	Level 2	Level 3	Total estimated fair value
Wholesale lending-related commitments	**$ 3.0**	**$ –**	**$ –**	**$ 4.8**	**$ 4.8**	$ 2.3	$ –	$ –	$ 3.2	$ 3.2

(a) Excludes the current carrying values of the guarantee liability and the offsetting asset, each of which is recognized at fair value at the inception of the guarantees.
(b) Includes the wholesale allowance for lending-related commitments.
(c) As of December 31, 2023, includes fair value adjustments associated with First Republic for other unfunded commitments to extend credit totaling $1.1 billion recorded in accounts payable and other liabilities on the Consolidated balance sheets. Refer to Notes 28 and 34 for additional information.

The Firm does not estimate the fair value of consumer off-balance sheet lending-related commitments. In many cases, the Firm can reduce or cancel these commitments by providing the borrower notice or, in some cases as permitted by law, without notice. Refer to page 177 of this Note for a further discussion of the valuation of lending-related commitments.

Note 3 – Fair value option

The fair value option provides an option to elect fair value for selected financial assets, financial liabilities, unrecognized firm commitments, and written loan commitments.

The Firm has elected to measure certain instruments at fair value for several reasons including to mitigate income statement volatility caused by the differences between the measurement basis of elected instruments (e.g., certain instruments that otherwise would be accounted for on an accrual basis) and the associated risk management arrangements that are accounted for on a fair value basis, as well as to better reflect those instruments that are managed on a fair value basis.

The Firm's election of fair value includes the following instruments:

- Loans purchased or originated as part of securitization warehousing activity, subject to bifurcation accounting, or managed on a fair value basis, including lending-related commitments
- Certain securities financing agreements
- Owned beneficial interests in securitized financial assets that contain embedded credit derivatives, which would otherwise be required to be separately accounted for as a derivative instrument
- Structured notes and other hybrid instruments, which are predominantly financial instruments that contain embedded derivatives, that are issued or transacted as part of client-driven activities
- Certain long-term beneficial interests issued by CIB's consolidated securitization trusts where the underlying assets are carried at fair value

Changes in fair value under the fair value option election

The following table presents the changes in fair value included in the Consolidated statements of income for the years ended December 31, 2023, 2022 and 2021, for items for which the fair value option was elected. The profit and loss information presented below only includes the financial instruments that were elected to be measured at fair value; related risk management instruments, which are required to be measured at fair value, are not included in the table.

	2023			2022			2021		
December 31, (in millions)	Principal transactions	All other income	Total changes in fair value recorded[e]	Principal transactions	All other income	Total changes in fair value recorded[e]	Principal transactions	All other income	Total changes in fair value recorded[e]
Federal funds sold and securities purchased under resale agreements	**$ 300**	**$ –**	**$ 300**	$ (384)	$ –	$ (384)	$ (112)	$ –	$ (112)
Securities borrowed	**164**	**–**	**164**	(499)	–	(499)	(200)	–	(200)
Trading assets:									
Debt and equity instruments, excluding loans	**3,656**	**–**	**3,656**	(1,703)	–	(1,703)	(2,171)	(1) [c]	(2,172)
Loans reported as trading assets:									
Changes in instrument-specific credit risk	**248**	**–**	**248**	(136)	–	(136)	353	–	353
Other changes in fair value	**3**	**5** [c]	**8**	(59)	–	(59)	(8)	–	(8)
Loans:									
Changes in instrument-specific credit risk	**322**	**(4)** [c]	**318**	(242)	21 [c]	(221)	589	(7) [c]	582
Other changes in fair value	**427**	**216** [c]	**643**	(1,421)	(794) [c]	(2,215)	(139)	2,056 [c]	1,917
Other assets	**282**	**(4)** [d]	**278**	39	(6) [d]	33	12	(26) [d]	(14)
Deposits[a]	**(2,582)**	**–**	**(2,582)**	901	–	901	(183)	–	(183)
Federal funds purchased and securities loaned or sold under repurchase agreements	**(121)**	**–**	**(121)**	181	–	181	69	–	69
Short-term borrowings[a]	**(567)**	**–**	**(567)**	473	–	473	(366)	–	(366)
Trading liabilities	**(24)**	**–**	**(24)**	43	–	43	7	–	7
Beneficial interests issued by consolidated VIEs	**–**	**–**	**–**	(1)	–	(1)	–	–	–
Other liabilities	**(16)**	**–**	**(16)**	(11)	–	(11)	(17)	–	(17)
Long-term debt[a][b]	**(5,875)**	(78) [c][d]	**(5,953)**	8,990	98 [c][d]	9,088	(980)	4 [c][d]	(976)

(a) Unrealized gains/(losses) due to instrument-specific credit risk (DVA) for liabilities for which the fair value option has been elected are recorded in OCI, while realized gains/(losses) are recorded in principal transactions revenue. Realized gains/(losses) due to instrument-specific credit risk recorded in principal transactions revenue were not material for the years ended December 31, 2023, 2022 and 2021.

(b) Long-term debt measured at fair value predominantly relates to structured notes. Although the risk associated with the structured notes is actively managed, the gains/(losses) reported in this table do not include the income statement impact of the risk management instruments used to manage such risk.

(c) Reported in mortgage fees and related income.

(d) Reported in other income.

(e) Changes in fair value exclude contractual interest, which is included in interest income and interest expense for all instruments other than certain hybrid financial instruments in CIB. Refer to Note 7 for further information regarding interest income and interest expense.

Determination of instrument-specific credit risk for items for which the fair value option was elected

The following describes how the gains and losses that are attributable to changes in instrument-specific credit risk, were determined.

- Loans and lending-related commitments: For floating-rate instruments, all changes in value are attributed to instrument-specific credit risk. For fixed-rate instruments, an allocation of the changes in value for the period is made between those changes in value that are interest rate-related and changes in value that are credit-related. Allocations are generally based on an analysis of borrower-specific credit spread and recovery information, where available, or benchmarking to similar entities or industries.
- Long-term debt: Changes in value attributable to instrument-specific credit risk were derived principally from observable changes in the Firm's credit spread as observed in the bond market.
- Securities financing agreements: Generally, for these types of agreements, there is a requirement that collateral be maintained with a market value equal to or in excess of the principal amount loaned; as a result, there would be no adjustment or an immaterial adjustment for instrument-specific credit risk related to these agreements.

Difference between aggregate fair value and aggregate remaining contractual principal balance outstanding

The following table reflects the difference between the aggregate fair value and the aggregate remaining contractual principal balance outstanding as of December 31, 2023 and 2022, for loans, long-term debt and long-term beneficial interests for which the fair value option has been elected.

	2023			2022		
December 31, (in millions)	Contractual principal outstanding	Fair value	Fair value over/ (under) contractual principal outstanding	Contractual principal outstanding	Fair value	Fair value over/ (under) contractual principal outstanding
Loans						
Nonaccrual loans						
Loans reported as trading assets	**$ 2,987**	**$ 588**	**$ (2,399)**	$ 2,517	$ 368	$ (2,149)
Loans	**838**	**732**	**(106)**	967	829	(138)
Subtotal	**3,825**	**1,320**	**(2,505)**	3,484	1,197	(2,287)
90 or more days past due and government guaranteed						
Loans[a]	**65**	**59**	**(6)**	124	115	(9)
All other performing loans[b]						
Loans reported as trading assets	**9,547**	**7,968**	**(1,579)**	7,823	6,135	(1,688)
Loans	**38,948**	**38,060**	**(888)**	42,588	41,135	(1,453)
Subtotal	**48,495**	**46,028**	**(2,467)**	50,411	47,270	(3,141)
Total loans	**$ 52,385**	**$ 47,407**	**$ (4,978)**	$ 54,019	$ 48,582	$ (5,437)
Long-term debt						
Principal-protected debt	**$ 47,768** [d]	**$ 38,882**	**$ (8,886)**	$ 41,341 [d]	$ 31,105	$ (10,236)
Nonprincipal-protected debt[c]	**NA**	**49,042**	**NA**	NA	41,176	NA
Total long-term debt	**NA**	**$ 87,924**	**NA**	NA	$ 72,281	NA
Long-term beneficial interests						
Nonprincipal-protected debt[c]	**NA**	**$ 1**	**NA**	NA	$ 5	NA
Total long-term beneficial interests	**NA**	**$ 1**	**NA**	NA	$ 5	NA

(a) These balances are excluded from nonaccrual loans as the loans are insured and/or guaranteed by U.S. government agencies.
(b) There were no performing loans that were ninety days or more past due as of December 31, 2023 and 2022.
(c) Remaining contractual principal is not applicable to nonprincipal-protected structured notes and long-term beneficial interests. Unlike principal-protected structured notes and long-term beneficial interests, for which the Firm is obligated to return a stated amount of principal at maturity, nonprincipal-protected structured notes and long-term beneficial interests do not obligate the Firm to return a stated amount of principal at maturity, but for structured notes to return an amount based on the performance of an underlying variable or derivative feature embedded in the note. However, investors are exposed to the credit risk of the Firm as issuer for both nonprincipal-protected and principal-protected notes.
(d) Where the Firm issues principal-protected zero-coupon or discount notes, the balance reflects the contractual principal payment at maturity or, if applicable, the contractual principal payment at the Firm's next call date.

At December 31, 2023 and 2022, the contractual amount of lending-related commitments for which the fair value option was elected was $9.7 billion and $7.6 billion, respectively, with a corresponding fair value of $97 million and $24 million, respectively. Refer to Note 28 for further information regarding off-balance sheet lending-related financial instruments.

Structured note products by balance sheet classification and risk component

The following table presents the fair value of structured notes, by balance sheet classification and the primary risk type.

(in millions)	December 31, 2023				December 31, 2022			
	Long-term debt	Short-term borrowings	Deposits	Total	Long-term debt	Short-term borrowings	Deposits	Total
Risk exposure								
Interest rate	**$ 38,604**	**$ 654**	**$ 74,526**	**$ 113,784**	$ 31,973	$ 260	$ 24,655	$ 56,888
Credit	**5,444**	**350**	**–**	**5,794**	4,105	170	–	4,275
Foreign exchange	**2,605**	**941**	**187**	**3,733**	2,674	788	50	3,512
Equity	**38,685**	**5,483**	**2,905**	**47,073**	30,864	4,272	3,545	38,681
Commodity	**1,862**	**11**	**1** [(a)]	**1,874**	1,655	16	2 [(a)]	1,673
Total structured notes	**$ 87,200**	**$ 7,439**	**$ 77,619**	**$ 172,258**	$ 71,271	$ 5,506	$ 28,252	$ 105,029

(a) Excludes deposits linked to precious metals for which the fair value option has not been elected of $627 million and $602 million for the years ended December 31, 2023 and 2022, respectively.

Note 4 – Credit risk concentrations

Concentrations of credit risk arise when a number of clients, counterparties or customers are engaged in similar business activities or activities in the same geographic region, or when they have similar economic features that would cause their ability to meet contractual obligations to be similarly affected by changes in economic conditions.

JPMorgan Chase regularly monitors various segments of its credit portfolios to assess potential credit risk concentrations and to obtain additional collateral when deemed necessary and permitted under the Firm's agreements. Senior management is significantly involved in the credit approval and review process, and risk levels are adjusted as needed to reflect the Firm's risk appetite.

In the Firm's consumer portfolio, concentrations are managed primarily by product and by U.S. geographic region, with a key focus on trends and concentrations at the portfolio level, where potential credit risk concentrations can be remedied through changes in underwriting policies and portfolio guidelines. Refer to Note 12 for additional information on the geographic composition of the Firm's consumer loan portfolios. In the wholesale portfolio, credit risk concentrations are evaluated primarily by industry and monitored regularly on both an aggregate portfolio level and on an individual client or counterparty basis.

The Firm's wholesale exposure is managed through loan syndications and participations, loan sales, securitizations, credit derivatives, master netting agreements, collateral and other risk-reduction techniques. Refer to Note 12 for additional information on loans.

The Firm does not believe that its exposure to any particular loan product or industry segment results in a significant concentration of credit risk.

Terms of loan products and collateral coverage are included in the Firm's assessment when extending credit and establishing its allowance for credit losses. Refer to Note 13 for additional information on the allowance for credit losses.

The table below presents both on-balance sheet and off-balance sheet consumer and wholesale credit exposure by the Firm's three credit portfolio segments as of December 31, 2023 and 2022. The wholesale industry of risk category is generally based on the client or counterparty's primary business activity.

	2023				2022			
	Credit exposure[h][i]	On-balance sheet		Off-balance sheet[k]	Credit exposure[h]	On-balance sheet		Off-balance sheet[k]
December 31, (in millions)		Loans	Derivatives			Loans	Derivatives	
Consumer, excluding credit card	**$ 455,496**	**$ 410,093**	**$ –**	**$ 45,403**	$ 344,893	$ 311,375 [j]	$ –	$ 33,518
Credit card[a]	**1,126,781**	**211,123**	**–**	**915,658**	1,006,459	185,175	–	821,284
Total consumer[a]	**1,582,277**	**621,216**	**–**	**961,061**	1,351,352	496,550	–	854,802
Wholesale[b]								
Real Estate	**208,261**	**166,372**	**420**	**41,469**	170,857	131,681	249	38,927
Individuals and Individual Entities[c]	**145,849**	**126,339**	**725**	**18,785**	130,815	120,424	434	9,957
Asset Managers	**129,574**	**52,178**	**9,925**	**67,471**	95,656	40,511	16,397	38,748
Consumer & Retail	**127,086**	**46,274**	**2,013**	**78,799**	120,555	45,867	1,650	73,038
Technology, Media & Telecommunications	**77,296**	**22,450**	**2,451**	**52,395**	72,286	21,622	2,950	47,714
Industrials	**75,092**	**26,548**	**1,335**	**47,209**	72,483	26,960	1,770	43,753
Healthcare	**65,025**	**23,169**	**1,577**	**40,279**	62,613	22,970	1,683	37,960
Banks & Finance Companies	**57,177**	**33,941**	**2,898**	**20,338**	51,816	32,172	3,246	16,398
Utilities	**36,061**	**7,067**	**3,396**	**25,598**	36,218	9,107	3,269	23,842
State & Municipal Govt[d]	**35,986**	**20,019**	**442**	**15,525**	33,847	18,147	585	15,115
Oil & Gas	**34,475**	**8,480**	**705**	**25,290**	38,668	9,632	5,121	23,915
Automotive	**33,977**	**17,459**	**428**	**16,090**	33,287	14,735	529	18,023
Chemicals & Plastics	**20,773**	**6,458**	**441**	**13,874**	20,030	5,771	407	13,852
Insurance	**20,501**	**2,535**	**7,138**	**10,828**	21,045	2,387	8,081	10,577
Central Govt	**17,704**	**5,463**	**10,669**	**1,572**	19,095	3,167	12,955	2,973
Transportation	**16,060**	**5,080**	**555**	**10,425**	15,009	5,005	567	9,437
Metals & Mining	**15,508**	**4,655**	**274**	**10,579**	15,915	5,398	475	10,042
Securities Firms	**8,689**	**865**	**3,285**	**4,539**	8,066	556	3,387	4,123
Financial Markets Infrastructure	**4,251**	**86**	**2,155**	**2,010**	4,962	13	3,050	1,899
All other[e]	**134,777**	**97,034**	**4,032**	**33,711**	123,307	87,545	4,075	31,687
Subtotal	**1,264,122**	**672,472**	**54,864**	**536,786**	1,146,530	603,670	70,880	471,980
Loans held-for-sale and loans at fair value	**30,018**	**30,018**	**–**	**–**	35,427	35,427	–	–
Receivables from customers[f]	**47,625**	**–**	**–**	**–**	49,257	–	–	–
Total wholesale	**1,341,765**	**702,490**	**54,864**	**536,786**	1,231,214	639,097	70,880	471,980
Total exposure[g][h]	**$ 2,924,042**	**$1,323,706**	**$ 54,864**	**$1,497,847**	$ 2,582,566	$1,135,647	$ 70,880	$1,326,782

(a) Also includes commercial card lending-related commitments primarily in CB and CIB.
(b) The industry rankings presented in the table as of December 31, 2022, are based on the industry rankings of the corresponding exposures at December 31, 2023, not actual rankings of such exposures at December 31, 2022.
(c) Individuals and Individual Entities predominantly consists of Global Private Bank clients within AWM and J.P. Morgan Wealth Management within CCB, and includes exposure to personal investment companies and personal and testamentary trusts.
(d) In addition to the credit risk exposure to states and municipal governments (both U.S. and non-U.S.) at December 31, 2023 and 2022, noted above, the Firm held: $5.9 billion and $6.6 billion, respectively, of trading assets; $21.4 billion and $6.8 billion, respectively, of AFS securities; and $9.9 billion and $19.7 billion, respectively, of HTM securities, issued by U.S. state and municipal governments. Refer to Note 2 and Note 10 for further information.
(e) All other includes: SPEs and Private education and civic organizations, representing approximately 94% and 6%, respectively, at December 31, 2023 and 95% and 5%, respectively, at December 31, 2022. Refer to Note 14 for more information on exposures to SPEs.
(f) Receivables from customers reflect held-for-investment margin loans to brokerage clients in CIB, CCB and AWM that are collateralized by assets maintained in the clients' brokerage accounts (including cash on deposit, and primarily liquid and readily marketable debt or equity securities).
(g) Excludes cash placed with banks of $614.1 billion and $556.6 billion, at December 31, 2023 and 2022, respectively, which is predominantly placed with various central banks, primarily Federal Reserve Banks.
(h) Credit exposure is net of risk participations and excludes the benefit of credit derivatives used in credit portfolio management activities held against derivative receivables or loans and liquid securities and other cash collateral held against derivative receivables.
(i) Included credit exposure associated with First Republic consisting of $102.2 billion in the Consumer, excluding credit card portfolio, and $90.6 billion in the Wholesale portfolio predominantly in Real Estate, Asset Managers, and Individuals and Individual Entities.
(j) At December 31, 2023 and 2022, included $94 million and $350 million of loans in Business Banking under the PPP, respectively. PPP loans are guaranteed by the SBA. Other than in certain limited circumstances, the Firm typically does not recognize charge-offs, classify as nonaccrual nor record an allowance for loan losses on these loans.
(k) Represents lending-related financial instruments.

Note 5 – Derivative instruments

Derivative contracts derive their value from underlying asset prices, indices, reference rates, other inputs or a combination of these factors and may expose counterparties to risks and rewards of an underlying asset or liability without having to initially invest in, own or exchange the asset or liability. JPMorgan Chase makes markets in derivatives for clients and also uses derivatives to hedge or manage its own risk exposures. Predominantly all of the Firm's derivatives are entered into for market-making or risk management purposes.

Market-making derivatives
The majority of the Firm's derivatives are entered into for market-making purposes. Clients use derivatives to mitigate or modify interest rate, credit, foreign exchange, equity and commodity risks. The Firm actively manages the risks from its exposure to these derivatives by entering into other derivative contracts or by purchasing or selling other financial instruments that partially or fully offset the exposure from client derivatives.

Risk management derivatives
The Firm manages certain market and credit risk exposures using derivative instruments, including derivatives in hedge accounting relationships and other derivatives that are used to manage risks associated with specified assets and liabilities.

The Firm generally uses interest rate derivatives to manage the risk associated with changes in interest rates. Fixed-rate assets and liabilities appreciate or depreciate in market value as interest rates change. Similarly, interest income and expense increase or decrease as a result of variable-rate assets and liabilities resetting to current market rates, and as a result of the repayment and subsequent origination or issuance of fixed-rate assets and liabilities at current market rates. Gains and losses on the derivative instruments related to these assets and liabilities are expected to substantially offset this variability.

Foreign currency derivatives are used to manage the foreign exchange risk associated with certain foreign currency-denominated (i.e., non-U.S. dollar) assets and liabilities and forecasted transactions, as well as the Firm's net investments in certain non-U.S. subsidiaries or branches whose functional currencies are not the U.S. dollar. As a result of fluctuations in foreign currencies, the U.S. dollar-equivalent values of the foreign currency-denominated assets and liabilities or the forecasted revenues or expenses increase or decrease. Gains or losses on the derivative instruments related to these foreign currency-denominated assets or liabilities, or forecasted transactions, are expected to substantially offset this variability.

Commodities derivatives are used to manage the price risk of certain commodities inventories. Gains or losses on these derivative instruments are expected to substantially offset the depreciation or appreciation of the related inventory.

Credit derivatives are used to manage the counterparty credit risk associated with loans and lending-related commitments. Credit derivatives compensate the purchaser when the entity referenced in the contract experiences a credit event, such as bankruptcy or a failure to pay an obligation when due. Credit derivatives primarily consist of CDS. Refer to the Credit derivatives section on pages 214-216 of this Note for a further discussion of credit derivatives.

Refer to the risk management derivatives gains and losses table on page 214 and the hedge accounting gains and losses tables on pages 211-213 of this Note for more information about risk management derivatives.

Derivative counterparties and settlement types
The Firm enters into OTC derivatives, which are negotiated and settled bilaterally with the derivative counterparty. The Firm also enters into, as principal, certain ETD such as futures and options, and OTC-cleared derivative contracts with CCPs. ETD contracts are generally standardized contracts traded on an exchange and cleared by the CCP, which is the Firm's counterparty from the inception of the transactions. OTC-cleared derivatives are traded on a bilateral basis and then novated to the CCP for clearing.

Derivative clearing services
The Firm provides clearing services for clients in which the Firm acts as a clearing member at certain exchanges and clearing houses. The Firm does not reflect the clients' derivative contracts in its Consolidated Financial Statements. Refer to Note 28 for further information on the Firm's clearing services.

Accounting for derivatives

All free-standing derivatives that the Firm executes for its own account are required to be recorded on the Consolidated balance sheets at fair value.

As permitted under U.S. GAAP, the Firm nets derivative assets and liabilities, and the related cash collateral receivables and payables, when a legally enforceable master netting agreement exists between the Firm and the derivative counterparty. Refer to Note 1 for further discussion of the offsetting of assets and liabilities. The accounting for changes in value of a derivative depends on whether or not the transaction has been designated and qualifies for hedge accounting. Derivatives that are not designated as hedges are reported and measured at fair value through earnings. The tabular disclosures on pages 207-214 of this Note provide additional information on the amount of, and reporting for, derivative assets, liabilities, gains and losses. Refer to Notes 2 and 3 for a further discussion of derivatives embedded in structured notes.

Derivatives designated as hedges

The Firm applies hedge accounting to certain derivatives executed for risk management purposes – generally interest rate, foreign exchange and commodity derivatives. However, JPMorgan Chase does not seek to apply hedge accounting to all of the derivatives associated with the Firm's risk management activities. For example, the Firm does not apply hedge accounting to purchased CDS used to manage the credit risk of loans and lending-related commitments, because of the difficulties in qualifying such contracts as hedges. For the same reason, the Firm does not apply hedge accounting to certain interest rate, foreign exchange, and commodity derivatives used for risk management purposes.

To qualify for hedge accounting, a derivative must be highly effective at reducing the risk associated with the exposure being hedged. In addition, for a derivative to be designated as a hedge, the risk management objective and strategy must be documented. Hedge documentation must identify the derivative hedging instrument, the asset or liability or forecasted transaction and type of risk to be hedged, and how the effectiveness of the derivative is assessed prospectively and retrospectively. To assess effectiveness, the Firm uses statistical methods such as regression analysis, nonstatistical methods such as dollar-value comparisons of the change in the fair value of the derivative to the change in the fair value or cash flows of the hedged item, and qualitative comparisons of critical terms and the evaluation of any changes in those terms. The extent to which a derivative has been, and is expected to continue to be, highly effective at offsetting changes in the fair value or cash flows of the hedged item must be assessed and documented at least quarterly. If it is determined that a derivative is not highly effective at hedging the designated exposure, hedge accounting is discontinued.

There are three types of hedge accounting designations: fair value hedges, cash flow hedges and net investment hedges. JPMorgan Chase uses fair value hedges primarily to hedge fixed-rate long-term debt, AFS securities and certain commodities inventories. For qualifying fair value hedges, the changes in the fair value of the derivative, and in the value of the hedged item for the risk being hedged, are recognized in earnings. Certain amounts excluded from the assessment of effectiveness are recorded in OCI and recognized in earnings over the life of the derivative. If the hedge relationship is terminated, then the adjustment to the hedged item continues to be reported as part of the basis of the hedged item and, for interest-bearing financial instruments, is amortized to earnings as a yield adjustment. Derivative amounts affecting earnings are recognized consistent with the classification of the hedged item – primarily net interest income and principal transactions revenue.

Effective January 1, 2023, the Firm adopted the new portfolio layer method hedge accounting guidance which expanded the ability to hedge a portfolio of fixed-rate assets to allow more types of assets to be included in the portfolio, and to allow more of the portfolio to be hedged. The Firm employs the Portfolio Layer Method to manage the interest rate risk of portfolios of fixed-rate assets. Throughout the life of the open hedge, basis adjustments are maintained at the portfolio level and are only allocated to individual assets under certain circumstances. These include instances where the portfolio amount falls below the hedged layer amounts, or in cases of voluntary de-designation.

JPMorgan Chase uses cash flow hedges primarily to hedge the exposure to variability in forecasted cash flows from floating-rate assets and liabilities and foreign currency–denominated revenue and expense. For qualifying cash flow hedges, changes in the fair value of the derivative are recorded in OCI and recognized in earnings as the hedged item affects earnings. Derivative amounts affecting earnings are recognized consistent with the classification of the hedged item – primarily noninterest revenue, net interest income and compensation expense. If the hedge relationship is terminated, then the change in value of the derivative recorded in AOCI is recognized in earnings when the cash flows that were hedged affect earnings. For hedge relationships that are discontinued because a forecasted transaction is expected to not occur according to the original hedge forecast, any related derivative values recorded in AOCI are immediately recognized in earnings.

JPMorgan Chase uses net investment hedges to protect the value of the Firm's net investments in certain non-U.S. subsidiaries or branches whose functional currencies are not the U.S. dollar. For qualifying net investment hedges, changes in the fair value of the derivatives due to changes in spot foreign exchange rates are recorded in OCI as translation adjustments. Amounts excluded from the assessment of effectiveness are recorded directly in earnings.

The following table outlines the Firm's primary uses of derivatives and the related hedge accounting designation or disclosure category.

Type of Derivative	Use of Derivative	Designation and disclosure	Affected segment or unit	Page reference
Manage specifically identified risk exposures in qualifying hedge accounting relationships:				
• Interest rate	Hedge fixed rate assets and liabilities	Fair value hedge	Corporate	211-212
• Interest rate	Hedge floating-rate assets and liabilities	Cash flow hedge	Corporate	213
• Foreign exchange	Hedge foreign currency-denominated assets and liabilities	Fair value hedge	Corporate	211-212
• Foreign exchange	Hedge foreign currency-denominated forecasted revenue and expense	Cash flow hedge	Corporate	213
• Foreign exchange	Hedge the value of the Firm's investments in non-U.S. dollar functional currency entities	Net investment hedge	Corporate	213
• Commodity	Hedge commodity inventory	Fair value hedge	CIB, AWM	211-212
Manage specifically identified risk exposures not designated in qualifying hedge accounting relationships:				
• Interest rate	Manage the risk associated with mortgage commitments, warehouse loans and MSRs	Specified risk management	CCB	214
• Credit	Manage the credit risk associated with wholesale lending exposures	Specified risk management	CIB, AWM	214
• Interest rate and foreign exchange	Manage the risk associated with certain other specified assets and liabilities	Specified risk management	Corporate, CIB	214
Market-making derivatives and other activities:				
• Various	Market-making and related risk management	Market-making and other	CIB	214
• Various	Other derivatives	Market-making and other	CIB, AWM, Corporate	214

Notional amount of derivative contracts

The following table summarizes the notional amount of free-standing derivative contracts outstanding as of December 31, 2023 and 2022.

	Notional amounts[b]	
December 31, (in billions)	**2023**	2022
Interest rate contracts		
Swaps	**$ 23,251**	$ 24,491
Futures and forwards	**2,690**	2,636
Written options	**3,370**	3,047
Purchased options	**3,362**	2,992
Total interest rate contracts	**32,673**	33,166
Credit derivatives[a]	**1,045**	1,132
Foreign exchange contracts		
Cross-currency swaps	**4,721**	4,196
Spot, futures and forwards	**6,957**	7,017
Written options	**830**	775
Purchased options	**798**	759
Total foreign exchange contracts	**13,306**	12,747
Equity contracts		
Swaps	**639**	618
Futures and forwards	**157**	110
Written options	**778**	636
Purchased options	**698**	580
Total equity contracts	**2,272**	1,944
Commodity contracts		
Swaps	**115**	136
Spot, futures and forwards	**157**	136
Written options	**130**	117
Purchased options	**115**	98
Total commodity contracts	**517**	487
Total derivative notional amounts	**$ 49,813**	$ 49,476

(a) Refer to the Credit derivatives discussion on pages 214–216 for more information on volumes and types of credit derivative contracts.
(b) Represents the sum of gross long and gross short third-party notional derivative contracts.

While the notional amounts disclosed above give an indication of the volume of the Firm's derivatives activity, the notional amounts significantly exceed, in the Firm's view, the possible losses that could arise from such transactions. For most derivative contracts, the notional amount is not exchanged; it is simply a reference amount used to calculate payments.

Impact of derivatives on the Consolidated balance sheets

The following table summarizes information on derivative receivables and payables (before and after netting adjustments) that are reflected on the Firm's Consolidated balance sheets as of December 31, 2023 and 2022, by accounting designation (e.g., whether the derivatives were designated in qualifying hedge accounting relationships or not) and contract type.

Free-standing derivative receivables and payables[(a)]

	Gross derivative receivables				Gross derivative payables			
December 31, 2023 (in millions)	Not designated as hedges	Designated as hedges	Total derivative receivables	Net derivative receivables[(b)]	Not designated as hedges	Designated as hedges	Total derivative payables	Net derivative payables[(b)]
Trading assets and liabilities								
Interest rate	**$ 250,689**	**$ 2**	**$ 250,691**	**$ 26,324**	**$ 240,482**	**$ –**	**$ 240,482**	**$ 11,896**
Credit	**9,654**	**–**	**9,654**	**551**	**12,038**	**–**	**12,038**	**1,089**
Foreign exchange	**205,010**	**765**	**205,775**	**18,019**	**210,623**	**1,640**	**212,263**	**12,620**
Equity	**57,689**	**–**	**57,689**	**4,928**	**65,811**	**–**	**65,811**	**9,368**
Commodity	**15,228**	**211**	**15,439**	**5,042**	**16,286**	**92**	**16,378**	**5,874**
Total fair value of trading assets and liabilities	**$ 538,270**	**$ 978**	**$ 539,248**	**$ 54,864**	**$ 545,240**	**$ 1,732**	**$ 546,972**	**$ 40,847**

	Gross derivative receivables				Gross derivative payables			
December 31, 2022 (in millions)	Not designated as hedges	Designated as hedges	Total derivative receivables	Net derivative receivables[(b)]	Not designated as hedges	Designated as hedges	Total derivative payables	Net derivative payables[(b)]
Trading assets and liabilities								
Interest rate	$ 300,411	$ 4	$ 300,415	$ 28,419	$ 290,291	$ –	$ 290,291	$ 15,970
Credit	10,329	–	10,329	1,090	9,971	–	9,971	754
Foreign exchange	239,946	1,633	241,579	23,365	248,911	2,610	251,521	18,856
Equity	61,913	–	61,913	9,139	62,461	–	62,461	8,804
Commodity	23,652	1,705	25,357	8,867	20,758	2,511	23,269	6,757
Total fair value of trading assets and liabilities	$ 636,251	$ 3,342	$ 639,593	$ 70,880	$ 632,392	$ 5,121	$ 637,513	$ 51,141

(a) Balances exclude structured notes for which the fair value option has been elected. Refer to Note 3 for further information.

(b) As permitted under U.S. GAAP, the Firm has elected to net derivative receivables and derivative payables and the related cash collateral receivables and payables when a legally enforceable master netting agreement exists.

Derivatives netting

The following tables present, as of December 31, 2023 and 2022, gross and net derivative receivables and payables by contract and settlement type. Derivative receivables and payables, as well as the related cash collateral from the same counterparty, have been netted on the Consolidated balance sheets where the Firm has obtained an appropriate legal opinion with respect to the master netting agreement. Where such a legal opinion has not been either sought or obtained, amounts are not eligible for netting on the Consolidated balance sheets, and those derivative receivables and payables are shown separately in the tables below.

In addition to the cash collateral received and transferred that is presented on a net basis with derivative receivables and payables, the Firm receives and transfers additional collateral (financial instruments and cash). These amounts mitigate counterparty credit risk associated with the Firm's derivative instruments, but are not eligible for net presentation:

- collateral that consists of liquid securities and other cash collateral held at third-party custodians, which are shown separately as "Collateral not nettable on the Consolidated balance sheets" in the tables below, up to the fair value exposure amount. For the purpose of this disclosure, the definition of liquid securities is consistent with the definition of high quality liquid assets as defined in the LCR rule;
- the amount of collateral held or transferred that exceeds the fair value exposure at the individual counterparty level, as of the date presented, which is excluded from the tables below; and
- collateral held or transferred that relates to derivative receivables or payables where an appropriate legal opinion has not been either sought or obtained with respect to the master netting agreement, which is excluded from the tables below.

	2023			2022		
December 31, (in millions)	Gross derivative receivables	Amounts netted on the Consolidated balance sheets	Net derivative receivables	Gross derivative receivables	Amounts netted on the Consolidated balance sheets	Net derivative receivables
U.S. GAAP nettable derivative receivables						
Interest rate contracts:						
OTC	**$ 176,901**	**$ (152,703)**	**$ 24,198**	$ 203,922	$ (178,261)	$ 25,661
OTC-cleared	**71,419**	**(71,275)**	**144**	93,800	(93,424)	376
Exchange-traded[(a)]	**402**	**(389)**	**13**	559	(311)	248
Total interest rate contracts	**248,722**	**(224,367)**	**24,355**	298,281	(271,996)	26,285
Credit contracts:						
OTC	**7,637**	**(7,226)**	**411**	8,474	(7,535)	939
OTC-cleared	**1,904**	**(1,877)**	**27**	1,746	(1,704)	42
Total credit contracts	**9,541**	**(9,103)**	**438**	10,220	(9,239)	981
Foreign exchange contracts:						
OTC	**203,624**	**(187,295)**	**16,329**	237,941	(216,796)	21,145
OTC-cleared	**469**	**(459)**	**10**	1,461	(1,417)	44
Exchange-traded[(a)]	**6**	**(2)**	**4**	15	(1)	14
Total foreign exchange contracts	**204,099**	**(187,756)**	**16,343**	239,417	(218,214)	21,203
Equity contracts:						
OTC	**25,001**	**(23,677)**	**1,324**	30,323	(25,665)	4,658
Exchange-traded[(a)]	**30,462**	**(29,084)**	**1,378**	28,467	(27,109)	1,358
Total equity contracts	**55,463**	**(52,761)**	**2,702**	58,790	(52,774)	6,016
Commodity contracts:						
OTC	**8,049**	**(5,084)**	**2,965**	14,430	(7,633)	6,797
OTC-cleared	**133**	**(123)**	**10**	120	(112)	8
Exchange-traded[(a)]	**5,214**	**(5,190)**	**24**	9,103	(8,745)	358
Total commodity contracts	**13,396**	**(10,397)**	**2,999**	23,653	(16,490)	7,163
Derivative receivables with appropriate legal opinion	**531,221**	**(484,384)**	**46,837** [(d)]	630,361	(568,713)	61,648 [(d)]
Derivative receivables where an appropriate legal opinion has not been either sought or obtained	**8,027**		**8,027**	9,232		9,232
Total derivative receivables recognized on the Consolidated balance sheets	**$ 539,248**		**$ 54,864**	$ 639,593		$ 70,880
Collateral not nettable on the Consolidated balance sheets[(b)(c)]			**(22,461)**			(23,014)
Net amounts			**$ 32,403**			$ 47,866

December 31, (in millions)	2023 Gross derivative payables	2023 Amounts netted on the Consolidated balance sheets	2023 Net derivative payables	2022 Gross derivative payables	2022 Amounts netted on the Consolidated balance sheets	2022 Net derivative payables
U.S. GAAP nettable derivative payables						
Interest rate contracts:						
OTC	**$ 161,901**	**$ (152,467)**	**$ 9,434**	$ 190,108	$ (176,890)	$ 13,218
OTC-cleared	**76,007**	**(75,729)**	**278**	97,417	(97,126)	291
Exchange-traded[(a)]	**436**	**(390)**	**46**	327	(305)	22
Total interest rate contracts	**238,344**	**(228,586)**	**9,758**	287,852	(274,321)	13,531
Credit contracts:						
OTC	**10,332**	**(9,313)**	**1,019**	8,054	(7,572)	482
OTC-cleared	**1,639**	**(1,636)**	**3**	1,674	(1,645)	29
Total credit contracts	**11,971**	**(10,949)**	**1,022**	9,728	(9,217)	511
Foreign exchange contracts:						
OTC	**209,386**	**(199,173)**	**10,213**	246,457	(231,248)	15,209
OTC-cleared	**552**	**(470)**	**82**	1,488	(1,417)	71
Exchange-traded[(a)]	**6**	**–**	**6**	20	–	20
Total foreign exchange contracts	**209,944**	**(199,643)**	**10,301**	247,965	(232,665)	15,300
Equity contracts:						
OTC	**29,999**	**(27,360)**	**2,639**	29,833	(26,554)	3,279
Exchange-traded[(a)]	**33,137**	**(29,083)**	**4,054**	28,291	(27,103)	1,188
Total equity contracts	**63,136**	**(56,443)**	**6,693**	58,124	(53,657)	4,467
Commodity contracts:						
OTC	**8,788**	**(5,192)**	**3,596**	11,954	(7,642)	4,312
OTC-cleared	**120**	**(120)**	**–**	112	(112)	–
Exchange-traded[(a)]	**5,376**	**(5,192)**	**184**	9,021	(8,758)	263
Total commodity contracts	**14,284**	**(10,504)**	**3,780**	21,087	(16,512)	4,575
Derivative payables with appropriate legal opinion	**537,679**	**(506,125)**	**31,554** [(d)]	624,756	(586,372)	38,384 [(d)]
Derivative payables where an appropriate legal opinion has not been either sought or obtained	**9,293**		**9,293**	12,757		12,757
Total derivative payables recognized on the Consolidated balance sheets	**$ 546,972**		**$ 40,847**	$ 637,513		$ 51,141
Collateral not nettable on the Consolidated balance sheets[(b)(c)]			**(4,547)**			(3,318)
Net amounts			**$ 36,300**			$ 47,823

(a) Exchange-traded derivative balances that relate to futures contracts are settled daily.

(b) Includes liquid securities and other cash collateral held at third-party custodians related to derivative instruments where an appropriate legal opinion has been obtained. For some counterparties, the collateral amounts of financial instruments may exceed the derivative receivables and derivative payables balances. Where this is the case, the total amount reported is limited to the net derivative receivables and net derivative payables balances with that counterparty.

(c) Derivative collateral relates only to OTC and OTC-cleared derivative instruments.

(d) Net derivatives receivable included cash collateral netted of $48.3 billion and $51.5 billion at December 31, 2023 and 2022, respectively. Net derivatives payable included cash collateral netted of $70.0 billion and $69.2 billion at December 31, 2023 and 2022, respectively. Derivative cash collateral relates to OTC and OTC-cleared derivative instruments.

Liquidity risk and credit-related contingent features

In addition to the specific market risks introduced by each derivative contract type, derivatives expose JPMorgan Chase to credit risk – the risk that derivative counterparties may fail to meet their payment obligations under the derivative contracts and the collateral, if any, held by the Firm proves to be of insufficient value to cover the payment obligation. It is the policy of JPMorgan Chase to actively pursue, where possible, the use of legally enforceable master netting arrangements and collateral agreements to mitigate derivative counterparty credit risk inherent in derivative receivables.

While derivative receivables expose the Firm to credit risk, derivative payables expose the Firm to liquidity risk, as the derivative contracts typically require the Firm to post cash or securities collateral with counterparties as the fair value of the contracts moves in the counterparties' favor or upon specified downgrades in the Firm's and its subsidiaries' respective credit ratings. Certain derivative contracts also provide for termination of the contract, generally upon a downgrade of either the Firm or the counterparty, at the fair value of the derivative contracts. The following table shows the aggregate fair value of net derivative payables related to OTC and OTC-cleared derivatives that contain contingent collateral or termination features that may be triggered upon a ratings downgrade, and the associated collateral the Firm has posted in the normal course of business, at December 31, 2023 and 2022.

OTC and OTC-cleared derivative payables containing downgrade triggers

(in millions)	December 31, 2023	December 31, 2022
Aggregate fair value of net derivative payables	**$ 14,655**	$ 16,023
Collateral posted	**14,673**	15,505

The following table shows the impact of a single-notch and two-notch downgrade of the long-term issuer ratings of JPMorgan Chase & Co. and its subsidiaries, predominantly JPMorgan Chase Bank, N.A., at December 31, 2023 and 2022, related to OTC and OTC-cleared derivative contracts with contingent collateral or termination features that may be triggered upon a ratings downgrade. Derivatives contracts generally require additional collateral to be posted or terminations to be triggered when the predefined rating threshold is breached. A downgrade by a single rating agency that does not result in a rating lower than a preexisting corresponding rating provided by another major rating agency will generally not result in additional collateral (except in certain instances in which additional initial margin may be required upon a ratings downgrade), nor in termination payment requirements. The liquidity impact in the table is calculated based upon a downgrade below the lowest current rating of the rating agencies referred to in the derivative contract.

Liquidity impact of downgrade triggers on OTC and OTC-cleared derivatives

	December 31, 2023		December 31, 2022	
(in millions)	Single-notch downgrade	Two-notch downgrade	Single-notch downgrade	Two-notch downgrade
Amount of additional collateral to be posted upon downgrade[(a)]	**$ 75**	**$ 1,153**	$ 128	$ 1,293
Amount required to settle contracts with termination triggers upon downgrade[(b)]	**93**	**592**	88	925

(a) Includes the additional collateral to be posted for initial margin.
(b) Amounts represent fair values of derivative payables, and do not reflect collateral posted.

Derivatives executed in contemplation of a sale of the underlying financial asset

In certain instances the Firm enters into transactions in which it transfers financial assets but maintains the economic exposure to the transferred assets by entering into a derivative with the same counterparty in contemplation of the initial transfer. The Firm generally accounts for such transfers as collateralized financing transactions as described in Note 11, but in limited circumstances they may qualify to be accounted for as a sale and a derivative under U.S. GAAP. The amount of such transfers accounted for as a sale where the associated derivative was outstanding was not material at both December 31, 2023 and 2022.

Impact of derivatives on the Consolidated statements of income

The following tables provide information related to gains and losses recorded on derivatives based on their hedge accounting designation or purpose.

Fair value hedge gains and losses

The following tables present derivative instruments, by contract type, used in fair value hedge accounting relationships, as well as pre-tax gains/(losses) recorded on such derivatives and the related hedged items for the years ended December 31, 2023, 2022 and 2021, respectively. The Firm includes gains/(losses) on the hedging derivative in the same line item in the Consolidated statements of income as the related hedged item.

	Gains/(losses) recorded in income			Income statement impact of excluded components[e]		OCI impact
Year ended December 31, 2023 (in millions)	Derivatives	Hedged items	Income statement impact	Amortization approach	Changes in fair value	Derivatives - Gains/(losses) recorded in OCI[f]
Contract type						
Interest rate[a][b]	**$ 1,554**	**$ (1,248)**	**$ 306**	**$ –**	**$ 157**	**$ –**
Foreign exchange[c]	**722**	**(483)**	**239**	**(601)**	**239**	**(134)**
Commodity[d]	**1,227**	**(706)**	**521**	**–**	**525**	**–**
Total	**$ 3,503**	**$ (2,437)**	**$ 1,066**	**$ (601)**	**$ 921**	**$ (134)**

	Gains/(losses) recorded in income			Income statement impact of excluded components[e]		OCI impact
Year ended December 31, 2022 (in millions)	Derivatives	Hedged items	Income statement impact	Amortization approach	Changes in fair value	Derivatives - Gains/(losses) recorded in OCI[f]
Contract type						
Interest rate[a][b]	$ (14,352)	$ 14,047	$ (305)	$ –	$ (262)	$ –
Foreign exchange[c]	(1,317)	1,423	106	(528)	106	130
Commodity[d]	106	(70)	36	–	48	–
Total	$ (15,563)	$ 15,400	$ (163)	$ (528)	$ (108)	$ 130

	Gains/(losses) recorded in income			Income statement impact of excluded components[e]		OCI impact
Year ended December 31, 2021 (in millions)	Derivatives	Hedged items	Income statement impact	Amortization approach	Changes in fair value	Derivatives - Gains/(losses) recorded in OCI[f]
Contract type						
Interest rate[a][b]	$ (4,323)	$ 3,765	$ (558)	$ –	$ (439)	$ –
Foreign exchange[c]	(1,317)	1,349	32	(286)	32	(26)
Commodity[d]	(9,609)	9,710	101	–	72	–
Total	$ (15,249)	$ 14,824	$ (425)	$ (286)	$ (335)	$ (26)

(a) Primarily consists of hedges of the benchmark (e.g., Secured Overnight Financing Rate ("SOFR")) interest rate risk of fixed-rate long-term debt and AFS securities. Gains and losses were recorded in net interest income.

(b) Includes the amortization of income/expense associated with the inception hedge accounting adjustment applied to the hedged item. Excludes the accrual of interest on interest rate swaps and the related hedged items.

(c) Primarily consists of hedges of the foreign currency risk of long-term debt and AFS securities for changes in spot foreign currency rates. Gains and losses related to the derivatives and the hedged items due to changes in foreign currency rates and the income statement impact of excluded components were recorded primarily in principal transactions revenue and net interest income.

(d) Consists of overall fair value hedges of physical commodities inventories that are generally carried at the lower of cost or net realizable value (net realizable value approximates fair value). Gains and losses were recorded in principal transactions revenue.

(e) The assessment of hedge effectiveness excludes certain components of the changes in fair values of the derivatives and hedged items such as forward points on foreign exchange forward contracts, time values and cross-currency basis spreads. Excluded components may impact earnings either through amortization of the initial amount over the life of the derivative or through fair value changes recognized in the current period.

(f) Represents the change in value of amounts excluded from the assessment of effectiveness under the amortization approach, predominantly cross-currency basis spreads. The amount excluded at inception of the hedge is recognized in earnings over the life of the derivative.

As of December 31, 2023 and 2022, the following amounts were recorded on the Consolidated balance sheets related to certain cumulative fair value hedge basis adjustments that are expected to reverse through the income statement in future periods as an adjustment to yield.

December 31, 2023 (in millions)	Carrying amount of the hedged items[a][b]		Cumulative amount of fair value hedging adjustments included in the carrying amount of hedged items:		
			Active hedging relationships[d]	Discontinued hedging relationships[d][e]	Total
Assets					
Investment securities - AFS	**$ 151,752**	[c]	**$ 549**	**$ (2,010)**	**$ (1,461)**
Liabilities					
Long-term debt	**$ 195,455**		**$ (2,042)**	**$ (9,727)**	**$ (11,769)**

December 31, 2022 (in millions)	Carrying amount of the hedged items[a][b]		Cumulative amount of fair value hedging adjustments included in the carrying amount of hedged items:		
			Active hedging relationships[d]	Discontinued hedging relationships[d][e]	Total
Assets					
Investment securities - AFS	$ 84,073	[c]	$ (4,149)	$ (1,542)	$ (5,691)
Liabilities					
Long-term debt	$ 175,257		$ (11,879)	$ (3,313)	$ (15,192)

(a) Excludes physical commodities with a carrying value of $5.6 billion and $26.0 billion at December 31, 2023 and 2022, respectively, to which the Firm applies fair value hedge accounting. As a result of the application of hedge accounting, these inventories are carried at fair value, thus recognizing unrealized gains and losses in current periods. Since the Firm exits these positions at fair value, there is no incremental impact to net income in future periods.

(b) Excludes hedged items where only foreign currency risk is the designated hedged risk, as basis adjustments related to foreign currency hedges will not reverse through the income statement in future periods. At December 31, 2023 and 2022, the carrying amount excluded for AFS securities is $19.3 billion and $20.3 billion, respectively, and for long-term debt is zero and $221 million, respectively.

(c) Carrying amount represents the amortized cost, net of allowance if applicable. Effective January 1, 2023, the Firm adopted the portfolio layer method hedge accounting guidance. At December 31, 2023, the amortized cost of the portfolio layer method closed portfolios was $83.9 billion, of which $68.0 billion was designated as hedged. The amount designated as hedged is the sum of the notional amounts of all outstanding layers in each portfolio, which includes both spot starting and forward starting layers. The cumulative amount of basis adjustments was $(165) million, which is comprised of $73 million and $(238) million for active and discontinued hedging relationships, respectively. Refer to Note 1 and Note 10 for additional information.

(d) Positive (negative) amounts related to assets represent cumulative fair value hedge basis adjustments that will reduce (increase) net interest income in future periods. Positive (negative) amounts related to liabilities represent cumulative fair value hedge basis adjustments that will increase (reduce) net interest income in future periods.

(e) Represents basis adjustments existing on the balance sheet date associated with hedged items that have been de-designated from qualifying fair value hedging relationships.

Cash flow hedge gains and losses

The following tables present derivative instruments, by contract type, used in cash flow hedge accounting relationships, and the pre-tax gains/(losses) recorded on such derivatives, for the years ended December 31, 2023, 2022 and 2021, respectively. The Firm includes the gains/(losses) on the hedging derivative in the same line item in the Consolidated statements of income as the change in cash flows on the related hedged item.

	Derivatives gains/(losses) recorded in income and other comprehensive income/(loss)		
Year ended December 31, 2023 (in millions)	Amounts reclassified from AOCI to income	Amounts recorded in OCI	Total change in OCI for period
Contract type			
Interest rate[a]	**$ (1,839)**	**$ 274**	**$ 2,113**
Foreign exchange[b]	**64**	**209**	**145**
Total	**$ (1,775)**	**$ 483**	**$ 2,258**

	Derivatives gains/(losses) recorded in income and other comprehensive income/(loss)		
Year ended December 31, 2022 (in millions)	Amounts reclassified from AOCI to income	Amounts recorded in OCI	Total change in OCI for period
Contract type			
Interest rate[a]	$ (153)	$ (7,131)	$ (6,978)
Foreign exchange[b]	(267)	(342)	(75)
Total	$ (420)	$ (7,473)	$ (7,053)

	Derivatives gains/(losses) recorded in income and other comprehensive income/(loss)		
Year ended December 31, 2021 (in millions)	Amounts reclassified from AOCI to income	Amounts recorded in OCI	Total change in OCI for period
Contract type			
Interest rate[a]	$ 1,032	$ (2,370)	$ (3,402)
Foreign exchange[b]	190	67	(123)
Total	$ 1,222	$ (2,303)	$ (3,525)

(a) Primarily consists of hedges of SOFR-indexed floating-rate assets. Gains and losses were recorded in net interest income.

(b) Primarily consists of hedges of the foreign currency risk of non-U.S. dollar-denominated revenue and expense. The income statement classification of gains and losses follows the hedged item – primarily noninterest revenue and compensation expense.

The Firm did not experience any forecasted transactions that failed to occur for the years ended 2023, 2022 and 2021.

Over the next 12 months, the Firm expects that approximately $(1.6) billion (after-tax) of net losses recorded in AOCI at December 31, 2023, related to cash flow hedges will be recognized in income. For cash flow hedges that have been terminated, the maximum length of time over which the derivative results recorded in AOCI will be recognized in earnings is approximately six years, corresponding to the timing of the originally hedged forecasted cash flows. For open cash flow hedges, the maximum length of time over which forecasted transactions are hedged is approximately seven years. The Firm's longer-dated forecasted transactions relate to core lending and borrowing activities.

Net investment hedge gains and losses

The following table presents hedging instruments, by contract type, that were used in net investment hedge accounting relationships, and the pre-tax gains/(losses) recorded on such instruments for the years ended December 31, 2023, 2022 and 2021.

	2023		2022		2021	
Year ended December 31, (in millions)	Amounts recorded in income[a][b]	Amounts recorded in OCI	Amounts recorded in income[a][b]	Amounts recorded in OCI	Amounts recorded in income[a][b]	Amounts recorded in OCI
Foreign exchange derivatives	**$384**	**$(1,732)**	$(123)	$3,591	$(228)	$2,452

(a) Certain components of hedging derivatives are permitted to be excluded from the assessment of hedge effectiveness, such as forward points on foreign exchange forward contracts. The Firm elects to record changes in fair value of these amounts directly in other income.

(b) Excludes amounts reclassified from AOCI to income on the sale or liquidation of hedged entities. During the year ended December 31, 2023, the Firm reclassified a net pre-tax loss of $(35) million to other revenue including the impact of the acquisition of CIFM. The Firm reclassified net pre-tax gains of $38 million to other income/expense related to the liquidation of certain legal entities during the year ended December 31, 2022. The amount reclassified for the year ended December 31, 2021 was not material. Refer to Note 24 for further information.

Gains and losses on derivatives used for specified risk management purposes

The following table presents pre-tax gains/(losses) recorded on a limited number of derivatives, not designated in hedge accounting relationships, that are used to manage risks associated with certain specified assets and liabilities, including certain risks arising from mortgage commitments, warehouse loans, MSRs, wholesale lending exposures, and foreign currency denominated assets and liabilities.

	Derivatives gains/(losses) recorded in income		
Year ended December 31, (in millions)	**2023**	2022	2021
Contract type			
Interest rate[(a)]	**$ (135)**	$ (827)	$ 1,078
Credit[(b)]	**(441)**	51	(94)
Foreign exchange[(c)]	**(2)**	(48)	94
Total	**$ (578)**	$ (824)	$ 1,078

(a) Primarily represents interest rate derivatives used to hedge the interest rate risk inherent in mortgage commitments, warehouse loans and MSRs, as well as written commitments to originate warehouse loans. Gains and losses were recorded predominantly in mortgage fees and related income.

(b) Relates to credit derivatives used to mitigate credit risk associated with lending exposures in the Firm's wholesale businesses. These derivatives do not include credit derivatives used to mitigate counterparty credit risk arising from derivative receivables, which is included in gains and losses on derivatives related to market-making activities and other derivatives. Gains and losses were recorded in principal transactions revenue.

(c) Primarily relates to derivatives used to mitigate foreign exchange risk of specified foreign currency-denominated assets and liabilities. Gains and losses were recorded in principal transactions revenue.

Gains and losses on derivatives related to market-making activities and other derivatives

The Firm makes markets in derivatives in order to meet the needs of customers and uses derivatives to manage certain risks associated with net open risk positions from its market-making activities, including the counterparty credit risk arising from derivative receivables. All derivatives not included in the hedge accounting or specified risk management categories above are included in this category. Gains and losses on these derivatives are primarily recorded in principal transactions revenue. Refer to Note 6 for information on principal transactions revenue.

Credit derivatives

Credit derivatives are financial instruments whose value is derived from the credit risk associated with the debt of a third-party issuer (the reference entity) and which allow one party (the protection purchaser) to transfer that risk to another party (the protection seller). Credit derivatives expose the protection purchaser to the creditworthiness of the protection seller, as the protection seller is required to make payments under the contract when the reference entity experiences a credit event, such as a bankruptcy, a failure to pay its obligation or a restructuring. The seller of credit protection receives a premium for providing protection but has the risk that the underlying instrument referenced in the contract will be subject to a credit event.

The Firm is both a purchaser and seller of protection in the credit derivatives market and uses these derivatives for two primary purposes. First, in its capacity as a market-maker, the Firm actively manages a portfolio of credit derivatives by purchasing and selling credit protection, predominantly on corporate debt obligations, to meet the needs of customers. Second, as an end-user, the Firm uses credit derivatives to manage credit risk associated with lending exposures (loans and unfunded commitments) in its wholesale and consumer businesses and derivatives counterparty exposures in its wholesale businesses, and to manage the credit risk arising from certain financial instruments in the Firm's market-making businesses. Following is a summary of various types of credit derivatives.

Credit default swaps

Credit derivatives may reference the credit of either a single reference entity ("single-name"), broad-based index or portfolio. The Firm purchases and sells protection on both single- name and index-reference obligations. Single-name CDS and index CDS contracts are either OTC or OTC-cleared derivative contracts. Single-name CDS are used to manage the default risk of a single reference entity, while index CDS contracts are used to manage the credit risk associated with the broader credit markets or credit market segments. Like the S&P 500 and other market indices, a CDS index consists of a portfolio of CDS across many reference entities. New series of CDS indices are periodically established with a new underlying portfolio of reference entities to reflect changes in the credit markets. If one of the reference entities in the index experiences a credit event, then the reference entity that defaulted is removed from the index. CDS can also be referenced against specific portfolios of reference names or against customized exposure levels: for example, to provide protection against the first $1 million of realized credit losses in a $10 million portfolio of exposure. Such structures are commonly known as tranche CDS.

For both single-name CDS contracts and index CDS contracts, upon the occurrence of a credit event, under the terms of a CDS contract neither party to the CDS contract has recourse to the reference entity. The protection purchaser has recourse to the protection seller for the difference between the face value of the CDS contract and the fair value of the reference obligation at settlement of the credit derivative contract, also known as the recovery value. The protection purchaser does not need to hold the debt instrument of the underlying reference entity in order to receive amounts due under the CDS contract when a credit event occurs.

Credit-related notes

A credit-related note is a funded derivative with a credit risk component where the issuer of the credit-related note purchases from the note investor credit protection on a reference entity or an index. Under the contract, the investor pays the issuer the par value of the note at the inception of the transaction, and in return, the issuer makes periodic payments to the investor, based on the credit risk of the referenced entity. The issuer also repays the investor the par value of the note at maturity unless the reference entity (or one of the entities that makes up a reference index) experiences a specified credit event. If a credit event occurs, the issuer is not obligated to repay the par value of the note, but rather, the issuer pays the investor the difference between the par value of the note and the fair value of the defaulted reference obligation at the time of settlement. Neither party to the credit-related note has recourse to the defaulting reference entity.

The following tables present a summary of the notional amounts of credit derivatives and credit-related notes the Firm sold and purchased as of December 31, 2023 and 2022. Upon a credit event, the Firm as a seller of protection would typically pay out a percentage of the full notional amount of net protection sold, as the amount actually required to be paid on the contracts takes into account the recovery value of the reference obligation at the time of settlement. The Firm manages the credit risk on contracts to sell protection by purchasing protection with identical or similar underlying reference entities. Other purchased protection referenced in the following tables includes credit derivatives bought on related, but not identical, reference positions (including indices, portfolio coverage and other reference points) as well as protection purchased by CIB through credit-related notes. Other purchased protection also includes credit protection against certain loans in the retained lending portfolio through the issuance of credit derivatives and credit-related notes.

The Firm does not use notional amounts of credit derivatives as the primary measure of risk management for such derivatives, because the notional amount does not take into account the probability of the occurrence of a credit event, the recovery value of the reference obligation, or related cash instruments and economic hedges, each of which reduces, in the Firm's view, the risks associated with such derivatives.

Total credit derivatives and credit-related notes

December 31, 2023 (in millions)	Maximum payout/Notional amount			
	Protection sold	Protection purchased with identical underlyings[c]	Net protection (sold)/ purchased[d]	Other protection purchased[e]
Credit derivatives				
Credit default swaps	**$ (450,172)**	**$ 473,823**	**$ 23,651**	**$ 7,517**
Other credit derivatives[a]	**(38,846)**	**45,416**	**6,570**	**29,206**
Total credit derivatives	**(489,018)**	**519,239**	**30,221**	**36,723**
Credit-related notes[b]	**–**	**–**	**–**	**9,788**
Total	**$ (489,018)**	**$ 519,239**	**$ 30,221**	**$ 46,511**

December 31, 2022 (in millions)	Maximum payout/Notional amount			
	Protection sold	Protection purchased with identical underlyings[c]	Net protection (sold)/ purchased[d]	Other protection purchased[e]
Credit derivatives				
Credit default swaps	$ (495,557)	$ 509,846	$ 14,289	$ 2,917
Other credit derivatives[a]	(47,165)	65,029	17,864	11,746
Total credit derivatives	(542,722)	574,875	32,153	14,663
Credit-related notes[b]	–	–	–	7,863
Total	$ (542,722)	$ 574,875	$ 32,153	$ 22,526

(a) Other credit derivatives predominantly consist of credit swap options and total return swaps.
(b) Predominantly represents Other protection purchased by CIB.
(c) Represents the total notional amount of protection purchased where the underlying reference instrument is identical to the reference instrument on protection sold; the notional amount of protection purchased for each individual identical underlying reference instrument may be greater or lower than the notional amount of protection sold.
(d) Does not take into account the fair value of the reference obligation at the time of settlement, which would generally reduce the amount the seller of protection pays to the buyer of protection in determining settlement value.
(e) Represents protection purchased by the Firm on referenced instruments (single-name, portfolio or index) where the Firm has not sold any protection on the identical reference instrument.

The following tables summarize the notional amounts by the ratings, maturity profile, and total fair value, of credit derivatives as of December 31, 2023 and 2022, where JPMorgan Chase is the seller of protection. The maturity profile is based on the remaining contractual maturity of the credit derivative contracts. The ratings profile is based on the rating of the reference entity on which the credit derivative contract is based. The ratings and maturity profile of credit derivatives where JPMorgan Chase is the purchaser of protection are comparable to the profile reflected below.

Protection sold – credit derivatives ratings[a]/maturity profile

December 31, 2023 (in millions)	<1 year	1–5 years	>5 years	Total notional amount	Fair value of receivables[b]	Fair value of payables[b]	Net fair value
Risk rating of reference entity							
Investment-grade	**$ (89,981)**	**$ (263,834)**	**$ (29,470)**	**$ (383,285)**	**$ 3,659**	**$ (1,144)**	**$ 2,515**
Noninvestment-grade	**(31,419)**	**(69,515)**	**(4,799)**	**(105,733)**	**2,466**	**(1,583)**	**883**
Total	**$ (121,400)**	**$ (333,349)**	**$ (34,269)**	**$ (489,018)**	**$ 6,125**	**$ (2,727)**	**$ 3,398**

December 31, 2022 (in millions)	<1 year	1–5 years	>5 years	Total notional amount	Fair value of receivables[b]	Fair value of payables[b]	Net fair value
Risk rating of reference entity							
Investment-grade	$ (90,484)	$ (294,791)	$ (30,822)	$ (416,097)	$ 2,324	$ (1,495)	$ 829
Noninvestment-grade	(33,244)	(87,011)	(6,370)	(126,625)	1,267	(3,209)	(1,942)
Total	$ (123,728)	$ (381,802)	$ (37,192)	$ (542,722)	$ 3,591	$ (4,704)	$ (1,113)

(a) The ratings scale is primarily based on external credit ratings defined by S&P and Moody's.
(b) Amounts are shown on a gross basis, before the benefit of legally enforceable master netting agreements including cash collateral netting.

Note 6 – Noninterest revenue and noninterest expense

Noninterest revenue

The Firm records noninterest revenue from certain contracts with customers in investment banking fees, deposit-related fees, asset management fees, commissions and other fees, and components of card income. The related contracts are often terminable on demand and the Firm has no remaining obligation to deliver future services. For arrangements with a fixed term, the Firm may commit to deliver services in the future. Revenue associated with these remaining performance obligations typically depends on the occurrence of future events or underlying asset values, and is not recognized until the outcome of those events or values are known.

Investment banking fees

This revenue category includes debt and equity underwriting and advisory fees. As an underwriter, the Firm helps clients raise capital via public offering and private placement of various types of debt and equity instruments. Underwriting fees are primarily based on the issuance price and quantity of the underlying instruments, and are recognized as revenue typically upon execution of the client's transaction. The Firm also manages and syndicates loan arrangements. Credit arrangement and syndication fees, included within debt underwriting fees, are recorded as revenue after satisfying certain retention, timing and yield criteria.

The Firm also provides advisory services, by assisting its clients with mergers and acquisitions, divestitures, restructuring and other complex transactions. Advisory fees are recognized as revenue typically upon execution of the client's transaction.

The following table presents the components of investment banking fees.

Year ended December 31, (in millions)	2023	2022	2021
Underwriting			
Equity	**$ 1,149**	$ 975	$ 3,969
Debt	**2,610**	2,732	4,853
Total underwriting	**3,759**	3,707	8,822
Advisory	**2,760**	2,979	4,394
Total investment banking fees	**$ 6,519**	$ 6,686	$ 13,216

Investment banking fees are earned primarily by CIB.

Principal transactions

Principal transactions revenue is driven by many factors, including:

- the bid-offer spread, which is the difference between the price at which a market participant is willing and able to sell an instrument to the Firm and the price at which another market participant is willing and able to buy it from the Firm, and vice versa; and
- realized and unrealized gains and losses on financial instruments and commodities transactions, including those accounted for under the fair value option, primarily used in client-driven market-making activities.
  - Realized gains and losses result from the sale of instruments, closing out or termination of transactions, or interim cash payments.
  - Unrealized gains and losses result from changes in valuation.

In connection with its client-driven market-making activities, the Firm transacts in debt and equity instruments, derivatives and commodities, including physical commodities inventories and financial instruments that reference commodities.

Principal transactions revenue also includes realized and unrealized gains and losses related to:

- derivatives designated in qualifying hedge accounting relationships, primarily fair value hedges of commodity and foreign exchange risk;
- derivatives used for specific risk management purposes, primarily to mitigate credit, foreign exchange and interest rate risks.

Refer to Note 5 for further information on the income statement classification of gains and losses from derivatives activities.

In the financial commodity markets, the Firm transacts in OTC derivatives (e.g., swaps, forwards, options) and ETD that reference a wide range of underlying commodities. In the physical commodity markets, the Firm primarily purchases and sells precious and base metals and may hold other commodities inventories under financing and other arrangements with clients.

The following table presents all realized and unrealized gains and losses recorded in principal transactions revenue. This table excludes interest income and interest expense on trading assets and liabilities, which are an integral part of the overall performance of the Firm's client-driven market-making activities in CIB and fund deployment activities in Treasury and CIO. Refer to Note 7 for further information on interest income and interest expense.

Trading revenue is presented primarily by instrument type. The Firm's client-driven market-making businesses generally utilize a variety of instrument types in connection with their market-making and related risk-management activities; accordingly, the trading revenue presented in the table below is not representative of the total revenue of any individual LOB.

Year ended December 31, (in millions)	2023	2022	2021
Trading revenue by instrument type			
Interest rate[a]	**$ 5,607**	$ 3,010	$ 1,646
Credit[b]	**1,434**	1,412 [c]	2,691
Foreign exchange	**5,082**	5,119	2,787
Equity	**10,229**	8,068	7,773
Commodity	**2,202**	2,348	1,428
Total trading revenue	**24,554**	19,957	16,325
Private equity losses	**(94)**	(45)	(21)
Principal transactions	**$ 24,460**	$ 19,912	$ 16,304

(a) Includes the impact of changes in funding valuation adjustments on derivatives.
(b) Includes the impact of changes in credit valuation adjustments on derivatives, net of the associated hedging activities.
(c) Includes net markdowns on held-for-sale positions, primarily unfunded commitments, in the bridge financing portfolio.

Principal transactions revenue is earned primarily by CIB.

Lending- and deposit-related fees

Lending-related fees include fees earned from loan commitments, standby letters of credit, financial guarantees, and other loan-servicing activities. Deposit-related fees include fees earned from performing cash management activities, and providing overdraft and other deposit account services. Lending- and deposit-related fees are recognized over the period in which the related service is provided. Refer to Note 28 for further information on lending-related commitments.

The following table presents the components of lending- and deposit-related fees.

Year ended December 31, (in millions)	2023	2022	2021
Lending-related fees	**$ 2,365** [a]	$ 1,468	$ 1,472
Deposit-related fees	**5,048**	5,630	5,560
Total lending- and deposit-related fees	**$ 7,413**	$ 7,098	$ 7,032

(a) Includes the amortization of the purchase discount on certain acquired lending-related commitments associated with First Republic, predominantly in AWM and CB. The discount is deferred in other liabilities and recognized on a straight-line basis over the commitment period and was largely recognized in the current year as the commitments are generally short term. Refer to Note 34 for additional information.

Lending- and deposit-related fees are earned by CCB, CIB, CB, and AWM.

Asset management fees

Investment management fees include fees associated with assets the Firm manages on behalf of its clients, including investors in Firm-sponsored funds and owners of separately managed investment accounts. Management fees are typically based on the value of assets under management and are collected and recognized at the end of each period over which the management services are provided and the value of the managed assets is known. The Firm also receives performance-based management fees, which are earned based on exceeding certain benchmarks or other performance targets and are accrued and recognized when the probability of reversal is remote, typically at the end of the related billing period.

All other asset management fees include commissions earned on the sales or distribution of mutual funds to clients. These fees are recorded as revenue at the time the service is rendered or, in the case of certain distribution fees, based on the underlying fund's asset value or investor redemption activity.

The following table presents the components of asset management fees.

Year ended December 31, (in millions)	2023	2022	2021
Asset management fees			
Investment management fees	**$ 14,908** [a]	$ 13,765	$ 14,027
All other asset management fees	**312**	331	378
Total asset management fees	**$ 15,220**	$ 14,096	$ 14,405

(a) Includes the impact of First Republic. Refer to Note 34 for additional information.

Asset management fees earned primarily by AWM and CCB.

Commissions and other fees

This revenue category includes commissions and fees from brokerage and custody services, and other products.

Brokerage commissions represents commissions earned when the Firm acts as a broker, by facilitating its clients' purchases and sales of securities and other financial instruments. Brokerage commissions are collected and recognized as revenue upon occurrence of the client transaction. The Firm reports certain costs paid to third-party clearing houses and exchanges net against commission revenue.

Administration fees predominantly include fees for custody, funds services, securities lending and securities clearance. These fees are recorded as revenue over the period in which the related service is provided.

The following table presents the components of commissions and other fees.

Year ended December 31, (in millions)	2023	2022	2021
Commissions and other fees			
Brokerage commissions	**$ 2,820**	$ 2,831	$ 3,046
Administration fees	**2,310**	2,348	2,554
All other commissions and fees[(a)]	**1,706**	1,402	1,024
Total commissions and other fees	**$ 6,836**	$ 6,581	$ 6,624

(a) Includes travel-related and annuity sales commissions, depositary receipt-related service fees, as well as other service fees, which are recognized as revenue when the services are rendered.

Commissions and other fees are earned primarily by CIB, CCB and AWM.

Mortgage fees and related income

This revenue category reflects CCB's Home Lending production and net mortgage servicing revenue.

Production revenue includes fees and income recognized as earned on mortgage loans originated with the intent to sell, and the impact of risk management activities associated with the mortgage pipeline and warehouse loans. Production revenue also includes gains and losses on sales and lower of cost or fair value adjustments on mortgage loans held-for-sale (excluding certain repurchased loans insured by U.S. government agencies), and changes in the fair value of financial instruments measured under the fair value option. Net mortgage servicing revenue includes operating revenue earned from servicing third-party mortgage loans, which is recognized over the period in which the service is provided; changes in the fair value of MSRs; the impact of risk management activities associated with MSRs; and gains and losses on securitization of excess mortgage servicing. Net mortgage servicing revenue also includes gains and losses on sales and lower of cost or fair value adjustments of certain repurchased loans insured by U.S. government agencies.

Refer to Note 15 for further information on risk management activities and MSRs.

Net interest income from mortgage loans is recorded in interest income.

Card income

This revenue category includes interchange and other income from credit and debit card transactions; and fees earned from processing card transactions for merchants, both of which are recognized when purchases are made by a cardholder and presented net of certain transaction-related costs. Card income also includes account origination costs and annual fees, which are deferred and recognized on a straight-line basis over a 12-month period.

Certain credit card products offer the cardholder the ability to earn points based on account activity, which the cardholder can choose to redeem for cash and non-cash rewards. The cost to the Firm related to these proprietary rewards programs varies based on multiple factors including the terms and conditions of the rewards programs, cardholder activity, cardholder reward redemption rates and cardholder reward selections. The Firm maintains a liability for its obligations under its rewards programs and reports the current-period cost as a reduction of card income.

Credit card revenue sharing agreements

The Firm has contractual agreements with numerous co-brand partners that grant the Firm exclusive rights to issue co-branded credit card products and market them to the customers of such partners. These partners endorse the co-brand credit card programs and provide their customer or member lists to the Firm. The partners may also conduct marketing activities and provide rewards redeemable under their own loyalty programs that the Firm will grant to co-brand credit cardholders based on account activity. The terms of these agreements generally range from five to ten years.

The Firm typically makes payments to the co-brand credit card partners based on the cost of partners' marketing activities and loyalty program rewards provided to credit cardholders, new account originations and sales volumes. Payments to partners based on marketing efforts undertaken by the partners are expensed by the Firm as incurred and reported as marketing expense. Payments for partner loyalty program rewards are reported as a reduction of card income when incurred. Payments to partners based on new credit card account originations are accounted for as direct loan origination costs and are deferred and recognized as a reduction of card income on a straight-line basis over a 12-month period. Payments to partners based on sales volumes are reported as a reduction of card income when the related interchange income is earned.

The following table presents the components of card income:

Year ended December 31, (in millions)	2023	2022	2021
Interchange and merchant processing income	**$ 31,021**	$ 28,085	$ 23,592
Reward costs and partner payments	**(24,601)**	(22,162)	(17,868)
All other[(a)]	**(1,636)**	(1,503)	(622)
Total card income	**$ 4,784**	$ 4,420	$ 5,102

(a) Predominantly represents the amortization of account origination costs and annual fees, which are deferred and recognized on a straight-line basis over a 12-month period.

Card income is earned primarily by CCB, CIB and CB.

Other income

This revenue category includes operating lease income, as well as losses associated with the Firm's tax-oriented investments, predominantly alternative energy equity-method investments in CIB. The losses associated with these tax-oriented investments are more than offset by lower income tax expense from the associated tax credits.

The following table presents certain components of other income:

Year ended December 31, (in millions)	2023	2022	2021
Operating lease income	**$ 2,843**	$ 3,654	$ 4,914
Losses on tax-oriented investments	**(1,538)**	(1,491)	(1,570)
Estimated bargain purchase gain associated with the First Republic acquisition	**2,775** [(a)]	–	–
Gain related to the acquisition of CIFM	**339** [(b)]	–	–
Gain on sale of Visa B shares	**–**	914	–

(a) Refer to Note 34 for additional information on the First Republic acquisition.
(b) Gain on the original minority interest in CIFM upon the Firm's acquisition of the remaining 51% of the entity.

Refer to Note 2 and 18 for additional information on Visa B shares and operating leases, respectively.

Noninterest expense

Other expense

Other expense on the Firm's Consolidated statements of income included:

Year ended December 31, (in millions)	2023	2022	2021
Legal expense	**$ 1,436**	$ 266	$ 426
FDIC-related expense	**4,203** [(a)]	860	730
First Republic-related expense	**1,060** [(b)]	–	

(a) Included the $2.9 billion FDIC special assessment.
(b) Included payments to the FDIC in the second quarter of 2023 with respect to First Republic individuals who were not employees of the Firm until July 2, 2023, as well as $360 million restructuring and integration costs. Refer to Note 34 for additional information on the First Republic acquisition.

FDIC Special Assessment

In November 2023, the FDIC approved a final rule to implement a special assessment intended to recover losses to the Deposit Insurance Fund ("DIF") arising from the protection of uninsured depositors resulting from the systemic risk determination made on March 12, 2023. The final rule imposed a special assessment at a quarterly rate of 3.36 basis points on insured depository institutions whose estimated uninsured deposits were over $5.0 billion as of December 31, 2022. In the fourth quarter of 2023, the Firm recognized the estimated special assessment expense of $2.9 billion (pre-tax).

Refer to Note 32 for additional information on noninterest revenue and expense by segment.

Note 7 – Interest income and Interest expense

Interest income and interest expense are recorded in the Consolidated statements of income and classified based on the nature of the underlying asset or liability.

Interest income and interest expense includes the current-period interest accruals for financial instruments measured at fair value, except for derivatives and financial instruments containing embedded derivatives that would be separately accounted for in accordance with U.S. GAAP, absent the fair value option election; for those instruments, all changes in fair value including any interest elements, are primarily reported in principal transactions revenue. For financial instruments that are not measured at fair value, the related interest is included within interest income or interest expense, as applicable.

Interest income on loans and securities include the amortization and accretion of purchase premiums and discounts, as well as net deferred fees and costs on loans. These amounts are deferred in loans and investment securities, respectively, and recognized on a level-yield basis.

Refer to Notes 10, 11, 12, and 20 for further information on accounting for interest income and interest expense related to investment securities, securities financing activities (i.e., securities purchased or sold under resale or repurchase agreements; securities borrowed; and securities loaned), loans and long-term debt, respectively.

The following table presents the components of interest income and interest expense:

Year ended December 31, (in millions)	2023		2022	2021
Interest income				
Loans	**$ 83,384**	(e)	$ 52,736	$ 41,537
Taxable securities	**17,390**		10,372	6,460
Non-taxable securities[a]	**1,336**		975	1,063
Total investment securities	**18,726**	(e)	11,347	7,523
Trading assets - debt instruments	**15,950**		9,053	6,825
Federal funds sold and securities purchased under resale agreements	**15,079**		4,632	958
Securities borrowed[b]	**7,983**		2,237	(385)
Deposits with banks	**21,797**		9,039	512
All other interest-earning assets[c]	**7,669**		3,763	894
Total interest income	**$170,588**		$ 92,807	$ 57,864
Interest expense				
Interest bearing deposits	**$ 40,016**		$ 10,082	$ 531
Federal funds purchased and securities loaned or sold under repurchase agreements	**13,259**		3,721	274
Short-term borrowings	**1,894**		747	126
Trading liabilities - debt and all other interest-bearing liabilities[d]	**9,396**		3,246	257
Long-term debt	**15,803**		8,075	4,282
Beneficial interest issued by consolidated VIEs	**953**		226	83
Total interest expense	**$ 81,321**		$ 26,097	$ 5,553
Net interest income	**$ 89,267**		$ 66,710	$ 52,311
Provision for credit losses	**9,320**		6,389	(9,256)
Net interest income after provision for credit losses	**$ 79,947**		$ 60,321	$ 61,567

(a) Represents securities that are tax-exempt for U.S. federal income tax purposes.

(b) Negative interest and rates reflect the net impact of interest earned offset by fees paid on client-driven prime brokerage securities borrowed transactions.

(c) Includes interest earned on brokerage-related held-for-investment customer receivables, which are classified in accrued interest and accounts receivable, and all other interest-earning assets, which are classified in other assets on the Consolidated balance sheets.

(d) All other interest-bearing liabilities includes interest expense on brokerage-related customer payables.

(e) Includes the accretion of the purchase discount on certain acquired loans and investment securities associated with First Republic. Refer to Note 34 for additional information.

Note 8 – Pension and other postretirement employee benefit plans

The Firm has various defined benefit pension plans and OPEB plans that provide benefits to its employees in the U.S. and certain non-U.S. locations. Substantially all the defined benefit pension plans are closed to new participants. The principal defined benefit pension plan in the U.S., which covered substantially all U.S. employees, was closed to new participants and frozen for existing participants on January 1, 2020, (and January 1, 2019 for new hires on or after December 2, 2017). Interest credits continue to accrue to participants' accounts based on their accumulated balances.

The Firm maintains funded and unfunded postretirement benefit plans that provide medical and life insurance for certain eligible employees and retirees as well as their dependents covered under these programs. None of these plans have a material impact on the Firm's Consolidated Financial Statements.

The Firm also provides a qualified defined contribution plan in the U.S. and maintains other similar arrangements in certain non-U.S. locations. The most significant of these plans is the JPMorgan Chase 401(k) Savings Plan ("the 401(k) Savings Plan"), which covers substantially all U.S. employees. Employees can contribute to the 401(k) Savings Plan on a pretax and/or Roth 401(k) after-tax basis. The Firm makes annual matching and pay credit contributions to the 401(k) Savings Plan on behalf of eligible participants.

The following table presents the pretax benefit obligations, plan assets, the net funded status, and the amounts recorded in AOCI on the Consolidated balance sheets for the Firm's significant defined benefit pension and OPEB plans.

As of or for the year ended December 31,	Defined benefit pension and OPEB plans	
(in millions)	**2023**	2022
Projected benefit obligations	**$ (14,740)**	$ (13,545)
Fair value of plan assets	**22,013**	19,890
Net funded status	**7,273**	6,345
Accumulated other comprehensive income/(loss)	**(1,517)**	(1,916)

The weighted-average discount rate used to value the benefit obligations as of December 31, 2023 and 2022, was 5.16% and 5.14%, respectively.

Gains and losses

Gains or losses resulting from changes in the benefit obligation and the fair value of plan assets are recorded in OCI. Amortization of net gains or losses are recognized as part of the net periodic benefit cost over subsequent periods, if, as of the beginning of the year, the net gain or loss exceeds 10% of the greater of the projected benefit obligation or the fair value of the plan assets. Amortization is generally over the average expected remaining lifetime of plan participants, given the frozen status of most plans. For the year ended December 31, 2023, the net gain was attributable to market-driven increases in the fair value of plan assets, partially offset by changes in the discount rate and interest crediting rate. During the year ended December 31, 2022, a remeasurement of the Firm's U.S. principal defined benefit plan in the third quarter, was required as a result of a pension settlement. The remeasurement resulted in a reduction in the fair value of the Firm's U.S. principal defined benefit plan assets, reflecting market conditions at the time of remeasurement, and a reduction in the plan's projected benefit obligation totaling $4.0 billion and $2.6 billion, respectively, resulting in a net decrease of $1.4 billion in pre-tax AOCI.

The following table presents the net periodic benefit costs reported in the Consolidated statements of income for the Firm's defined benefit pension, defined contribution and OPEB plans, and in other comprehensive income for the defined benefit pension and OPEB plans.

	Pension and OPEB plans		
Year ended December 31, (in millions)	**2023**	2022	2021
Total net periodic defined benefit plan cost/(credit)[a]	**$ (393)**	$ (192)[b]	$ (201)[b]
Total defined contribution plans	**1,609**	1,408	1,333
Total pension and OPEB cost included in noninterest expense	**$ 1,216**	$ 1,216	$ 1,132
Total recognized in other comprehensive (income)/loss	**$ (421)**	$ 1,459	$ (1,129)

(a) The service cost component of net periodic defined benefit cost is reported in compensation expense; all other components of net periodic defined benefit costs are reported in other expense in the Consolidated statements of income.
(b) Includes pension settlement losses of $92 million and $33 million, respectively, for the years ended December 31, 2022 and 2021.

The following table presents the weighted-average actuarial assumptions used to determine the net periodic benefit costs for the defined benefit pension and OPEB plans.

	Defined benefit pension and OPEB plans		
Year ended December 31,	**2023**	2022	2021
Discount rate	**5.14 %**	2.54 %	2.17 %
Expected long-term rate of return on plan assets	**5.74 %**	3.68 %	2.97 %

Plan assumptions

The Firm's expected long-term rate of return is a blended weighted average, by asset allocation of the projected long-term returns for the various asset classes, taking into consideration local market conditions and the specific allocation of plan assets. Returns on asset classes are developed using a forward-looking approach and are not strictly based on historical returns, with consideration given to current market conditions and the portfolio mix of each plan.

The discount rates used in determining the benefit obligations are generally provided by the Firm's actuaries, with the Firm's principal defined benefit pension plan using a rate that was selected by reference to the yields on portfolios of bonds with maturity dates and coupons that closely match each of the plan's projected cash flows.

Investment strategy and asset allocation

The assets of the Firm's defined benefit pension plans are held in various trusts and are invested in well-diversified portfolios of equity and fixed income securities, cash and cash equivalents, and alternative investments. The Firm regularly reviews the asset allocations and asset managers, as well as other factors that could impact the portfolios, which are rebalanced when deemed necessary. As of December 31, 2023, the approved asset allocation ranges by asset class for the Firm's principal defined benefit plan are 42-100% debt securities, 0-40% equity securities, 0-2% real estate, and 0-10% alternatives.

Assets held by the Firm's defined benefit pension and OPEB plans do not include securities issued by JPMorgan Chase or its affiliates, except through indirect exposures through investments in exchange traded funds, mutual funds and collective investment funds managed by third-parties. The defined benefit pension and OPEB plans hold investments that are sponsored or managed by affiliates of JPMorgan Chase in the amount of $1.8 billion and $1.7 billion, as of December 31, 2023 and 2022, respectively.

Fair value measurement of the plans' assets and liabilities

Refer to Note 2 for information on fair value measurements, including descriptions of level 1, 2, and 3 of the fair value hierarchy and the valuation methods employed by the Firm.

Pension plan assets and liabilities measured at fair value

	Defined benefit pension and OPEB plans							
	2023				2022			
December 31, (in millions)	Level 1[a]	Level 2[b]	Level 3[c]	Total fair value	Level 1[a]	Level 2[b]	Level 3[c]	Total fair value
Assets measured at fair value classified in the fair value hierarchy	**$ 6,521**	**$ 10,713**	**$ 3,124**	**$ 20,358**	$ 5,308	$ 9,617	$ 2,613	$ 17,538
Assets measured at fair value using NAV as a practical expedient				**2,097**				2,593
Net defined benefit pension plan payables				**(442)**				(241)
Total fair value of plan assets				**$ 22,013**				$ 19,890

(a) Consists predominantly of equity securities, U.S. federal, state, and local and non-U.S. government debt securities, and cash equivalents.
(b) Consists predominantly of corporate debt securities and U.S. federal, state, and local and non-U.S. government debt securities.
(c) Consists of corporate-owned life insurance policies, fund investments, and participating annuity contracts in 2023, and corporate-owned life insurance policies and participating annuity contracts in 2022.

Changes in level 3 fair value measurements using significant unobservable inputs

Investments classified in level 3 of the fair value hierarchy increased in 2023 to $3.1 billion, due to $400 million in unrealized gains and $173 million of transfers in, partially offset by $59 million in settlements. The decline in 2022 was due to $501 million in unrealized losses and $54 million in settlements.

Estimated future benefit payments

The following table presents benefit payments expected to be paid for the defined benefit pension and OPEB plans for the years indicated.

Year ended December 31, (in millions)	Defined benefit pension and OPEB plans
2024	$ 1,142
2025	1,125
2026	1,113
2027	1,077
2028	1,063
Years 2029–2033	5,143

Note 9 – Employee share-based incentives

Employee share-based awards

In 2023, 2022 and 2021, JPMorgan Chase granted long-term share-based awards to certain employees under its LTIP, as amended and restated effective May 15, 2018, and subsequently amended effective May 18, 2021. Under the terms of the LTIP, as of December 31, 2023, 54 million shares of common stock were available for issuance through May 2025. The LTIP is the only active plan under which the Firm is currently granting share-based incentive awards. In the following discussion, the LTIP, plus prior Firm plans and plans assumed as the result of acquisitions, are referred to collectively as the "LTI Plans," and such plans constitute the Firm's share-based incentive plans.

RSUs are awarded at no cost to the recipient upon their grant. Generally, RSUs are granted annually and vest at a rate of 50% after two years and 50% after three years and are converted into shares of common stock as of the vesting date. In addition, RSUs typically include full-career eligibility provisions, which allow employees to continue to vest upon voluntary termination based on age and/or service-related requirements, subject to post-employment and other restrictions. All RSU awards are subject to forfeiture until vested and contain clawback provisions that may result in cancellation under certain specified circumstances. Predominantly all RSUs entitle the recipient to receive cash payments equivalent to any dividends paid on the underlying common stock during the period the RSUs are outstanding.

Performance share units ("PSUs") are granted annually, and approved by the Firm's Board of Directors, to members of the Firm's Operating Committee under the variable compensation program. PSUs are subject to the Firm's achievement of specified performance criteria over a three-year period. The number of awards that vest can range from zero to 150% of the grant amount. In addition, dividends that accrue during the vesting period are reinvested in dividend equivalent share units. PSUs and the related dividend equivalent share units are converted into shares of common stock after vesting.

Once the PSUs and dividend equivalent share units have vested, the shares of common stock that are delivered, after applicable tax withholding, must be retained for an additional holding period, for a total combined vesting and holding period of approximately five to eight years from the grant date depending on regulations in certain countries.

Under the LTI Plans, stock appreciation rights ("SARs") were generally granted with an exercise price equal to the fair value of JPMorgan Chase's common stock on the grant date. SARs generally expire ten years after the grant date. In 2021, the Firm awarded its Chairman and CEO and its President and Chief Operating Officer 1.5 million and 750,000 SARs, respectively. There were no grants of SARs in 2023 or 2022.

The Firm separately recognizes compensation expense for each tranche of each award, net of estimated forfeitures, as if it were a separate award with its own vesting date. Generally, for each tranche granted, compensation expense is recognized on a straight-line basis from the grant date until the vesting date of the respective tranche, provided that the employees will not become full-career eligible during the vesting period. For awards with full-career eligibility provisions and awards granted with no future substantive service requirement, the Firm accrues the estimated value of awards expected to be awarded to employees as of the grant date without giving consideration to the impact of post-employment restrictions. For each tranche granted to employees who will become full-career eligible during the vesting period, compensation expense is recognized on a straight-line basis from the grant date until the earlier of the employee's full-career eligibility date or the vesting date of the respective tranche.

The Firm's policy for issuing shares upon settlement of employee share-based incentive awards is to issue either new shares of common stock or treasury shares. During 2023, 2022 and 2021, the Firm settled all of its employee share-based awards by issuing treasury shares.

Refer to Note 23 for further information on the classification of share-based awards for purposes of calculating earnings per share.

RSUs, PSUs and SARs activity

Generally, compensation expense for RSUs and PSUs is measured based on the number of units granted multiplied by the stock price at the grant date, and for SARs, is measured at the grant date using the Black-Scholes valuation model. Compensation expense for these awards is recognized in net income as described previously. The following table summarizes JPMorgan Chase's RSUs, PSUs and SARs activity for 2023.

Year ended December 31, 2023 (in thousands, except weighted-average data, and where otherwise stated)	RSUs/PSUs		SARs			
	Number of units	Weighted-average grant date fair value	Number of awards	Weighted-average exercise price	Weighted-average remaining contractual life (in years)	Aggregate intrinsic value
Outstanding, January 1	**47,726**	**$ 139.90**	**2,511**	**$ 141.19**		
Granted	**23,758**	**139.39**	**–**	**–**		
Exercised or vested	**(17,773)**	**134.86**	**(261)**	**46.58**		
Forfeited	**(1,468)**	**142.11**	**–**	**–**		
Canceled	**NA**	**NA**	**–**	**–**		
Outstanding, December 31	**52,243**	**$ 141.31**	**2,250**	**$ 152.19**	**7.7**	**$ 40,444**
Exercisable, December 31	**NA**	**NA**	**–**	**–**	**–**	**–**

The total fair value of RSUs and PSUs that vested during the years ended December 31, 2023, 2022 and 2021, was $2.5 billion, $3.2 billion and $2.9 billion, respectively. The total intrinsic value of options exercised during the years ended December 31, 2023, 2022 and 2021, was $24 million, $75 million and $232 million, respectively.

Compensation expense

The Firm recognized the following noncash compensation expense related to its various employee share-based incentive plans in its Consolidated statements of income.

Year ended December 31, (in millions)	**2023**	2022	2021
Cost of prior grants of RSUs, PSUs and SARs that are amortized over their applicable vesting periods	**$ 1,510**	$ 1,253	$ 1,161
Accrual of estimated costs of share-based awards to be granted in future periods, predominantly those to full-career eligible employees	**1,607**	1,541	1,768
Total noncash compensation expense related to employee share-based incentive plans	**$ 3,117**	$ 2,794	$ 2,929

At December 31, 2023, approximately $1.0 billion (pretax) of compensation expense related to unvested awards had not yet been charged to net income. That cost is expected to be amortized into compensation expense over a weighted-average period of 1.7 years. The Firm does not capitalize any compensation expense related to share-based compensation awards to employees.

Tax benefits

Income tax benefits (including tax benefits from dividends or dividend equivalents) related to share-based incentive arrangements recognized in the Firm's Consolidated statements of income for the years ended December 31, 2023, 2022 and 2021, were $836 million, $901 million and $957 million, respectively.

Note 10 – Investment securities

Investment securities consist of debt securities that are classified as AFS or HTM. Debt securities classified as trading assets are discussed in Note 2. Predominantly all of the Firm's AFS and HTM securities are held by Treasury and CIO in connection with its asset-liability management activities.

AFS securities are carried at fair value on the Consolidated balance sheets. Unrealized gains and losses, after any applicable hedge accounting adjustments or allowance for credit losses, are reported in AOCI. The specific identification method is used to determine realized gains and losses on AFS securities, which are included in investment securities gains/(losses) on the Consolidated statements of income. HTM securities, which the Firm has the intent and ability to hold until maturity, are carried at amortized cost, net of allowance for credit losses, on the Consolidated balance sheets.

For both AFS and HTM securities, purchase discounts or premiums are generally amortized into interest income on a level-yield basis over the contractual life of the security. However, premiums on certain callable debt securities are amortized to the earliest call date.

Effective January 1, 2023, the Firm adopted the portfolio layer method hedge accounting guidance which permitted a transfer of HTM securities to AFS upon adoption. The Firm transferred obligations of U.S. states and municipalities with a carrying value of $7.1 billion resulting in the recognition of $38 million net pre-tax unrealized losses in AOCI. Refer to Note 1 and Note 24 for additional information.

During 2022, the Firm transferred investment securities with a fair value of $78.3 billion from AFS to HTM for capital management purposes. AOCI included pretax unrealized losses of $4.8 billion on the securities at the date of transfer.

Unrealized gains or losses at the date of transfer of these securities continue to be reported in AOCI and are amortized into interest income on a level-yield basis over the remaining life of the securities. This amortization will offset the effect on interest income of the amortization of the premium or discount resulting from the transfer recorded at fair value.

Transfers of securities between AFS and HTM are non-cash transactions.

The amortized costs and estimated fair values of the investment securities portfolio were as follows for the dates indicated.

December 31, (in millions)	2023 Amortized cost[c][d]	2023 Gross unrealized gains	2023 Gross unrealized losses	2023 Fair value	2022 Amortized cost[c][d]	2022 Gross unrealized gains	2022 Gross unrealized losses	2022 Fair value
Available-for-sale securities								
Mortgage-backed securities:								
U.S. GSEs and government agencies	**$ 88,377**	**$ 870**	**$ 4,077**	**$ 85,170**	$ 77,194	$ 479	$ 6,170	$ 71,503
Residential:								
U.S.	**2,086**	**10**	**68**	**2,028**	1,576	1	111	1,466
Non-U.S.	**1,608**	**4**	**1**	**1,611**	3,176	5	27	3,154
Commercial	**2,930**	**12**	**139**	**2,803**	2,113	–	155	1,958
Total mortgage-backed securities	**95,001**	**896**	**4,285**	**91,612**	84,059	485	6,463	78,081
U.S. Treasury and government agencies	**58,051**	**276**	**522**	**57,805**	95,217	302	3,459	92,060
Obligations of U.S. states and municipalities	**21,243**	**390**	**266**	**21,367**	7,103	86	403	6,786
Non-U.S. government debt securities	**21,387**	**254**	**359**	**21,282**	20,360	14	678	19,696
Corporate debt securities	**128**	**–**	**28**	**100**	381	–	24	357
Asset-backed securities:								
Collateralized loan obligations	**6,769**	**11**	**28**	**6,752**	5,916	1	125	5,792
Other	**2,804**	**8**	**26**	**2,786**	3,152	2	69	3,085
Unallocated portfolio layer fair value basis adjustments[a]	**73**	**(73)**	**–**	**NA**	NA	NA	NA	NA
Total available-for-sale securities	**205,456**	**1,762**	**5,514**	**201,704** [e]	216,188	890	11,221	205,857
Held-to-maturity securities[b]								
Mortgage-backed securities:								
U.S. GSEs and government agencies	**105,614**	**39**	**11,643**	**94,010**	113,492	35	13,709	99,818
U.S. Residential	**9,709**	**4**	**970**	**8,743**	10,503	3	1,244	9,262
Commercial	**10,534**	**13**	**581**	**9,966**	10,361	10	734	9,637
Total mortgage-backed securities	**125,857**	**56**	**13,194**	**112,719**	134,356	48	15,687	118,717
U.S. Treasury and government agencies	**173,666**	**–**	**13,074**	**160,592**	207,463	–	18,363	189,100
Obligations of U.S. states and municipalities	**9,945**	**74**	**591**	**9,428**	19,747	53	1,080	18,720
Asset-backed securities:								
Collateralized loan obligations	**58,565**	**47**	**352**	**58,260**	61,414	4	1,522	59,896
Other	**1,815**	**1**	**61**	**1,755**	2,325	–	110	2,215
Total held-to-maturity securities	**369,848**	**178**	**27,272**	**342,754**	425,305	105	36,762	388,648
Total investment securities, net of allowance for credit losses	**$ 575,304**	**$ 1,940**	**$ 32,786**	**$ 544,458**	$ 641,493	$ 995	$47,983	$ 594,505

(a) Represents the amount of portfolio layer method basis adjustments related to AFS securities hedged in a closed portfolio. Under U.S. GAAP portfolio layer method basis adjustments are not allocated to individual securities, however the amounts impact the unrealized gains or losses in the table for the types of securities being hedged. Refer to Note 1 and Note 5 for additional information.

(b) The Firm purchased $4.1 billion, $33.7 billion and $111.8 billion of HTM securities for the years ended December 31, 2023, 2022 and 2021, respectively.

(c) The amortized cost of investment securities is reported net of allowance for credit losses of $128 million and $96 million at December 31, 2023 and 2022, respectively.

(d) Excludes $2.8 billion and $2.5 billion of accrued interest receivable at December 31, 2023 and 2022, respectively, included in accrued interest and accounts receivable on the Consolidated balance sheets. The Firm generally does not recognize an allowance for credit losses on accrued interest receivable, consistent with its policy to write them off no later than 90 days past due by reversing interest income. The Firm did not reverse through interest income any accrued interest receivable for the years ended December 31, 2023 and 2022.

(e) As of December 31, 2023, included $24.2 billion of AFS securities associated with First Republic. Refer to Note 34 for additional information.

At December 31, 2023, the investment securities portfolio consisted of debt securities with an average credit rating of AA+ (based upon external ratings where available, and where not available, based primarily upon internal risk ratings). Risk ratings are used to identify the credit quality of securities and differentiate risk within the portfolio. The Firm's internal risk ratings generally align with the qualitative characteristics (e.g., borrower capacity to meet financial commitments and vulnerability to changes in the economic environment) defined by S&P and Moody's, however the quantitative characteristics (e.g., probability of default ("PD") and loss given default ("LGD")) may differ as they reflect internal historical experiences and assumptions. Risk ratings are assigned at acquisition, reviewed on a regular and ongoing basis by Credit Risk Management and adjusted as necessary over the life of the investment for updated information affecting the issuer's ability to fulfill its obligations.

AFS securities impairment

The following tables present the fair value and gross unrealized losses by aging category for AFS securities at December 31, 2023 and 2022. The tables exclude U.S. Treasury and government agency securities and U.S. GSE and government agency MBS with unrealized losses of $4.6 billion and $9.6 billion, at December 31, 2023 and 2022, respectively; changes in the value of these securities are generally driven by changes in interest rates rather than changes in their credit profile given the explicit or implicit guarantees provided by the U.S. government.

	Available-for-sale securities with gross unrealized losses					
	Less than 12 months		12 months or more			
Year ended December 31, 2023 (in millions)	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
Available-for-sale securities						
Mortgage-backed securities:						
Residential:						
U.S.	**$ 81**	**$ –**	**$ 1,160**	**$ 68**	**$ 1,241**	**$ 68**
Non-U.S.	**–**	**–**	**722**	**1**	**722**	**1**
Commercial	**228**	**3**	**1,775**	**136**	**2,003**	**139**
Total mortgage-backed securities	**309**	**3**	**3,657**	**205**	**3,966**	**208**
Obligations of U.S. states and municipalities	**2,134**	**20**	**2,278**	**246**	**4,412**	**266**
Non-U.S. government debt securities	**7,145**	**23**	**4,987**	**336**	**12,132**	**359**
Corporate debt securities	**9**	**–**	**79**	**28**	**88**	**28**
Asset-backed securities:						
Collateralized loan obligations	**932**	**2**	**3,744**	**26**	**4,676**	**28**
Other	**208**	**1**	**1,288**	**25**	**1,496**	**26**
Total available-for-sale securities with gross unrealized losses	**$ 10,737** [(a)]	**$ 49**	**$ 16,033**	**$ 866**	**$ 26,770**	**$ 915**

	Available-for-sale securities with gross unrealized losses					
	Less than 12 months		12 months or more			
Year ended December 31, 2022 (in millions)	Fair value	Gross unrealized losses	Fair value	Gross unrealized losses	Total fair value	Total gross unrealized losses
Available-for-sale securities						
Mortgage-backed securities:						
Residential:						
U.S.	$ 1,187	$ 71	$ 260	$ 40	$ 1,447	$ 111
Non-U.S.	2,848	25	70	2	2,918	27
Commercial	1,131	74	813	81	1,944	155
Total mortgage-backed securities	5,166	170	1,143	123	6,309	293
Obligations of U.S. states and municipalities	3,051	241	364	162	3,415	403
Non-U.S. government debt securities	6,941	321	3,848	357	10,789	678
Corporate debt securities	150	2	207	22	357	24
Asset-backed securities:						
Collateralized loan obligations	3,010	61	2,701	64	5,711	125
Other	2,586	51	256	18	2,842	69
Total available-for-sale securities with gross unrealized losses	$ 20,904	$ 846	$ 8,519	$ 746	$ 29,423	$ 1,592

(a) Includes the impact of First Republic, primarily obligations of U.S. states and municipalities. Refer to Note 34 for additional information.

AFS securities are considered impaired if the fair value is less than the amortized cost.

The Firm recognizes impairment losses in earnings if the Firm has the intent to sell the debt security, or if it is more likely than not that the Firm will be required to sell the debt security before recovery of its amortized cost. In these circumstances the impairment loss is recognized in investment securities gains/(losses) in the Consolidated Statements of Income and is equal to the full difference between the amortized cost (net of allowance if applicable) and the fair value of the security.

For impaired debt securities that the Firm has the intent and ability to hold, the securities are evaluated to determine if a credit loss exists. If it is determined that a credit loss exists, that loss is recognized as an allowance for credit losses through the provision for credit losses in the Consolidated Statements of Income, limited by the amount of impairment. Any impairment on debt securities that the Firm has the intent and ability to hold not due to credit losses is recorded in OCI.

Factors considered in evaluating credit losses include adverse conditions specifically related to the industry, geographic area or financial condition of the issuer or underlying collateral of a security; and payment structure of the security.

When assessing securities issued in a securitization for credit losses, the Firm estimates cash flows considering relevant market and economic data, underlying loan-level data, and structural features of the securitization, such as subordination, excess spread, overcollateralization or other forms of credit enhancement, and compares the losses projected for the underlying collateral ("pool losses") against the level of credit enhancement in the securitization structure to determine whether these features are sufficient to absorb the pool losses, or whether a credit loss exists.

For beneficial interests in securitizations that are rated below "AA" at their acquisition, or that can be contractually prepaid or otherwise settled in such a way that the Firm would not recover substantially all of its recorded investment, the Firm evaluates impairment for credit losses when there is an adverse change in expected cash flows.

HTM securities – credit risk

Allowance for credit losses

The allowance for credit losses on HTM securities represents expected credit losses over the remaining expected life of the securities.

The allowance for credit losses on HTM obligations of U.S. states and municipalities and commercial mortgage-backed securities is calculated by applying statistical credit loss factors (estimated PD and LGD) to the amortized cost. The credit loss factors are derived using a weighted average of five internally developed eight-quarter macroeconomic scenarios, followed by a single year straight-line interpolation to revert to long run historical information for periods beyond the forecast period. Refer to Note 13 for further information on the eight-quarter macroeconomic forecast.

The allowance for credit losses on HTM collateralized loan obligations and U.S. residential mortgage-backed securities is calculated as the difference between the amortized cost and the present value of the cash flows expected to be collected, discounted at the security's effective interest rate. These cash flow estimates are developed based on expectations of underlying collateral performance derived using the eight-quarter macroeconomic forecast and the single year straight-line interpolation, as well as considering the structural features of the security.

The application of different inputs and assumptions into the calculation of the allowance for credit losses is subject to significant management judgment, and emphasizing one input or assumption over another, or considering other inputs or assumptions, could affect the estimate of the allowance for credit losses on HTM securities.

Credit quality indicator

The primary credit quality indicator for HTM securities is the risk rating assigned to each security. At December 31, 2023 and 2022, all HTM securities were rated investment grade and were current and accruing, with approximately 99% and 98% rated at least AA+, respectively.

Allowance for credit losses on investment securities

The allowance for credit losses on investment securities was $128 million, $96 million and $42 million as of December 31, 2023, 2022 and 2021, respectively, which included a cumulative-effect adjustment to retained earnings related to the transfer of HTM securities to AFS for the year ended December 31, 2023.

Selected impacts of investment securities on the Consolidated statements of income

Year ended December 31, (in millions)	2023	2022	2021
Realized gains	**$ 622**	$ 198	$ 595
Realized losses	**(3,802)**	(2,578)	(940)
Investment securities losses	**$(3,180)**	$(2,380)	$ (345)
Provision for credit losses	**$ 38**	$ 54	$ (36)

Contractual maturities and yields

The following table presents the amortized cost and estimated fair value at December 31, 2023, of JPMorgan Chase's investment securities portfolio by contractual maturity.

By remaining maturity December 31, 2023 (in millions)	Due in one year or less	Due after one year through five years	Due after five years through 10 years	Due after 10 years[c]	Total	
Available-for-sale securities						
Mortgage-backed securities						
Amortized cost	$ –	$ 5,166	$ 5,660	$ 84,175	$ 95,001	
Fair value	–	5,072	5,662	80,878	91,612	[d]
Average yield[a]	– %	5.27 %	6.15 %	4.96 %	5.05 %	
U.S. Treasury and government agencies						
Amortized cost	$ 1	$ 27,430	$ 23,884	$ 6,736	$ 58,051	
Fair value	1	27,212	23,933	6,659	57,805	
Average yield[a]	5.44 %	5.84 %	6.15 %	6.60 %	6.06 %	
Obligations of U.S. states and municipalities						
Amortized cost	$ 10	$ 55	$ 531	$ 20,647	$ 21,243	
Fair value	10	54	533	20,770	21,367	[d]
Average yield[a]	3.70 %	3.03 %	4.51 %	5.93 %	5.89 %	
Non-U.S. government debt securities						
Amortized cost	$ 8,841	$ 4,553	$ 3,658	$ 4,335	$ 21,387	
Fair value	8,814	4,537	3,470	4,461	21,282	
Average yield[a]	3.68 %	4.35 %	2.00 %	3.79 %	3.55 %	
Corporate debt securities						
Amortized cost	$ 81	$ 67	$ 14	$ –	$ 162	
Fair value	20	66	14	–	100	
Average yield[a]	15.37 %	6.25 %	4.10 %	– %	10.62 %	
Asset-backed securities						
Amortized cost	$ 23	$ 869	$ 3,506	$ 5,175	$ 9,573	
Fair value	23	861	3,503	5,151	9,538	[d]
Average yield[a]	6.13 %	3.72 %	6.48 %	6.82 %	6.41 %	
Total available-for-sale securities						
Amortized cost[b]	$ 8,956	$ 38,140	$ 37,253	$ 121,068	$ 205,417	
Fair value	8,868	37,802	37,115	117,919	201,704	[d]
Average yield[a]	3.79 %	5.53 %	5.75 %	5.25 %	5.33 %	
Held-to-maturity securities						
Mortgage-backed securities						
Amortized cost	$ –	$ 5,868	$ 8,382	$ 111,649	$ 125,899	
Fair value	–	5,480	7,448	99,791	112,719	
Average yield[a]	– %	2.56 %	2.58 %	3.02 %	2.97 %	
U.S. Treasury and government agencies						
Amortized cost	$ 63,974	$ 60,763	$ 48,929	$ –	$ 173,666	
Fair value	63,012	56,064	41,516	–	160,592	
Average yield[a]	0.63 %	0.97 %	1.26 %	– %	0.93 %	
Obligations of U.S. states and municipalities						
Amortized cost	$ –	$ –	$ 283	$ 9,714	$ 9,997	
Fair value	–	–	254	9,174	9,428	
Average yield[a]	– %	– %	3.21 %	3.94 %	3.92 %	
Asset-backed securities						
Amortized cost	$ –	$ 16	$ 20,345	$ 40,019	$ 60,380	
Fair value	–	16	20,262	39,737	60,015	
Average yield[a]	– %	6.86 %	6.36 %	6.58 %	6.50 %	
Total held-to-maturity securities						
Amortized cost[b]	$ 63,974	$ 66,647	$ 77,939	$ 161,382	$ 369,942	
Fair value	63,012	61,560	69,480	148,702	342,754	
Average yield[a]	0.63 %	1.11 %	2.74 %	3.96 %	2.61 %	

(a) Average yield is computed using the effective yield of each security owned at the end of the period, weighted based on the amortized cost of each security. The effective yield considers the contractual coupon, amortization of premiums and accretion of discounts, and the effect of related hedging derivatives, including closed portfolio hedges. Taxable-equivalent amounts are used where applicable. The effective yield excludes unscheduled principal prepayments; and accordingly, actual maturities of securities may differ from their contractual or expected maturities as certain securities may be prepaid. However, for certain callable debt securities, the average yield is calculated to the earliest call date.

(b) For purposes of this table, the amortized cost of available-for-sale securities excludes the allowance for credit losses of $34 million and the portfolio layer fair value hedge basis adjustments of $73 million at December 31, 2023. The amortized cost of held-to-maturity securities also excludes the allowance for credit losses of $94 million at December 31, 2023.

(c) Substantially all of the Firm's U.S. residential MBS and collateralized mortgage obligations are due in 10 years or more, based on contractual maturity. The estimated weighted-average life, which reflects anticipated future prepayments, is approximately seven years for agency residential MBS, seven years for agency residential collateralized mortgage obligations, and six years for nonagency residential collateralized mortgage obligations.

(d) Includes AFS securities associated with First Republic, primarily due after 10 years. Refer to Note 34 for additional information.

Note 11 – Securities financing activities

JPMorgan Chase enters into resale, repurchase, securities borrowed and securities loaned agreements (collectively, "securities financing agreements") primarily to finance the Firm's inventory positions, acquire securities to cover short sales, accommodate customers' financing needs, settle other securities obligations and to deploy the Firm's excess cash.

Securities financing agreements are treated as collateralized financings on the Firm's Consolidated balance sheets. Where appropriate under applicable accounting guidance, securities financing agreements with the same counterparty are reported on a net basis. Refer to Note 1 for further discussion of the offsetting of assets and liabilities. Fees received and paid in connection with securities financing agreements are recorded over the life of the agreement in interest income and interest expense on the Consolidated statements of income.

The Firm has elected the fair value option for certain securities financing agreements. Refer to Note 3 for further information regarding the fair value option. The securities financing agreements for which the fair value option has been elected are reported within securities purchased under resale agreements, securities loaned or sold under repurchase agreements, and securities borrowed on the Consolidated balance sheets. Generally, for agreements carried at fair value, current-period interest accruals are recorded within interest income and interest expense, with changes in fair value reported in principal transactions revenue. However, for financial instruments containing embedded derivatives that would be separately accounted for in accordance with accounting guidance for hybrid instruments, all changes in fair value, including any interest elements, are reported in principal transactions revenue.

Securities financing agreements not elected under the fair value option are measured at amortized cost. As a result of the Firm's credit risk mitigation practices described below, the Firm did not hold any allowance for credit losses with respect to resale and securities borrowed arrangements as of December 31, 2023 and 2022.

Credit risk mitigation practices

Securities financing agreements expose the Firm primarily to credit and liquidity risk. To manage these risks, the Firm monitors the value of the underlying securities (predominantly high-quality securities collateral, including government-issued debt and U.S. GSEs and government agencies MBS) that it has received from or provided to its counterparties compared to the value of cash proceeds and exchanged collateral, and either requests additional collateral or returns securities or collateral when appropriate. Margin levels are initially established based upon the counterparty, the type of underlying securities, and the permissible collateral, and are monitored on an ongoing basis.

In resale and securities borrowed agreements, the Firm is exposed to credit risk to the extent that the value of the securities received is less than initial cash principal advanced and any collateral amounts exchanged. In repurchase and securities loaned agreements, credit risk exposure arises to the extent that the value of underlying securities advanced exceeds the value of the initial cash principal received, and any collateral amounts exchanged.

Additionally, the Firm typically enters into master netting agreements and other similar arrangements with its counterparties, which provide for the right to liquidate the underlying securities and any collateral amounts exchanged in the event of a counterparty default. It is also the Firm's policy to take possession, where possible, of the securities underlying resale and securities borrowed agreements. Refer to Note 29 for further information regarding assets pledged and collateral received in securities financing agreements.

The table below summarizes the gross and net amounts of the Firm's securities financing agreements, as of December 31, 2023 and 2022. When the Firm has obtained an appropriate legal opinion with respect to a master netting agreement with a counterparty and where other relevant netting criteria under U.S. GAAP are met, the Firm nets, on the Consolidated balance sheets, the balances outstanding under its securities financing agreements with the same counterparty. In addition, the Firm exchanges securities and/or cash collateral with its counterparty to reduce the economic exposure with the counterparty, but such collateral is not eligible for net Consolidated balance sheet presentation. Where the Firm has obtained an appropriate legal opinion with respect to the counterparty master netting agreement, such collateral, along with securities financing balances that do not meet all these relevant netting criteria under U.S. GAAP, is presented in the table below as "Amounts not nettable on the Consolidated balance sheets," and reduces the "Net amounts" presented. Where a legal opinion has not been either sought or obtained, the securities financing balances are presented gross in the "Net amounts" below. In transactions where the Firm is acting as the lender in a securities-for-securities lending agreement and receives securities that can be pledged or sold as collateral, the Firm recognizes the securities received at fair value within other assets and the obligation to return those securities within accounts payable and other liabilities on the Consolidated balance sheets.

	December 31, 2023				
(in millions)	Gross amounts	Amounts netted on the Consolidated balance sheets	Amounts presented on the Consolidated balance sheets	Amounts not nettable on the Consolidated balance sheets[b]	Net amounts[c]
Assets					
Securities purchased under resale agreements	**$ 523,308**	**$ (247,181)**	**$ 276,127**	**$ (267,582)**	**$ 8,545**
Securities borrowed	**244,046**	**(43,610)**	**200,436**	**(144,543)**	**55,893**
Liabilities					
Securities sold under repurchase agreements	**$ 459,985**	**$ (247,181)**	**$ 212,804**	**$ (182,011)**	**$ 30,793**
Securities loaned and other[a]	**52,142**	**(43,610)**	**8,532**	**(8,501)**	**31**

	December 31, 2022				
(in millions)	Gross amounts	Amounts netted on the Consolidated balance sheets	Amounts presented on the Consolidated balance sheets	Amounts not nettable on the Consolidated balance sheets[b]	Net amounts[c]
Assets					
Securities purchased under resale agreements	$ 597,912	$ (282,411)	$ 315,501	$ (304,120)	$ 11,381
Securities borrowed	228,279	(42,910)	185,369	(131,578)	53,791
Liabilities					
Securities sold under repurchase agreements	$ 480,793	$ (282,411)	$ 198,382	$ (167,427)	$ 30,955
Securities loaned and other[a]	52,443	(42,910)	9,533	(9,527)	6

(a) Includes securities-for-securities lending agreements of $5.6 billion and $7.0 billion at December 31, 2023 and 2022, respectively, accounted for at fair value, where the Firm is acting as lender.

(b) In some cases, collateral exchanged with a counterparty exceeds the net asset or liability balance with that counterparty. In such cases, the amounts reported in this column are limited to the related net asset or liability with that counterparty.

(c) Includes securities financing agreements that provide collateral rights, but where an appropriate legal opinion with respect to the master netting agreement has not been either sought or obtained. At December 31, 2023 and 2022, included $7.1 billion and $6.0 billion, respectively, of securities purchased under resale agreements; $50.7 billion and $49.0 billion, respectively, of securities borrowed; $30.0 billion and $29.1 billion, respectively, of securities sold under repurchase agreements; and securities loaned and other which were not material at both December 31, 2023 and 2022.

The tables below present as of December 31, 2023 and 2022 the types of financial assets pledged in securities financing agreements and the remaining contractual maturity of the securities financing agreements.

	Gross liability balance			
	2023		2022	
December 31, (in millions)	Securities sold under repurchase agreements	Securities loaned and other	Securities sold under repurchase agreements	Securities loaned and other
Mortgage-backed securities:				
U.S. GSEs and government agencies	**$ 71,064**	**$ –**	$ 58,050	$ –
Residential - nonagency	**2,292**	**–**	2,414	–
Commercial - nonagency	**2,669**	**–**	2,007	–
U.S. Treasury, GSEs and government agencies	**216,467**	**1,034**	191,254	1,464
Obligations of U.S. states and municipalities	**2,323**	**–**	1,735	5
Non-U.S. government debt	**97,400**	**1,455**	155,156	1,259
Corporate debt securities	**39,247**	**2,025**	37,121	461
Asset-backed securities	**2,703**	**–**	2,981	–
Equity securities	**25,820**	**47,628**	30,075	49,254
Total	**$ 459,985**	**$ 52,142**	$ 480,793	$ 52,443

	Remaining contractual maturity of the agreements				
December 31, 2023 (in millions)	Overnight and continuous	Up to 30 days	30 - 90 days	Greater than 90 days	Total
Total securities sold under repurchase agreements	**$ 259,048**	**$ 102,941**	**$ 20,960**	**$ 77,036**	**$ 459,985**
Total securities loaned and other	**49,610**	**1,544**	**–**	**988**	**52,142**

	Remaining contractual maturity of the agreements				
December 31, 2022 (in millions)	Overnight and continuous	Up to 30 days	30 - 90 days	Greater than 90 days	Total
Total securities sold under repurchase agreements	$ 205,235	$ 170,696	$ 37,120	$ 67,742	$ 480,793
Total securities loaned and other	50,138	1,285	3	1,017	52,443

Transfers not qualifying for sale accounting

At December 31, 2023 and 2022, the Firm held $505 million and $692 million, respectively, of financial assets for which the rights have been transferred to third parties; however, the transfers did not qualify as a sale in accordance with U.S. GAAP. These transfers have been recognized as collateralized financing transactions. The transferred assets are recorded in trading assets and loans, and the corresponding liabilities are recorded primarily in short-term borrowings and long-term debt on the Consolidated balance sheets.

Note 12 – Loans

Loan accounting framework

The accounting for a loan depends on management's strategy for the loan. The Firm accounts for loans based on the following categories:

- Originated or purchased loans held-for-investment (i.e., "retained")
- Loans held-for-sale
- Loans at fair value

The following provides a detailed accounting discussion of the Firm's loans by category:

Loans held-for-investment

Originated or purchased loans held-for-investment, including PCD, are recorded at amortized cost, reflecting the principal amount outstanding, net of the following: unamortized deferred loan fees, costs, premiums or discounts; charge-offs; collection of cash; and foreign exchange. Credit card loans also include billed finance charges and fees.

Interest income

Interest income on performing loans held-for-investment is accrued and recognized as interest income at the contractual rate of interest. Purchase price discounts or premiums, as well as net deferred loan fees or costs, are recognized in interest income over the contractual life of the loan as an adjustment of yield.

The Firm classifies accrued interest on loans, including accrued but unbilled interest on credit card loans, in accrued interest and accounts receivables on the Consolidated balance sheets. For credit card loans, accrued interest once billed is then recognized in the loan balances, with the related allowance recorded in the allowance for credit losses. Changes in the allowance for credit losses on accrued interest on credit card loans are recognized in the provision for credit losses and charge-offs are recognized by reversing interest income. For other loans, the Firm generally does not recognize an allowance for credit losses on accrued interest receivables, consistent with its policy to write them off no later than 90 days past due by reversing interest income.

Nonaccrual loans

Nonaccrual loans are those on which the accrual of interest has been suspended. Loans (other than credit card loans and certain consumer loans insured by U.S. government agencies) are placed on nonaccrual status and considered nonperforming when full payment of principal and interest is not expected, regardless of delinquency status, or when principal and interest has been in default for a period of 90 days or more, unless the loan is both well-secured and in the process of collection. A loan is determined to be past due when the minimum payment is not received from the borrower by the contractually specified due date or for certain loans (e.g., residential real estate loans), when a monthly payment is due and unpaid for 30 days or more. Finally, collateral-dependent loans are typically maintained on nonaccrual status.

On the date a loan is placed on nonaccrual status, all interest accrued but not collected is reversed against interest income. In addition, the amortization of deferred amounts is suspended. Interest income on nonaccrual loans may be recognized as cash interest payments are received (i.e., on a cash basis) if the recorded loan balance is deemed fully collectible; however, if there is doubt regarding the ultimate collectibility of the recorded loan balance, all interest cash receipts are applied to reduce the carrying value of the loan (the cost recovery method). For consumer loans, application of this policy typically results in the Firm recognizing interest income on nonaccrual consumer loans on a cash basis.

A loan may be returned to accrual status when repayment is reasonably assured and there has been demonstrated performance under the terms of the loan or, if applicable, the terms of the restructured loan.

As permitted by regulatory guidance, credit card loans are generally exempt from being placed on nonaccrual status; accordingly, interest and fees related to credit card loans continue to accrue until the loan is charged off or paid in full.

Allowance for loan losses

The allowance for loan losses represents the estimated expected credit losses in the held-for-investment loan portfolio at the balance sheet date and is recognized on the balance sheet as a contra asset, which brings the amortized cost to the net carrying value. Changes in the allowance for loan losses are recorded in the provision for credit losses on the Firm's Consolidated statements of income. Refer to Note 13 for further information on the Firm's accounting policies for the allowance for loan losses.

Charge-offs

Consumer loans are generally charged off or charged down to the lower of the amortized cost or the net realizable value of the underlying collateral (i.e., fair value less estimated costs to sell), with an offset to the allowance for loan losses, upon reaching specified stages of delinquency in accordance with standards established by the FFIEC. Residential real estate loans, unmodified credit card loans and scored business banking loans are generally charged off no later than 180 days past due. Scored auto and closed-end consumer loans, including modified credit card accounts placed on a fixed payment plan, are charged off no later than 120 days past due.

Certain consumer loans are charged off or charged down to their net realizable value earlier than the FFIEC charge-off standards in the following circumstances:

- Loans modified to borrowers experiencing financial difficulty that are determined to be collateral-dependent.

- Loans to borrowers who have experienced an event that suggests a loss is either known or highly certain are subject to accelerated charge-off standards (e.g., residential real estate and auto loans are charged off or charged down within 60 days of receiving notification of a bankruptcy filing).
- Auto loans upon repossession of the automobile.

Other than in certain limited circumstances, the Firm typically does not recognize charge-offs on the government-guaranteed portion of loans.

Wholesale loans are charged off when it is highly certain that a loss has been realized. The determination of whether to recognize a charge-off includes many factors, including the prioritization of the Firm's claim in bankruptcy, expectations of the workout/restructuring of the loan and valuation of the borrower's equity or the loan collateral.

When a loan is charged down to the lower of its amortized cost or the estimated net realizable value of the underlying collateral, the determination of the fair value of the collateral depends on the type of collateral (e.g., securities, real estate). In cases where the collateral is in the form of liquid securities, the fair value is based on quoted market prices or broker quotes. For illiquid securities or other financial assets, the fair value of the collateral is generally estimated using a discounted cash flow model.

For residential real estate loans, collateral values are based upon external valuation sources. When it becomes likely that a borrower is either unable or unwilling to pay, the Firm utilizes a broker's price opinion, appraisal and/or an automated valuation model of the home based on an exterior-only valuation ("exterior opinions"), which is then updated at least every 12 months, or more frequently depending on various market factors. As soon as practicable after the Firm receives the property in satisfaction of a debt (e.g., by taking legal title or physical possession), the Firm generally obtains an appraisal based on an inspection that includes the interior of the home ("interior appraisals"). Exterior opinions and interior appraisals are discounted based upon the Firm's experience with actual liquidation values as compared with the estimated values provided by exterior opinions and interior appraisals, considering state-specific factors.

For commercial real estate loans, collateral values are generally based on appraisals from internal and external valuation sources. Collateral values are typically updated every six to twelve months, either by obtaining a new appraisal or by performing an internal analysis, in accordance with the Firm's policies. The Firm also considers both borrower- and market-specific factors, which may result in obtaining appraisal updates or broker price opinions at more frequent intervals.

Loans held-for-sale

Loans held-for-sale are measured at the lower of cost or fair value, with valuation changes recorded in noninterest revenue. For consumer loans, the valuation is performed on a portfolio basis. For wholesale loans, the valuation is performed on an individual loan basis.

Interest income on loans held-for-sale is accrued and recognized based on the contractual rate of interest.

Loan origination fees or costs and purchase price discounts or premiums are deferred in a contra loan account until the related loan is sold. The deferred fees or costs and discounts or premiums are an adjustment to the basis of the loan and therefore are included in the periodic determination of the lower of cost or fair value adjustments and/or the gain or loss recognized at the time of sale.

Because these loans are recognized at the lower of cost or fair value, the Firm's allowance for loan losses and charge-off policies do not apply to these loans. However, loans held-for-sale are subject to the Firm's nonaccrual policies.

Loans at fair value

Loans for which the fair value option has been elected are measured at fair value, with changes in fair value recorded in noninterest revenue.

Interest income on these loans is accrued and recognized based on the contractual rate of interest. Changes in fair value are recognized in noninterest revenue. Loan origination fees are recognized upfront in noninterest revenue. Loan origination costs are recognized in the associated expense category as incurred.

Because these loans are recognized at fair value, the Firm's allowance for loan losses and charge-off policies do not apply to these loans. However, loans at fair value are subject to the Firm's nonaccrual policies.

Refer to Note 3 for further information on the Firm's elections of fair value accounting under the fair value option. Refer to Note 2 and Note 3 for further information on loans carried at fair value and classified as trading assets.

Loan classification changes

Loans in the held-for-investment portfolio that management decides to sell are transferred to the held-for-sale portfolio at the lower of cost or fair value on the date of transfer. Credit-related losses are charged against the allowance for loan losses; non-credit related losses such as those due to changes in interest rates or foreign currency exchange rates are recognized in noninterest revenue.

In the event that management decides to retain a loan in the held-for-sale portfolio, the loan is transferred to the held-for-investment portfolio at amortized cost on the date of transfer. These loans are subsequently assessed for impairment based on the Firm's allowance methodology. Refer to Note 13 for a further discussion of the methodologies used in establishing the Firm's allowance for loan losses.

Loan modifications

The Firm seeks to modify certain loans in conjunction with its loss mitigation activities. Through the modification, JPMorgan Chase grants one or more concessions to a borrower who is experiencing financial difficulty in order to minimize the Firm's economic loss and avoid foreclosure or repossession of the collateral, and to ultimately maximize payments received by the Firm from the borrower. The concessions granted vary by program and by borrower-specific characteristics, and may include interest rate reductions, term extensions, other-than-insignificant payment delays or principal forgiveness. Effective January 1, 2023 the Firm adopted the Financial Instruments - Credit Losses: Troubled Debt Restructurings and Vintage Disclosure accounting guidance, which changed the accounting for loan modifications from TDRs to FDMs. Refer to Note 1 for further information.

Loans, except for credit card loans, reported as FDMs are generally placed on nonaccrual status, although in many cases such loans were already on nonaccrual status prior to modification. These loans may be returned to performing status (the accrual of interest is resumed) if the following criteria are met: (i) the borrower has performed under the modified terms for a minimum of six months and/or six payments, and (ii) the Firm has an expectation that repayment of the modified loan is reasonably assured based on, for example, the borrower's debt capacity and level of future earnings, collateral values, LTV ratios, and other current market considerations. In certain limited and well-defined circumstances in which the loan is current at the modification date, such loans are not placed on nonaccrual status at the time of modification.

The allowance for credit losses associated with FDMs is measured using the Firm's established allowance methodology, which considers the expected re-default rates for the modified loans. Refer to Note 13 for further discussion.

For periods ending prior to January 1, 2023, modifications of loans where the Firm granted concessions to a borrower experiencing financial difficulty were accounted for and reported as TDRs. The concessions granted varied by program and by borrower-specific characteristics, and included interest rate reductions, term extensions, payment delays, principal forgiveness, or the acceptance of equity or other assets in lieu of payments. Loans with short-term and other insignificant modifications that were not considered concessions were not TDRs.

Loans modified in TDRs were generally measured for impairment using the Firm's established asset-specific allowance methodology, which considers the expected redefault rates for the modified loans. A loan modified in a TDR generally remained subject to the asset-specific component of the allowance throughout its remaining life, regardless of whether the loan was performing and had been returned to accrual status. Refer to Note 13 for further discussion.

Foreclosed property

The Firm acquires property from borrowers through loan restructurings, workouts, and foreclosures. Property acquired may include real property (e.g., residential real estate, land, and buildings) and other commercial and personal property (e.g., automobiles, aircraft, railcars, and ships).

The Firm recognizes foreclosed property upon receiving assets in satisfaction of a loan (e.g., by taking legal title or physical possession). For loans collateralized by real property, the Firm generally recognizes the asset received at foreclosure sale or upon the execution of a deed in lieu of foreclosure transaction with the borrower. Foreclosed assets are reported in other assets on the Consolidated balance sheets and initially recognized at fair value less estimated costs to sell. Each quarter the fair value of the acquired property is reviewed and adjusted, if necessary, to the lower of cost or fair value. Subsequent adjustments to fair value are charged/credited to noninterest revenue. Operating expense, such as real estate taxes and maintenance, are charged to other expense.

Loan portfolio

The Firm's loan portfolio is divided into three portfolio segments, which are the same segments used by the Firm to determine the allowance for loan losses: Consumer, excluding credit card; Credit card; and Wholesale. Within each portfolio segment the Firm monitors and assesses the credit risk in the following classes of loans, based on the risk characteristics of each loan class.

Consumer, excluding credit card	Credit card	Wholesale[c][d]
• Residential real estate[a] • Auto and other[b]	• Credit card loans	• Secured by real estate • Commercial and industrial • Other[e]

(a) Includes scored mortgage and home equity loans held in CCB and AWM, and scored mortgage loans held in CIB.
(b) Includes scored auto, business banking and consumer unsecured loans as well as overdrafts, primarily in CCB.
(c) Includes loans held in CIB, CB, AWM, Corporate, and risk-rated exposure held in CCB, for which the wholesale methodology is applied when determining the allowance for loan losses.
(d) The wholesale portfolio segment's classes align with loan classifications as defined by the bank regulatory agencies, based on the loan's collateral, purpose, and type of borrower.
(e) Includes loans to SPEs, financial institutions, personal investment companies and trusts, individuals and individual entities (predominantly Global Private Bank clients within AWM and J.P. Morgan Wealth Management within CCB), states and political subdivisions, as well as loans to nonprofits. Refer to Note 14 for more information on SPEs.

The following tables summarize the Firm's loan balances by portfolio segment.

December 31, 2023 (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total[b][c]
Retained	**$ 397,275** [a]	**$ 211,123**	**$ 672,472** [a]	**$ 1,280,870**
Held-for-sale	**487**	**–**	**3,498**	**3,985**
At fair value	**12,331** [a]	**–**	**26,520**	**38,851**
Total	**$ 410,093**	**$ 211,123**	**$ 702,490**	**$ 1,323,706**

December 31, 2022 (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total[b][c]
Retained	$ 300,753	$ 185,175	$ 603,670	$ 1,089,598
Held-for-sale	618	–	3,352	3,970
At fair value	10,004	–	32,075	42,079
Total	$ 311,375	$ 185,175	$ 639,097	$ 1,135,647

(a) Includes loans associated with First Republic consisting of $90.7 billion of retained loans and $1.9 billion of loans at fair value in consumer, excluding credit card and $53.9 billion of retained loans in wholesale.
(b) Excludes $6.8 billion and $5.2 billion of accrued interest receivable at December 31, 2023 and 2022, respectively. The Firm wrote off accrued interest receivable of $49 million and $39 million for the years ended December 31, 2023 and 2022, respectively.
(c) Loans (other than those for which the fair value option has been elected) are presented net of unamortized discounts and premiums and net deferred loan fees or costs. These amounts were not material as of December 31, 2023 and 2022.

The following tables provide information about the carrying value of retained loans purchased, sold and reclassified to held-for-sale during the periods indicated. Loans that were reclassified to held-for-sale and sold in a subsequent period are excluded from the sales line of this table.

	2023			
Year ended December 31, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	**$ 92,205** [b][c][d]	**$ –**	**$ 60,300** [d]	**$ 152,505**
Sales	**2,202**	**–**	**43,949**	**46,151**
Retained loans reclassified to held-for-sale[a]	**274**	**–**	**1,486**	**1,760**

	2022			
Year ended December 31, (in millions)	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	$ 1,625 [b][c]	$ –	$ 1,088	$ 2,713
Sales	2,884	–	41,934	44,818
Retained loans reclassified to held-for-sale[a]	229	–	1,055	1,284

Year ended December 31, (in millions)	2021			
	Consumer, excluding credit card	Credit card	Wholesale	Total
Purchases	$ 515 [(b)(c)]	$ –	$ 1,122	$ 1,637
Sales	799	–	31,022	31,821
Retained loans reclassified to held-for-sale[(a)]	1,225	–	2,178	3,403

(a) Reclassifications of loans to held-for-sale are non-cash transactions.
(b) Includes purchases of residential real estate loans, including the Firm's voluntary repurchases of certain delinquent loans from loan pools as permitted by Government National Mortgage Association ("Ginnie Mae") guidelines for the years ended December 31, 2023, 2022 and 2021. The Firm typically elects to repurchase these delinquent loans as it continues to service them and/or manage the foreclosure process in accordance with applicable requirements of Ginnie Mae, FHA, RHS, and/or VA.
(c) Excludes purchases of retained loans of $5.1 billion, $12.4 billion and $25.8 billion for the years ended December 31, 2023, 2022 and 2021, respectively, which are predominantly sourced through the correspondent origination channel and underwritten in accordance with the Firm's standards.
(d) Includes loans acquired in the First Republic acquisition consisting of $91.9 billion in Consumer, excluding credit card and $59.2 billion in Wholesale. Refer to Note 34 for additional information.

Gains and losses on sales of loans

Net gains/(losses) on sales of loans and lending-related commitments (including adjustments to record loans and lending-related commitments held-for-sale at the lower of cost or fair value) recognized in noninterest revenue was $56 million for the year ended December 31, 2023 of which $62 million was related to loans. Net gains/(losses) on sales of loans and lending-related commitments was $(186) million for the year ended December 31, 2022 of which $(48) million was related to loans. Net gains/(losses) on sales of loans and lending-related commitments was $261 million for the year ended December 31, 2021 of which $253 million was related to loans. In addition, the sale of loans may also result in write downs, recoveries or changes in the allowance recognized in the provision for credit losses.

Consumer, excluding credit card loan portfolio

Consumer loans, excluding credit card loans, consist primarily of scored residential mortgages, home equity loans and lines of credit, auto and business banking loans, with a focus on serving the prime consumer credit market. These loans include home equity loans secured by junior liens, prime mortgage loans with an interest-only payment period, and certain payment-option loans that may result in negative amortization.

The following table provides information about retained consumer loans, excluding credit card, by class.

December 31, (in millions)	2023		2022
Residential real estate	**$ 326,409**	(a)	$ 237,561
Auto and other	**70,866**		63,192
Total retained loans	**$ 397,275**		$ 300,753

(a) Included $90.7 billion of loans associated with First Republic.

Delinquency rates are the primary credit quality indicator for consumer loans. Loans that are more than 30 days past due provide an early warning of borrowers who may be experiencing financial difficulties and/or who may be unable or unwilling to repay the loan. As the loan continues to age, it becomes more clear whether the borrower is likely to be unable or unwilling to pay. In the case of residential real estate loans, late-stage delinquencies (greater than 150 days past due) are a strong indicator of loans that will ultimately result in a foreclosure or similar liquidation transaction. In addition to delinquency rates, other credit quality indicators for consumer loans vary based on the class of loan, as follows:

- For residential real estate loans, the current estimated LTV ratio, or the combined LTV ratio in the case of junior lien loans, is an indicator of the potential loss severity in the event of default. Additionally, LTV or combined LTV ratios can provide insight into a borrower's continued willingness to pay, as the delinquency rate of high-LTV loans tends to be greater than that for loans where the borrower has equity in the collateral. The geographic distribution of the loan collateral also provides insight as to the credit quality of the portfolio, as factors such as the regional economy, home price changes and specific events such as natural disasters, will affect credit quality. The borrower's current or "refreshed" FICO score is a secondary credit quality indicator for certain loans, as FICO scores are an indication of the borrower's credit payment history. Thus, a loan to a borrower with a low FICO score (less than 660) is considered to be of higher risk than a loan to a borrower with a higher FICO score. Further, a loan to a borrower with a high LTV ratio and a low FICO score is at greater risk of default than a loan to a borrower that has both a high LTV ratio and a high FICO score.
- For scored auto and business banking loans, geographic distribution is an indicator of the credit performance of the portfolio. Similar to residential real estate loans, geographic distribution provides insights into the portfolio performance based on regional economic activity and events.

Residential real estate

Delinquency is the primary credit quality indicator for retained residential real estate loans. The following tables provide information on delinquency and gross charge-offs for the year ended December 31, 2023.

	December 31, 2023								
	Term loans by origination year[f]						Revolving loans		
(in millions, except ratios)	2023	2022	2021	2020	2019	Prior to 2019	Within the revolving period	Converted to term loans	Total
Loan delinquency[a][b]									
Current[c]	**$ 23,216**	**$ 64,366**	**$ 84,496**	**$ 55,546**	**$ 21,530**	**$ 59,563**	**$ 7,479**	**$ 8,151**	**$ 324,347**
30–149 days past due	**33**	**74**	**89**	**70**	**41**	**801**	**49**	**223**	**1,380**
150 or more days past due	**1**	**10**	**17**	**8**	**21**	**456**	**5**	**164**	**682**
Total retained loans	**$ 23,250**	**$ 64,450**	**$ 84,602**	**$ 55,624**	**$ 21,592**	**$ 60,820**	**$ 7,533**	**$ 8,538**	**$ 326,409**
% of 30+ days past due to total retained loans[d][e]	**0.15 %**	**0.13 %**	**0.13 %**	**0.14 %**	**0.29 %**	**2.04 %**	**0.72 %**	**4.53 %**	**0.63 %**
Gross charge-offs	**$ –**	**$ –**	**$ –**	**$ –**	**$ 4**	**$ 167**	**$ 26**	**$ 7**	**$ 204**

	December 31, 2022							
	Term loans by origination year[f]						Revolving loans	
(in millions, except ratios)	2022	2021	2020	2019	2018	Prior to 2018	Within the revolving period	Converted to term loans	Total
Loan delinquency[a][b]									
Current	$ 39,934	$ 66,072	$ 43,315	$ 15,397	$ 6,339	$ 49,632	$ 5,589	$ 9,685	$ 235,963
30–149 days past due	29	11	14	20	20	597	15	208	914
150 or more days past due	1	1	6	10	7	480	4	175	684
Total retained loans	$ 39,964	$ 66,084	$ 43,335	$ 15,427	$ 6,366	$ 50,709	$ 5,608	$ 10,068	$ 237,561
% of 30+ days past due to total retained loans[d]	0.08 %	0.02 %	0.05 %	0.19 %	0.42 %	2.07 %	0.34 %	3.80 %	0.66 %

(a) Individual delinquency classifications include mortgage loans insured by U.S. government agencies which were not material at December 31, 2023 and 2022.

(b) At December 31, 2023 and 2022, loans under payment deferral programs offered in response to the COVID-19 pandemic which are still within their deferral period and performing according to their modified terms are generally not considered delinquent.

(c) Included $6.4 billion, $26.3 billion, $21.9 billion, $14.8 billion, $7.4 billion, and $10.9 billion of term loans originated in 2023, 2022, 2021, 2020, 2019 and prior to 2019, respectively, and $2.5 billion of revolving loans within the revolving period associated with First Republic.

(d) Excludes mortgage loans that are 30 or more days past due insured by U.S. government agencies which were not material at December 31, 2023 and 2022. These amounts have been excluded based upon the government guarantee.

(e) Included $343 million of 30 or more days past due loans associated with First Republic.

(f) Purchased loans are included in the year in which they were originated.

Approximately 37% of the total revolving loans are senior lien loans; the remaining balance are junior lien loans. The lien position the Firm holds is considered in the Firm's allowance for credit losses. Revolving loans that have been converted to term loans have higher delinquency rates than those that are still within the revolving period. That is primarily because the fully-amortizing payment that is generally required for those products is higher than the minimum payment options available for revolving loans within the revolving period.

Nonaccrual loans and other credit quality indicators

The following table provides information on nonaccrual and other credit quality indicators for retained residential real estate loans.

(in millions, except weighted-average data)	December 31, 2023		December 31, 2022
Nonaccrual loans[a][b][c][d][e]	$ 3,466		$ 3,745
Current estimated LTV ratios[f][g][h]			
Greater than 125% and refreshed FICO scores:			
Equal to or greater than 660	$ 72		$ 2
Less than 660	—		—
101% to 125% and refreshed FICO scores:			
Equal to or greater than 660	223		174
Less than 660	4		6
80% to 100% and refreshed FICO scores:			
Equal to or greater than 660	6,491	[l]	12,034
Less than 660	102		184
Less than 80% and refreshed FICO scores:			
Equal to or greater than 660	309,251	[l]	215,096
Less than 660	9,277	[l]	8,659
No FICO/LTV available[i]	989		1,406
Total retained loans	$ 326,409	[m]	$ 237,561
Weighted average LTV ratio[f][j]	49 %		51 %
Weighted average FICO[g][j]	770		769
Geographic region[i][k]			
California	$ 127,072	[n]	$ 73,112
New York	48,815	[n]	34,471
Florida	22,778	[n]	18,870
Texas	15,506		14,968
Massachusetts	14,213	[n]	6,380
Illinois	10,856		11,296
Colorado	10,800		9,968
Washington	9,923		9,060
New Jersey	8,050		7,108
Connecticut	7,163		5,432
All other	51,233		46,896
Total retained loans	$ 326,409		$ 237,561

(a) Includes collateral-dependent residential real estate loans that are charged down to the fair value of the underlying collateral less costs to sell. The Firm reports, in accordance with regulatory guidance, residential real estate loans that have been discharged under Chapter 7 bankruptcy and not reaffirmed by the borrower ("Chapter 7 loans") as collateral-dependent nonaccrual loans, regardless of their delinquency status. At December 31, 2023, approximately 9% of Chapter 7 residential real estate loans were 30 days or more past due.

(b) Mortgage loans insured by U.S. government agencies excluded from nonaccrual loans were not material at December 31, 2023 and 2022.

(c) Generally, all consumer nonaccrual loans have an allowance. In accordance with regulatory guidance, certain nonaccrual loans that are considered collateral-dependent have been charged down to the lower of amortized cost or the fair value of their underlying collateral less costs to sell. If the value of the underlying collateral improves subsequent to charge down, the related allowance may be negative.

(d) Interest income on nonaccrual loans recognized on a cash basis was $180 million and $175 million for the years ended December 31, 2023 and 2022, respectively.

(e) Generally excludes loans under payment deferral programs offered in response to the COVID-19 pandemic.

(f) Represents the aggregate unpaid principal balance of loans divided by the estimated current property value. Current property values are estimated, at a minimum, quarterly, based on home valuation models using nationally recognized home price index valuation estimates incorporating actual data to the extent available and forecasted data where actual data is not available. Current estimated combined LTV for junior lien home equity loans considers all available lien positions, as well as unused lines, related to the property.

(g) Refreshed FICO scores represent each borrower's most recent credit score, which is obtained by the Firm on at least a quarterly basis.

(h) Includes residential real estate loans, primarily held in LLCs in AWM that did not have a refreshed FICO score. These loans have been included in a FICO band based on management's estimation of the borrower's credit quality.

(i) Included U.S. government-guaranteed loans as of December 31, 2023 and 2022.

(j) Excludes loans with no FICO and/or LTV data available.

(k) The geographic regions presented in the table are ordered based on the magnitude of the corresponding loan balances at December 31, 2023.

(l) Included $1.1 billion in equal to or greater than 660 FICO scores within 80% to 100% LTV ratio, and $87.9 billion and $1.1 billion in equal to or greater than 660 and less than 660 FICO scores, respectively, within less than 80% LTV ratio associated with First Republic.

(m) Included $90.7 billion of loans associated with First Republic.

(n) Included $54.9 billion, $14.9 billion, $3.5 billion, and $7.8 billion in California, New York, Florida and Massachusetts, respectively, associated with First Republic.

Loan modifications

The Firm grants certain modifications of residential real estate loans to borrowers experiencing financial difficulty, which effective January 1, 2023, are reported as FDMs. The Firm's proprietary modification programs as well as government programs, including U.S. GSE programs, that generally provide various modifications to borrowers experiencing financial difficulty including, but not limited to, interest rate reductions, term extensions, other-than-insignificant payment delay and principal forgiveness that would otherwise have been required under the terms of the original agreement, are considered FDMs.

Financial effects of FDMs

For the year ended December 31, 2023, residential real estate FDMs were $136 million. The financial effects of the FDMs, which were predominantly in the form of term extensions and interest rate reductions, included extending the weighted-average life of the loans by 20 years, and reducing the weighted-average contractual interest rate from 7.21% to 4.44% for the year ended December 31, 2023. There were no additional commitments to lend to borrowers experiencing financial difficulty whose loans have been modified as FDMs.

In addition to FDMs, the Firm also had $69 million of loans subject to a trial modification, and $9 million of Chapter 7 loans for the year ended December 31, 2023. The changes to the TDR accounting guidance eliminated the TDR reasonably expected and concession assessment criteria. Accordingly, trial modifications and Chapter 7 loans were considered TDRs, but not FDMs. Refer to Note 1 for further information.

Payment status of FDMs and redefaults

For the year ended December 31, 2023, residential real estate FDMs of $29 million were 30 or more days past due and FDMs that re-defaulted were $17 million.

Nature and extent of TDRs

For periods ending prior to January 1, 2023, modifications of residential real estate loans where the Firm granted concessions to borrowers who were experiencing financial difficulty were generally accounted for and reported as TDRs. Loans with short-term or other insignificant modifications that were not considered concessions were not TDRs. For the years ended December 31, 2022 and 2021, new TDRs were $362 million and $866 million, and there were no additional commitments to lend to borrowers whose residential real estate loans were modified in TDRs.

The Firm's proprietary modification programs as well as government programs, including U.S. GSE programs, generally provide various concessions to financially troubled borrowers including, but not limited to, interest rate reductions, term or payment extensions and delays of principal and/or interest payments that would otherwise have been required under the terms of the original agreement.

The following table provides information about how residential real estate loans were modified in TDRs during the period presented. This table excludes loans with short-term or other insignificant modifications that are not considered concessions.

Year ended December 31,	2022	2021
Number of loans approved for a trial modification	3,902	6,246
Number of loans permanently modified	4,182	4,588
Concession granted:[(a)]		
Interest rate reduction	54 %	74 %
Term or payment extension	67	53
Principal and/or interest deferred	10	23
Principal forgiveness	1	2
Other[(b)]	37	36

(a) Represents concessions granted in permanent modifications as a percentage of the number of loans permanently modified. The sum of the percentages exceeds 100% because predominantly all of the modifications include more than one type of concession. Concessions offered on trial modifications are generally consistent with those granted on permanent modifications.

(b) Includes variable interest rate to fixed interest rate modifications and payment delays that meet the definition of a TDR.

Financial effects of TDRs and redefaults

The following table provides information about the financial effects of the various concessions granted in modifications of residential real estate loans and about redefaults of certain loans modified in TDRs for the periods presented. The following table presents only the financial effects of permanent modifications and does not include temporary concessions offered through trial modifications. This table also excludes loans with short-term or other insignificant modifications that were not considered concessions.

Year ended December 31, (in millions, except weighted - average data)	2022	2021
Weighted-average interest rate of loans with interest rate reductions - before TDR	4.75 %	4.54 %
Weighted-average interest rate of loans with interest rate reductions - after TDR	3.35	2.92
Weighted-average remaining contractual term (in years) of loans with term or payment extensions - before TDR	22	23
Weighted-average remaining contractual term (in years) of loans with term or payment extensions - after TDR	38	38
Charge-offs recognized upon permanent modification	$ 1	$ –
Principal deferred	16	28
Principal forgiven	2	1
Balance of loans that redefaulted within one year of permanent modification[(a)]	$ 147	$ 160

(a) Represents loans permanently modified in TDRs that experienced a payment default in the periods presented, and for which the payment default occurred within one year of the modification. The dollar amounts presented represent the balance of such loans at the end of the reporting period in which such loans defaulted.

Active and suspended foreclosure

At December 31, 2023 and 2022, the Firm had residential real estate loans, excluding those insured by U.S. government agencies, with a carrying value of $566 million and $565 million, respectively, that were not included in REO, but were in the process of active or suspended foreclosure.

Auto and other

Delinquency is the primary credit quality indicator for retained auto and other loans. The following tables provide information on delinquency and gross charge-offs for the year ended December 31, 2023.

	December 31, 2023								
	Term loans by origination year						Revolving loans		
(in millions, except ratios)	2023	2022	2021	2020	2019	Prior to 2019	Within the revolving period	Converted to term loans	Total
Loan delinquency									
Current	**$ 30,328**	**$ 14,797**	**$ 12,825**	**$ 6,538**	**$ 1,777**	**$ 511**	**$ 2,984**	**$ 102**	**$ 69,862**
30–119 days past due	**276**	**279**	**231**	**78**	**43**	**17**	**19**	**24**	**967**
120 or more days past due	**1**	**1**	**7**	**8**	**–**	**–**	**3**	**17**	**37**
Total retained loans	**$ 30,605**	**$ 15,077**	**$ 13,063**	**$ 6,624**	**$ 1,820**	**$ 528**	**$ 3,006**	**$ 143**	**$ 70,866**
% of 30+ days past due to total retained loans[a]	**0.91 %**	**1.86 %**	**1.75 %**	**1.15 %**	**2.36 %**	**3.22 %**	**0.73 %**	**28.67 %**	**1.39 %**
Gross charge-offs	**$ 333**	**$ 297**	**$ 161**	**$ 53**	**$ 35**	**$ 64**	**$ –**	**$ 4**	**$ 947**

	December 31, 2022								
	Term loans by origination year						Revolving loans		
(in millions, except ratios)	2022	2021	2020	2019	2018	Prior to 2018	Within the revolving period	Converted to term loans	Total
Loan delinquency									
Current	$ 22,187	$ 20,212	$ 11,401	$ 3,991	$ 1,467	$ 578	$ 2,342	$ 118	$ 62,296
30–119 days past due	263	308	100	68	33	17	12	10	811
120 or more days past due	–	53	24	–	–	1	2	5	85
Total retained loans	$ 22,450	$ 20,573	$ 11,525	$ 4,059	$ 1,500	$ 596	$ 2,356	$ 133	$ 63,192
% of 30+ days past due to total retained loans[a]	1.17 %	1.15 %	0.83 %	1.68 %	2.20 %	3.02 %	0.59 %	11.28 %	1.18 %

(a) At December 31, 2023 and 2022, auto and other loans excluded $20 million and $153 million, respectively, of PPP loans guaranteed by the SBA that are 30 or more days past due. These amounts have been excluded based upon the SBA guarantee.

Nonaccrual and other credit quality indicators

The following table provides information on nonaccrual and other credit quality indicators for retained auto and other consumer loans.

(in millions)	Total Auto and other	
	December 31, 2023	December 31, 2022
Nonaccrual loans[(a)(b)(c)]	**$ 177**	$ 129
Geographic region[(d)]		
California	**$ 10,959**	$ 9,689
Texas	**8,502**	7,216
Florida	**5,684**	4,847
New York	**4,938**	4,345
Illinois	**3,147**	2,839
New Jersey	**2,609**	2,219
Georgia	**1,912**	1,708
Pennsylvania	**1,900**	1,822
Arizona	**1,779**	1,551
North Carolina	**1,714**	1,481
All other	**27,722**	25,475
Total retained loans	**$ 70,866**	$ 63,192

(a) At December 31, 2023 and 2022, nonaccrual loans excluded $15 million and $101 million, respectively, of PPP loans 90 or more days past due and guaranteed by the SBA, of which $15 million and $76 million, respectively, were no longer accruing interest based on the guidelines set by the SBA. Typically the principal balance of the loans is insured and interest is guaranteed at a specified reimbursement rate subject to meeting the guidelines set by the SBA. There were no loans that were not guaranteed by the SBA that are 90 or more days past due and still accruing interest at December 31, 2023 and 2022.

(b) Generally, all consumer nonaccrual loans have an allowance. In accordance with regulatory guidance, certain nonaccrual loans that are considered collateral-dependent have been charged down to the lower of amortized cost or the fair value of their underlying collateral less costs to sell. If the value of the underlying collateral improves subsequent to charge down, the related allowance may be negative.

(c) Interest income on nonaccrual loans recognized on a cash basis was not material for the years ended December 31, 2023 and 2022.

(d) The geographic regions presented in this table are ordered based on the magnitude of the corresponding loan balances at December 31, 2023.

Loan modifications

The Firm grants certain modifications of auto and other loans to borrowers experiencing financial difficulty, which effective January 1, 2023, are reported as FDMs. For the year ended December 31, 2023, auto and other FDMs were not material and there were no additional commitments to lend to borrowers modified as FDMs.

For periods ending prior to January 1, 2023, modifications of auto and other loans where the Firm granted concessions to borrowers who were experiencing financial difficulty were generally accounted for and reported as TDRs. Loans with short-term or other insignificant modifications that were not considered concessions were not TDRs. For the years ended December 31, 2022 and 2021, auto and other TDRs were not material.

Credit card loan portfolio

The credit card portfolio segment includes credit card loans originated and purchased by the Firm. Delinquency rates are the primary credit quality indicator for credit card loans as they provide an early warning that borrowers may be experiencing difficulties (30 days past due); information on those borrowers that have been delinquent for a longer period of time (90 days past due) is also considered. In addition to delinquency rates, the geographic distribution of the loans provides insight as to the credit quality of the portfolio based on the regional economy.

While the borrower's credit score is another general indicator of credit quality, the Firm does not view credit scores as a primary indicator of credit quality because the borrower's credit score tends to be a lagging indicator. The distribution of such scores provides a general indicator of credit quality trends within the portfolio; however, the score does not capture all factors that would be predictive of future credit performance. Refreshed FICO score information, which is obtained at least quarterly, for a statistically significant random sample of the credit card portfolio is indicated in other credit quality indicators. FICO is considered to be the industry benchmark for credit scores.

The Firm generally originates new credit card accounts to prime consumer borrowers. However, certain cardholders' FICO scores may decrease over time, depending on the performance of the cardholder and changes in the credit score calculation.

The following tables provide information on delinquency and gross charge-offs for the year ended December 31, 2023.

	December 31, 2023		
(in millions, except ratios)	Within the revolving period	Converted to term loans	Total
Loan delinquency			
Current and less than 30 days past due and still accruing	**$ 205,731**	**$ 882**	**$ 206,613**
30–89 days past due and still accruing	**2,217**	**84**	**2,301**
90 or more days past due and still accruing	**2,169**	**40**	**2,209**
Total retained loans	**$ 210,117**	**$ 1,006**	**$ 211,123**
Loan delinquency ratios			
% of 30+ days past due to total retained loans	**2.09 %**	**12.33 %**	**2.14 %**
% of 90+ days past due to total retained loans	**1.03**	**3.98**	**1.05**
Gross charge-offs	**$ 5,325**	**$ 166**	**$ 5,491**

	December 31, 2022		
(in millions, except ratios)	Within the revolving period	Converted to term loans	Total
Loan delinquency			
Current and less than 30 days past due and still accruing	$ 181,793	$ 696	$ 182,489
30–89 days past due and still accruing	1,356	64	1,420
90 or more days past due and still accruing	1,230	36	1,266
Total retained loans	$ 184,379	$ 796	$ 185,175
Loan delinquency ratios			
% of 30+ days past due to total retained loans	1.40 %	12.56 %	1.45 %
% of 90+ days past due to total retained loans	0.67	4.52	0.68

Other credit quality indicators

The following table provides information on other credit quality indicators for retained credit card loans.

(in millions, except ratios)	December 31, 2023	December 31, 2022
Geographic region[a]		
California	**$ 32,652**	$ 28,154
Texas	**22,086**	19,171
New York	**16,915**	15,046
Florida	**15,103**	12,905
Illinois	**11,364**	10,089
New Jersey	**8,688**	7,643
Ohio	**6,424**	5,792
Colorado	**6,307**	5,493
Pennsylvania	**6,088**	5,517
Arizona	**5,209**	4,487
All other	**80,287**	70,878
Total retained loans	**$ 211,123**	$ 185,175
Percentage of portfolio based on carrying value with estimated refreshed FICO scores		
Equal to or greater than 660	**85.8 %**	86.8 %
Less than 660	**14.0**	13.0
No FICO available	**0.2**	0.2

(a) The geographic regions presented in the table are ordered based on the magnitude of the corresponding loan balances at December 31, 2023.

Loan modifications

The Firm grants certain modifications of credit card loans to borrowers experiencing financial difficulty, which effective January 1, 2023, are reported as FDMs. These modifications may involve placing the customer's credit card account on a fixed payment plan, generally for 60 months, which typically includes reducing the interest rate on the credit card account. If the borrower does not make the contractual payments when due under the modified payment terms, the credit card loan continues to age and will be charged-off in accordance with the Firm's standard charge-off policy. In most cases, the Firm does not reinstate the borrower's line of credit.

Financial effects of FDMs

The following table provides information on credit card loan modifications considered FDMs.

Year ended December 31, 2023 (in millions)	Amortized cost basis	% of loan modifications to total retained credit card loans	Financial effect of loan modification
Loan modification			
Term extension and interest rate reduction[a][b]	**$ 648**	**0.31 %**	Term extension with a reduction in the weighted average contractual interest rate from 23.19% to 3.64%
Total	**$ 648**		

(a) Term extension includes credit card loans whose terms have been modified under long-term programs by placing the customer's credit card account on a fixed payment plan.

(b) The interest rates represent weighted average at enrollment.

For the year ended December 31, 2023, the Firm also had $27 million of credit card loans subject to trial modifications. The changes to the TDR accounting guidance eliminated the TDR reasonably expected and concession assessment criteria. Accordingly, trial modifications are not considered FDMs.

Payment status of FDMs and redefaults

The following table provides information on the payment status of FDMs during the year ended December 31, 2023.

Year ended December 31, 2023 (in millions)	Amortized cost basis
Current and less than 30 days past due and still accruing	**$ 558**
30-89 days past due and still accruing	**59**
90 or more days past due and still accruing	**31**
Total	**$ 648**

There were $50 million FDMs that re-defaulted during the year ended December 31, 2023 which were a combination of term extension and interest rate reduction.

For credit card loans modified as FDMs, payment default is deemed to have occurred when the borrower misses two consecutive contractual payments. Defaulted modified credit card loans remain in the modification program and continue to be charged off in accordance with the Firm's standard charge-off policy.

Financial effects of TDRs and redefaults

For periods ending prior to January 1, 2023, modifications of credit card loans where the Firm granted concessions to borrowers who were experiencing financial difficulty were generally accounted for and reported as TDRs. The Firm granted concessions for most of the credit card loans under long-term programs. These concessions involved placing the customer's credit card account on a fixed payment plan, generally for 60 months, and typically included reducing the interest rate on the credit card account. Substantially all modifications under the Firm's long-term programs were considered to be TDRs. Loans with short-term or other insignificant modifications that were not considered concessions were not reported as TDRs.

The following table provides information about the financial effects of the concessions granted on credit card loans modified in TDRs and redefaults for the periods presented. For all periods disclosed, new enrollments were less than 1% of total retained credit card loans.

Year ended December 31, (in millions, except weighted-average data)	2022	2021
Balance of new TDRs[(a)]	$ 418	$ 393
Weighted-average interest rate of loans – before TDR	19.86 %	17.75 %
Weighted-average interest rate of loans – after TDR	4.13	5.14
Balance of loans that redefaulted within one year of modification[(b)]	$ 34	$ 57

(a) Represents the outstanding balance prior to modification.

(b) Represents loans modified in TDRs that experienced a payment default in the periods presented, and for which the payment default occurred within one year of the modification. The amounts presented represent the balance of such loans as of the end of the quarter in which they defaulted.

For credit card loans modified in TDRs, payment default was deemed to have occurred when the borrower missed two consecutive contractual payments. Defaulted modified credit card loans remained in the modification program and continued to be charged of in accordance with the Firm's standard charge-off policy.

Wholesale loan portfolio

Wholesale loans include loans made to a variety of clients, ranging from large corporate and institutional clients to high-net-worth individuals.

The primary credit quality indicator for wholesale loans is the internal risk rating assigned to each loan. Risk ratings are used to identify the credit quality of loans and differentiate risk within the portfolio. Risk ratings on loans consider the PD and the LGD. The PD is the likelihood that a loan will default. The LGD is the estimated loss on the loan that would be realized upon the default of the borrower and takes into consideration collateral and structural support for each credit facility.

Management considers several factors to determine an appropriate internal risk rating, including the obligor's debt capacity and financial flexibility, the level of the obligor's earnings, the amount and sources for repayment, the level and nature of contingencies, management strength, and the industry and geography in which the obligor operates. The Firm's internal risk ratings generally align with the qualitative characteristics (e.g., borrower capacity to meet financial commitments and vulnerability to changes in the economic environment) defined by S&P and Moody's, however the quantitative characteristics (e.g., PD and LGD) may differ as they reflect internal historical experiences and assumptions. The Firm generally considers internal ratings with qualitative characteristics equivalent to BBB-/Baa3 or higher as investment grade, and these ratings have a lower PD and/or lower LGD than non-investment grade ratings.

Noninvestment-grade ratings are further classified as noncriticized and criticized, and the criticized portion is further subdivided into performing and nonaccrual loans, representing management's assessment of the collectibility of principal and interest. Criticized loans have a higher PD than noncriticized loans. The Firm's definition of criticized aligns with the U.S. banking regulatory definition of criticized exposures, which consist of special mention, substandard and doubtful categories. Refer to Note 1 for additional information.

Risk ratings are reviewed on a regular and ongoing basis by Credit Risk Management and are adjusted as necessary for updated information affecting the obligor's ability to fulfill its obligations.

As noted above, the risk rating of a loan considers the industry in which the obligor conducts its operations. As part of the overall credit risk management framework, the Firm focuses on the management and diversification of its industry and client exposures, with particular attention paid to industries with an actual or potential credit concern. Refer to Note 4 for further detail on industry concentrations.

Internal risk rating is the primary credit quality indicator for retained wholesale loans. The following tables provide information on internal risk rating and gross charge-offs for the year ended December 31, 2023.

December 31, (in millions, except ratios)	Secured by real estate		Commercial and industrial		Other[b]		Total retained loans	
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022
Loans by risk ratings								
Investment-grade	**$ 120,405**	$ 99,552	**$ 72,624**	$ 76,275	**$ 265,809**	$ 249,585	**$ 458,838**	$ 425,412
Noninvestment- grade:								
Noncriticized	**34,241**	23,272	**80,637**	81,393	**75,178**	57,888	**190,056**	162,553
Criticized performing	**7,291**	3,662	**12,684**	8,974	**1,257**	1,106	**21,232**	13,742
Criticized nonaccrual	**401**	246	**1,221**	1,018	**724**	699	**2,346**	1,963
Total noninvestment- grade	**41,933**	27,180	**94,542**	91,385	**77,159**	59,693	**213,634**	178,258
Total retained loans[a]	**$ 162,338**	$ 126,732	**$ 167,166**	$ 167,660	**$ 342,968**	$ 309,278	**$ 672,472**	$ 603,670
% of investment-grade to total retained loans	**74.17 %**	78.55 %	**43.44 %**	45.49 %	**77.50 %**	80.70 %	**68.23 %**	70.47 %
% of total criticized to total retained loans	**4.74**	3.08	**8.32**	5.96	**0.58**	0.58	**3.51**	2.60
% of criticized nonaccrual to total retained loans	**0.25**	0.19	**0.73**	0.61	**0.21**	0.23	**0.35**	0.33

(a) As of December 31, 2023 included $33.8 billion of Secured by real estate loans, $3.0 billion of Commercial and industrial loans, and $17.1 billion of Other loans associated with First Republic.

(b) Includes loans to SPEs, financial institutions, personal investment companies and trusts, individuals and individual entities (predominantly Global Private Bank clients within AWM and J.P. Morgan Wealth Management within CCB), states and political subdivisions, as well as loans to nonprofits. As of December 31, 2023, predominantly consisted of $106.9 billion to individuals and individual entities, $91.2 billion to SPEs, and $87.5 billion to financial institutions, Refer to Note 14 for more information on SPEs.

	Secured by real estate								
	December 31, 2023								
	Term loans by origination year						Revolving loans		
(in millions)	2023	2022	2021	2020	2019	Prior to 2019	Within the revolving period	Converted to term loans	Total
Loans by risk ratings									
Investment-grade	**$ 10,687**	**$ 28,874**	**$ 25,784**	**$ 16,820**	**$ 15,677**	**$ 21,108**	**$ 1,455**	**$ –**	**$ 120,405**
Noninvestment-grade	**4,477**	**12,579**	**7,839**	**3,840**	**3,987**	**7,918**	**1,291**	**2**	**41,933**
Total retained loans[a]	**$ 15,164**	**$ 41,453**	**$ 33,623**	**$ 20,660**	**$ 19,664**	**$ 29,026**	**$ 2,746**	**$ 2**	**$ 162,338**
Gross charge-offs	**$ 20**	**$ 48**	**$ 22**	**$ –**	**$ 23**	**$ 78**	**$ –**	**$ 1**	**$ 192**

	Secured by real estate								
	December 31, 2022								
	Term loans by origination year						Revolving loans		
(in millions)	2022	2021	2020	2019	2018	Prior to 2018	Within the revolving period	Converted to term loans	Total
Loans by risk ratings									
Investment-grade	$ 24,134	$ 22,407	$ 14,773	$ 14,666	$ 5,277	$ 17,289	$ 1,006	$ –	$ 99,552
Noninvestment-grade	6,072	5,602	3,032	3,498	2,395	5,659	920	2	27,180
Total retained loans	$ 30,206	$ 28,009	$ 17,805	$ 18,164	$ 7,672	$ 22,948	$ 1,926	$ 2	$ 126,732

(a) As of December 31, 2023 included $3.3 billion, $11.2 billion, $6.2 billion, $4.3 billion, $2.9 billion, and $5.1 billion of retained loans originated in 2023, 2022, 2021, 2020, 2019 and prior to 2019, respectively, and $838 million of revolving loans within the revolving period associated with First Republic.

	Commercial and industrial								
	December 31, 2023								
	Term loans by origination year						Revolving loans		
(in millions)	2023	2022	2021	2020	2019	Prior to 2019	Within the revolving period	Converted to term loans	Total
Loans by risk ratings									
Investment-grade	**$ 14,875**	**$ 10,642**	**$ 4,276**	**$ 2,291**	**$ 1,030**	**$ 1,115**	**$ 38,394**	**$ 1**	**$ 72,624**
Noninvestment-grade	**18,890**	**16,444**	**9,299**	**1,989**	**1,144**	**1,006**	**45,696**	**74**	**94,542**
Total retained loans[a]	**$ 33,765**	**$ 27,086**	**$ 13,575**	**$ 4,280**	**$ 2,174**	**$ 2,121**	**$ 84,090**	**$ 75**	**$ 167,166**
Gross charge-offs	**$ 25**	**$ 8**	**$ 110**	**$ 55**	**$ 2**	**$ 12**	**$ 259**	**$ 8**	**$ 479**

	Commercial and industrial								
	December 31, 2022								
	Term loans by origination year						Revolving loans		
(in millions)	2022	2021	2020	2019	2018	Prior to 2018	Within the revolving period	Converted to term loans	Total
Loans by risk ratings									
Investment-grade	$ 21,072	$ 8,338	$ 3,045	$ 1,995	$ 748	$ 989	$ 40,087	$ 1	$ 76,275
Noninvestment-grade	24,088	12,444	3,459	2,506	525	1,014	47,267	82	91,385
Total retained loans	$ 45,160	$ 20,782	$ 6,504	$ 4,501	$ 1,273	$ 2,003	$ 87,354	$ 83	$ 167,660

(a) As of December 31, 2023, included $364 million, $568 million, $471 million, $212 million, $53 million, and $121 million of retained loans originated in 2023, 2022, 2021, 2020, 2019 and prior to 2019, respectively, and $1.2 billion of revolving loans within the revolving period and $12 million converted to term loans associated with First Republic.

	Other[a]								
	December 31, 2023								
	Term loans by origination year						Revolving loans		
(in millions)	2023	2022	2021	2020	2019	Prior to 2019	Within the revolving period	Converted to term loans	Total
Loans by risk ratings									
Investment-grade	**$ 38,338**	**$ 18,034**	**$ 10,033**	**$ 10,099**	**$ 3,721**	**$ 6,662**	**$ 176,728**	**$ 2,194**	**$ 265,809**
Noninvestment-grade	**14,054**	**8,092**	**6,169**	**2,172**	**811**	**2,001**	**43,801**	**59**	**77,159**
Total retained loans[b]	**$ 52,392**	**$ 26,126**	**$ 16,202**	**$ 12,271**	**$ 4,532**	**$ 8,663**	**$ 220,529**	**$ 2,253**	**$ 342,968**
Gross charge-offs	**$ 5**	**$ 298**	**$ 8**	**$ 8**	**$ –**	**$ 8**	**$ 13**	**$ –**	**$ 340**

	Other[a]								
	December 31, 2022								
	Term loans by origination year						Revolving loans		
(in millions)	2022	2021	2020	2019	2018	Prior to 2018	Within the revolving period	Converted to term loans	Total
Loans by risk ratings									
Investment-grade	$ 32,121	$ 15,864	$ 13,015	$ 4,529	$ 2,159	$ 7,251	$ 171,049	$ 3,597	$ 249,585
Noninvestment-grade	16,829	7,096	1,821	699	451	475	32,240	82	59,693
Total retained loans	$ 48,950	$ 22,960	$ 14,836	$ 5,228	$ 2,610	$ 7,726	$ 203,289	$ 3,679	$ 309,278

(a) Includes loans to SPEs, financial institutions, personal investment companies and trusts, individuals and individual entities (predominantly Global Private Bank clients within AWM and J.P. Morgan Wealth Management within CCB), states and political subdivisions, as well as loans to nonprofits. Refer to Note 14 for more information on SPEs.

(b) As of December 31, 2023, included $610 million, $1.0 billion, $820 million, $1.1 billion, $244 million, and $1.4 billion of retained loans originated in 2023, 2022, 2021, 2020, 2019 and prior to 2019, respectively, and $11.8 billion of revolving loans within the revolving period and $56 million converted to term loans associated with First Republic.

The following table presents additional information on retained loans secured by real estate within the Wholesale portfolio, which consists of loans secured wholly or substantially by a lien or liens on real property at origination. Multifamily lending includes financing for acquisition, leasing and construction of apartment buildings. Other commercial lending largely includes financing for acquisition, leasing and construction, largely for office, retail and industrial real estate. Included in secured by real estate loans is $10.2 billion and $6.4 billion as of December 31, 2023 and 2022, respectively, of construction and development loans made to finance land development and on-site construction of commercial, industrial, residential, or farm buildings.

December 31, (in millions, except ratios)	Multifamily		Other Commercial		Total retained loans secured by real estate	
	2023	2022	**2023**	2022	**2023**	2022
Retained loans secured by real estate	**$ 100,725**	$ 79,139	**$ 61,613**	$ 47,593	**$ 162,338** [(a)]	$ 126,732
Criticized	**3,596**	1,916	**4,096**	1,992	**7,692**	3,908
% of criticized to total retained loans secured by real estate	**3.57 %**	2.42 %	**6.65 %**	4.19 %	**4.74 %**	3.08 %
Criticized nonaccrual	**$ 76**	$ 51	**$ 325**	$ 195	**$ 401**	$ 246
% of criticized nonaccrual loans to total retained loans secured by real estate	**0.08 %**	0.06 %	**0.53 %**	0.41 %	**0.25 %**	0.19 %

(a) Included $20.7 billion and $13.1 billion of Multifamily and Other commercial loans, respectively, associated with First Republic.

Geographic distribution and delinquency

The following table provides information on the geographic distribution and delinquency for retained wholesale loans.

December 31, (in millions)	Secured by real estate		Commercial and industrial		Other		Total retained loans	
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022
Loans by geographic distribution[(a)(b)]								
Total U.S.	**$ 159,499**	$ 123,740	**$ 127,638**	$ 125,324	**$ 262,499**	$ 230,525	**$ 549,636**	$ 479,589
Total non-U.S.	**2,839**	2,992	**39,528**	42,336	**80,469**	78,753	**122,836**	124,081
Total retained loans	**$ 162,338**	$ 126,732	**$ 167,166**	$ 167,660	**$ 342,968**	$ 309,278	**$ 672,472**	$ 603,670
Loan delinquency								
Current and less than 30 days past due and still accruing	**$ 161,314**	$ 126,083	**$ 164,899**	$ 165,415	**$ 341,128**	$ 307,511	**$ 667,341**	$ 599,009
30–89 days past due and still accruing	**473**	402	**884**	1,127	**1,090**	1,015	**2,447**	2,544
90 or more days past due and still accruing[(c)]	**150**	1	**162**	100	**26**	53	**338**	154
Criticized nonaccrual[(c)]	**401**	246	**1,221**	1,018	**724**	699	**2,346**	1,963
Total retained loans	**$ 162,338**	$ 126,732	**$ 167,166**	$ 167,660	**$ 342,968**	$ 309,278	**$ 672,472**	$ 603,670

(a) The U.S. and non-U.S. distribution is determined based predominantly on the domicile of the borrower.
(b) Borrowers associated with First Republic are predominantly domiciled in the U.S.
(c) Represents loans that are considered well-collateralized and therefore still accruing interest.

Nonaccrual loans

The following table provides information on retained wholesale nonaccrual loans.

December 31, (in millions)	Secured by real estate		Commercial and industrial		Other		Total retained loans	
	2023	2022	**2023**	2022	**2023**	2022	**2023**	2022
Nonaccrual loans								
With an allowance	**$ 129**	$ 172	**$ 776**	$ 686	**$ 492**	$ 487	**$ 1,397**	$ 1,345
Without an allowance[(a)]	**272**	74	**445**	332	**232**	212	**949**	618
Total nonaccrual loans[(b)]	**$ 401**	$ 246	**$ 1,221**	$ 1,018	**$ 724**	$ 699	**$ 2,346**	$ 1,963

(a) When the discounted cash flows or collateral value equals or exceeds the amortized cost of the loan, the loan does not require an allowance. This typically occurs when the loans have been partially charged off and/or there have been interest payments received and applied to the loan balance.
(b) Interest income on nonaccrual loans recognized on a cash basis were not material for the years ended December 31, 2023 and 2022.

Loan modifications

The Firm grants certain modifications of wholesale loans to borrowers experiencing financial difficulty, which effective January 1, 2023, are reported as FDMs.

Financial effects of FDMs

The following tables provide information by loan class about modifications considered FDMs.

(in millions)	Secured by real estate Year ended December 31, 2023 Amortized cost basis	% of loan modifications to total retained Real Estate loans	Financial effect of loan modification
Loan modification			
Single modifications			
Term extension	**$ 149**	**0.09 %**	Extended loans by a weighted average of 14 months
Other-than-insignificant payment deferral	**3**	**– %**	Provided payment deferrals with delayed amounts primarily re-amortized over the remaining life of the loan
Multiple modifications			
Interest rate reduction and term extension	**3**	**– %**	Reduced weighted average contractual interest by 350 bps and extended loans by a weighted average of 3 months
Other-than-insignificant payment deferral and interest rate reduction	**5**	**– %**	Provided payment deferrals with delayed amounts primarily recaptured at maturity and reduced weighted average contractual interest by 184 bps
Total	**$ 160**		

(in millions)	Commercial and industrial Year ended December 31, 2023 Amortized cost basis	% of loan modifications to total retained Commercial and industrial loans	Financial effect of loan modification
Loan modification			
Single modifications			
Term extension	**$ 916**	**0.55 %**	Extended loans by a weighted average of 17 months
Other-than-insignificant payment deferral	**402**	**0.24 %**	Provided payment deferrals with delayed amounts primarily recaptured at the end of the deferral period
Multiple modifications			
Other-than-insignificant payment deferral and term extension	**$ 35**	**0.02 %**	Provided payment deferrals with delayed amounts primarily re-amortized over the remaining life of the loan and extended loans by a weighted-average of 7 months
Other-than-insignificant payment deferral and interest rate reduction and term extension	**2**	**– %**	Provided payment deferrals with delayed amounts primarily re-amortized over the remaining life of the loan, reduced weighted average contractual interest by 75 bps and extended loans by a weighted average of 29 months
Term extension and principal forgiveness	**7**	**– %**	Extended loans by a weighted average of 76 months and reduced amortized cost basis of the loans by $5 million
Interest rate reduction and term extension	**1**	**– %**	Reduced weighted average contractual interest rate over the life of the loan as a result of converting from variable to fixed rate and extended loans by a weighted average of 16 months
	$ 1,363		

	Other		
	Year ended December 31, 2023		
(in millions)	Amortized cost basis	% of loan modifications to total retained Other loans	Financial effect of loan modification
Loan modification			
Single modifications			
Interest rate reduction	$ 9	– %	Reduced weighted average contractual interest by 654 bps
Term extension	355	0.10 %	Extended loans by a weighted average of 23 months
Multiple modifications			
Other-than-insignificant payment deferral and term extension	245	0.07 %	Provided payment deferrals with delayed amounts primarily recaptured at the end of the deferral period and extended loans by a weighted average of 137 months
Total[(a)]	$ 609		

(a) Includes loans to nonprofits, financial institutions, and personal investment companies and trusts.

Payment status of FDMs and redefaults

The following table provides information by loan class about the payment status of FDMs during the year ended December 31, 2023.

	Amortized cost basis		
	Secured by real estate	Commercial and industrial	Other
(in millions)	Year ended December 31, 2023	Year ended December 31, 2023	Year ended December 31, 2023
Current and less than 30 days past due and still accruing	$ 118	$ 947	$ 400
30-89 days past due and still accruing	2	42	–
Criticized nonaccrual	40	374	209
Total	$ 160	$ 1,363	$ 609

The following table provides information by loan class about FDMs that re-defaulted during the year ended December 31, 2023.

	Amortized cost basis		
	Secured by real estate	Commercial and industrial	Other
(in millions)	Year ended December 31, 2023	Year ended December 31, 2023	Year ended December 31, 2023
Loan modification			
Term extension	$ 1	$ 49	$ 31
Other-than-insignificant payment deferral	2	–	–
Interest rate reduction and term extension	3	1	–
Total[(a)]	$ 6	$ 50	$ 31

(a) Represents FDMs that were 30 days or more past due.

As of December 31, 2023, additional unfunded commitments to lend to borrowers experiencing financial difficulty for Commercial and industrial and Other loan FDMs were $1.8 billion and $4 million, respectively. There were no additional unfunded commitments to lend to borrowers experiencing financial difficulties for Secured by real estate loan FDMs.

Nature and extent of TDRs

Prior to January 1, 2023, certain loan modifications were considered TDRs. These loan modifications provided various concessions to borrower who were experiencing financial difficulty. Loans with short-term or other insignificant modifications that were not considered concessions were not TDRs nor were loans for which the Firm elected to suspend TDR accounting guidance under the option provided by the CARES Act.

For the year ended December 31, 2022 and 2021, new TDRs were $801 million and $881 million, respectively. New TDRs for the year ended December 31, 2022 and 2021 reflected extended maturity dates and covenant waivers primarily in the Commercial and Industrial loan class. For the year ended December 31, 2022 and 2021, the impact of these modifications resulting in new TDRs was not material to the Firm.

As a result of the elimination of the requirement to assess whether a modification is reasonably expected or involves a concession, the population of loans considered FDMs is greater than the population previously considered TDRs.

Note 13 – Allowance for credit losses

The Firm's allowance for credit losses represents management's estimate of expected credit losses over the remaining expected life of the Firm's financial assets measured at amortized cost and certain off-balance sheet lending-related commitments. The allowance for credit losses generally comprises:

- the allowance for loan losses, which covers the Firm's retained loan portfolios (scored and risk-rated),
- the allowance for lending-related commitments, which is presented on the Consolidated balance sheets in accounts payable and other liabilities, and
- the allowance for credit losses on investment securities, which is reflected in investment securities on the Consolidated balance sheets.

The income statement effect of all changes in the allowance for credit losses is recognized in the provision for credit losses.

Determining the appropriateness of the allowance for credit losses is complex and requires significant judgment by management about the effect of matters that are inherently uncertain. At least quarterly, the allowance for credit losses is reviewed by the CRO, the CFO and the Controller of the Firm. Subsequent evaluations of credit exposures, considering the macroeconomic conditions, forecasts and other factors then prevailing, may result in significant changes in the allowance for credit losses in future periods. The Firm's policies used to determine its allowance for loan losses and its allowance for lending-related commitments are described in the following paragraphs. Refer to Note 10 for a description of the policies used to determine the allowance for credit losses on investment securities.

Methodology for allowances for loan losses and lending-related commitments

The allowance for loan losses and allowance for lending-related commitments represents expected credit losses over the remaining expected life of retained loans and lending-related commitments that are not unconditionally cancellable. The Firm does not record an allowance for future draws on unconditionally cancellable lending-related commitments (e.g., credit cards). Expected losses related to accrued interest on credit card loans are considered in the Firm's allowance for loan losses. However, the Firm does not record an allowance on other accrued interest receivables, due to its policy to write these receivables off no later than 90 days past due by reversing interest income.

The expected life of each instrument is determined by considering its contractual term, expected prepayments, cancellation features, and certain extension and call options. The expected life of funded credit card loans is generally estimated by considering expected future payments on the credit card account, and determining how much of those amounts should be allocated to repayments of the funded loan balance (as of the balance sheet date) versus other account activity. This allocation is made using an approach that incorporates the payment application requirements of the Credit Card Accountability Responsibility and Disclosure Act of 2009, generally paying down the highest interest rate balances first.

The estimate of expected credit losses includes expected recoveries of amounts previously charged off or expected to be charged off, even if such recoveries result in a negative allowance.

Collective and Individual Assessments

When calculating the allowance for loan losses and the allowance for lending-related commitments, the Firm assesses whether exposures share similar risk characteristics. If similar risk characteristics exist, the Firm estimates expected credit losses collectively, considering the risk associated with a particular pool and the probability that the exposures within the pool will deteriorate or default. The assessment of risk characteristics is subject to significant management judgment. Emphasizing one characteristic over another or considering additional characteristics could affect the allowance.

- Relevant risk characteristics for the consumer portfolio include product type, delinquency status, current FICO scores, geographic distribution, and, for collateralized loans, current LTV ratios.
- Relevant risk characteristics for the wholesale portfolio include risk rating, delinquency status, tenor, level and type of collateral, LOB, geography, industry, credit enhancement, product type, facility purpose, and payment terms.

The majority of the Firm's credit exposures share risk characteristics with other similar exposures, and as a result are collectively assessed for impairment ("portfolio-based component"). The portfolio-based component covers consumer loans, performing risk-rated loans and certain lending-related commitments.

If an exposure does not share risk characteristics with other exposures, the Firm generally estimates expected credit losses on an individual basis, considering expected repayment and conditions impacting that individual exposure ("asset-specific component"). The asset-specific component covers collateral-dependent loans and risk-rated loans that have been placed on nonaccrual status.

Portfolio-based component

The portfolio-based component begins with a quantitative calculation that considers the likelihood of the borrower changing delinquency status or moving from one risk rating to another. The quantitative calculation covers expected credit losses over an instrument's expected life and is estimated by applying credit loss factors to the Firm's estimated exposure at default. The credit loss factors incorporate the probability of borrower default as well as loss severity in the event of default. They are derived using a weighted average of five internally developed macroeconomic scenarios over an eight-quarter forecast period, followed by a single year straight-line interpolation

to revert to long run historical information for periods beyond the eight-quarter forecast period. The five macroeconomic scenarios consist of a central, relative adverse, extreme adverse, relative upside and extreme upside scenario, and are updated by the Firm's central forecasting team. The scenarios take into consideration the Firm's macroeconomic outlook, internal perspectives from subject matter experts across the Firm, and market consensus and involve a governed process that incorporates feedback from senior management across LOBs, Corporate Finance and Risk Management.

The quantitative calculation is adjusted to take into consideration model imprecision, emerging risk assessments, trends and other subjective factors that are not yet reflected in the calculation. These adjustments are accomplished in part by analyzing the historical loss experience, including during stressed periods, for each major product or model. Management applies judgment in making this adjustment, including taking into account uncertainties associated with the economic and political conditions, quality of underwriting standards, borrower behavior, credit concentrations or deterioration within an industry, product or portfolio, as well as other relevant internal and external factors affecting the credit quality of the portfolio. In certain instances, the interrelationships between these factors create further uncertainties.

The application of different inputs into the quantitative calculation, and the assumptions used by management to adjust the quantitative calculation, are subject to significant management judgment, and emphasizing one input or assumption over another, or considering other inputs or assumptions, could affect the estimate of the allowance for loan losses and the allowance for lending-related commitments.

Asset-specific component

To determine the asset-specific component of the allowance, collateral-dependent loans (including those loans for which foreclosure is probable) and nonaccrual risk-rated loans in the wholesale portfolio segment are generally evaluated individually.

On January 1, 2023 the Firm adopted the Financial Instruments - Credit Losses: Troubled Debt Restructurings accounting guidance as described in Note 1.

The adoption of this guidance eliminated the requirement to measure the allowance for TDRs using a discounted cash flow (DCF) methodology and allowed the option of a non-DCF portfolio-based approach for modified loans to borrowers experiencing financial difficulty. If a DCF methodology is still applied for these modified loans, the discount rate must be the post-modification effective interest rate, instead of the pre-modification effective interest rate.

The Firm elected to change from an asset-specific allowance approach to its non-DCF, portfolio-based allowance approach for modified loans to troubled borrowers for all portfolios except collateral-dependent loans and nonaccrual risk-rated loans, for which the asset-specific allowance approach will continue to apply. The adoption did not impact the collateral-dependent allowance approach or scope.

This guidance was adopted under the modified retrospective method which resulted in a net decrease to the allowance for credit losses of $587 million and an increase to retained earnings of $446 million, after-tax predominantly driven by residential real estate and credit card.

For collateral-dependent loans, the fair value of collateral less estimated costs to sell, as applicable, is used to determine the charge-off amount for declines in value (to reduce the amortized cost of the loan to the fair value of collateral) or the amount of negative allowance that should be recognized (for recoveries of prior charge-offs associated with improvements in the fair value of the collateral).

For non-collateral dependent loans, the Firm generally measures the asset-specific allowance as the difference between the amortized cost of the loan and the present value of the cash flows expected to be collected, discounted at the loan's effective interest rate. Subsequent changes in impairment are generally recognized as an adjustment to the allowance for loan losses. The asset-specific component of the allowance for non-collateral dependent loans incorporates the effect of the modification on the loan's expected cash flows including changes in interest rates, principal forgiveness, and other concessions, as well as management's expectation of the borrower's ability to repay under the modified terms.

Estimating the timing and amounts of future cash flows is highly judgmental as these cash flow projections rely upon estimates such as loss severities, asset valuations, the amounts and timing of interest or principal payments (including any expected prepayments) or other factors that are reflective of current and expected market conditions. These estimates are, in turn, dependent on factors such as the duration of current overall economic conditions, industry, portfolio, or borrower-specific factors, the expected outcome of insolvency proceedings as well as, in certain circumstances, other economic factors. All of these estimates and assumptions require significant management judgment and certain assumptions are highly subjective.

Other financial assets

In addition to loans and investment securities, the Firm holds other financial assets that are measured at amortized cost on the Consolidated balance sheets, including credit exposures arising from lending activities subject to collateral maintenance requirements. Management estimates the allowance for other financial assets using various techniques considering historical losses and current economic conditions.

Credit risk arising from lending activities subject to collateral maintenance requirements is generally mitigated by factors such as the short-term nature of the activity, the

fair value of collateral held and the Firm's right to call for, and the borrower's obligation to provide additional margin when the fair value of the collateral declines. Because of these mitigating factors, these exposures generally do not require an allowance for credit losses. However, management may also consider other factors such as the borrower's ongoing ability to provide collateral to satisfy margin requirements, or whether collateral is significantly concentrated in an individual issuer or in securities with similar risk characteristics. If in management's judgment, an allowance for credit losses for these exposures is required, the Firm estimates expected credit losses based on the value of the collateral and probability of borrower default.

Allowance for credit losses and related information

The table below summarizes information about the allowances for credit losses, and includes a breakdown of loans and lending-related commitments by impairment methodology. Refer to Note 10 for further information on the allowance for credit losses on investment securities.

(Table continued on next page)

Year ended December 31, (in millions)	2023			
	Consumer, excluding credit card	Credit card	Wholesale	Total
Allowance for loan losses				
Beginning balance at January 1,	$ 2,040	$ 11,200	$ 6,486	$ 19,726
Cumulative effect of a change in accounting principle[a]	(489)	(100)	2	(587)
Gross charge-offs	1,151	5,491	1,011	7,653
Gross recoveries collected	(519)	(793)	(132)	(1,444)
Net charge-offs	632	4,698	879	6,209
Provision for loan losses	936	6,048	2,484	9,468
Other	1	–	21	22
Ending balance at December 31,	$ 1,856	$ 12,450	$ 8,114	$ 22,420
Allowance for lending-related commitments				
Beginning balance at January 1,	$ 76	$ –	$ 2,306	$ 2,382
Cumulative effect of a change in accounting principle[a]	–	NA	–	NA
Provision for lending-related commitments	(1)	–	(407)	(408)
Other	–	–	–	–
Ending balance at December 31,	$ 75	$ –	$ 1,899	$ 1,974
Total allowance for investment securities	NA	NA	NA	$ 128
Total allowance for credit losses[b][c]	$ 1,931	$ 12,450	$ 10,013	$ 24,522
Allowance for loan losses by impairment methodology				
Asset-specific[d]	$ (876)	$ –	$ 392	$ (484)
Portfolio-based	2,732	12,450	7,722	22,904
Total allowance for loan losses	$ 1,856	$ 12,450	$ 8,114	$ 22,420
Loans by impairment methodology				
Asset-specific[d]	$ 3,287	$ –	$ 2,338	$ 5,625
Portfolio-based	393,988	211,123	670,134	1,275,245
Total retained loans	$ 397,275	$ 211,123	$ 672,472	$ 1,280,870
Collateral-dependent loans				
Net charge-offs	$ 6	$ –	$ 180	$ 186
Loans measured at fair value of collateral less cost to sell	3,216	–	1,012	4,228
Allowance for lending-related commitments by impairment methodology				
Asset-specific	$ –	$ –	$ 89	$ 89
Portfolio-based	75	–	1,810	1,885
Total allowance for lending-related commitments[e]	$ 75	$ –	$ 1,899	$ 1,974
Lending-related commitments by impairment methodology				
Asset-specific	$ –	$ –	$ 464	$ 464
Portfolio-based[f]	28,248	–	516,577	544,825
Total lending-related commitments	$ 28,248	$ –	$ 517,041	$ 545,289

(a) Represents the impact to the allowance for loan losses upon the adoption of the Financial Instruments - Credit Losses: Troubled Debt Restructurings accounting guidance. Refer to Note 1 for further information.

(b) At December 31, 2023 and 2022, in addition to the allowance for credit losses in the table above, the Firm also had an allowance for credit losses of $243 million and $21 million, respectively, associated with certain accounts receivable in CIB.

(c) As of December 31, 2023, included the allowance for credit losses associated with First Republic.

(d) Includes collateral-dependent loans, including those for which foreclosure is deemed probable, and nonaccrual risk-rated loans for all periods presented. Prior periods also include non collateral-dependent TDRs or reasonably expected TDRs and modified PCD loans.

(e) The allowance for lending-related commitments is reported in accounts payable and other liabilities on the Consolidated balance sheets.

(f) At December 31, 2023, 2022 and 2021, lending-related commitments excluded $17.2 billion, $13.1 billion and $15.7 billion, respectively, for the consumer, excluding credit card portfolio segment; $915.7 billion, $821.3 billion and $730.5 billion, respectively, for the credit card portfolio segment; and $19.7 billion, $9.8 billion and $32.1 billion, respectively, for the wholesale portfolio segment, which were not subject to the allowance for lending-related commitments.

(table continued from previous page)

2022				2021			
Consumer, excluding credit card	Credit card	Wholesale	Total	Consumer, excluding credit card	Credit card	Wholesale	Total
$ 1,765	$ 10,250	$ 4,371	$ 16,386	$ 3,636	$ 17,800	$ 6,892	$ 28,328
NA	NA	NA	NA	NA	NA	NA	NA
812	3,192	322	4,326	630	3,651	283	4,564
(543)	(789)	(141)	(1,473)	(619)	(939)	(141)	(1,699)
269	2,403	181	2,853	11	2,712	142	2,865
543	3,353	2,293	6,189	(1,858)	(4,838)	(2,375)	(9,071)
1	–	3	4	(2)	–	(4)	(6)
$ 2,040	$ 11,200	$ 6,486	$ 19,726	$ 1,765	$ 10,250	$ 4,371	$ 16,386
$ 113	$ –	$ 2,148	$ 2,261	$ 187	$ –	$ 2,222	$ 2,409
NA	NA	NA	NA	NA	NA	NA	NA
(37)	–	157	120	(75)	–	(74)	(149)
–	–	1	1	1	–	–	1
$ 76	$ –	$ 2,306	$ 2,382	$ 113	$ –	$ 2,148	$ 2,261
NA	NA	NA	$ 96	NA	NA	NA	$ 42
$ 2,116	$ 11,200	$ 8,792	$ 22,204	$ 1,878	$ 10,250	$ 6,519	$ 18,689
$ (624)	$ 223	$ 467	$ 66	$ (665)	$ 313	$ 263	$ (89)
2,664	10,977	6,019	19,660	2,430	9,937	4,108	16,475
$ 2,040	$ 11,200	$ 6,486	$ 19,726	$ 1,765	$ 10,250	$ 4,371	$ 16,386
$ 11,978	$ 796	$ 2,189	$ 14,963	$ 13,919	$ 987	$ 2,255	$ 17,161
288,775	184,379	601,481	1,074,635	281,637	153,309	558,099	993,045
$ 300,753	$ 185,175	$ 603,670	$ 1,089,598	$ 295,556	$ 154,296	$ 560,354	$ 1,010,206
$ (33)	$ –	$ 16	$ (17)	$ 33	$ –	$ 38	$ 71
3,585	–	464	4,049	4,472	–	617	5,089
$ –	$ –	$ 90	$ 90	$ –	$ –	$ 167	$ 167
76	–	2,216	2,292	113	–	1,981	2,094
$ 76	$ –	$ 2,306	$ 2,382	$ 113	$ –	$ 2,148	$ 2,261
$ –	$ –	$ 455	$ 455	$ –	$ –	$ 764	$ 764
20,423	–	461,688	482,111	29,588	–	453,571	483,159
$ 20,423	$ –	$ 462,143	$ 482,566	$ 29,588	$ –	$ 454,335	$ 483,923

Discussion of changes in the allowance

The allowance for credit losses as of December 31, 2023 was $24.8 billion, reflecting a net addition of $3.1 billion from December 31, 2022.

The net addition to the allowance for credit losses included $1.9 billion, consisting of:

- $1.3 billion in **consumer**, predominantly driven by CCB, comprised of $1.4 billion in Card Services, partially offset by a net reduction of $200 million in Home Lending. The net addition in Card Services was driven by loan growth, including an increase in revolving balances, partially offset by reduced borrower uncertainty. The net reduction in Home Lending was driven by improvements in the outlook for home prices, and
- $675 million in **wholesale**, driven by net downgrade activity, the net effect of changes in the Firm's weighted average macroeconomic outlook, including deterioration in the outlook for commercial real estate in CB, and an addition for certain accounts receivable in CIB, partially offset by the impact of changes in the loan and lending-related commitment portfolios.

The net addition also included $1.2 billion to establish the allowance for the First Republic loans and lending-related commitments in the second quarter of 2023.

The changes in the Firm's weighted average macroeconomic outlook also included updates to the central scenario in the third quarter of 2023 to reflect a lower forecasted unemployment rate consistent with a higher growth rate in GDP, and the impact of the additional weight placed on the adverse scenarios in the first quarter of 2023, reflecting elevated recession risks due to high inflation and tightening financial conditions.

The allowance for credit losses also reflected a reduction of $587 million as a result of the adoption of changes to the TDR accounting guidance on January 1, 2023. Refer to Note 1 for further information.

The Firm's allowance for credit losses is estimated using a weighted average of five internally developed macroeconomic scenarios. The adverse scenarios incorporate more punitive macroeconomic factors than the central case assumptions provided in the table below, resulting in a weighted average U.S. unemployment rate peaking at 5.5% in the fourth quarter of 2024, and a weighted average U.S. real GDP level that is 1.5% lower than the central case at the end of the second quarter of 2025.

The following table presents the Firm's central case assumptions for the periods presented:

	Central case assumptions at December 31, 2023		
	2Q24	**4Q24**	**2Q25**
U.S. unemployment rate[(a)]	**4.1 %**	**4.4 %**	**4.1 %**
YoY growth in U.S. real GDP[(b)]	**1.8 %**	**0.7 %**	**1.0 %**

	Central case assumptions at December 31, 2022		
	2Q23	4Q23	2Q24
U.S. unemployment rate[(a)]	3.8 %	4.3 %	5.0 %
YoY growth in U.S. real GDP[(b)]	1.5 %	0.4 %	– %

(a) Reflects quarterly average of forecasted U.S. unemployment rate.
(b) The year over year growth in U.S. real GDP in the forecast horizon of the central scenario is calculated as the percentage change in U.S. real GDP levels from the prior year.

Subsequent changes to this forecast and related estimates will be reflected in the provision for credit losses in future periods.

Refer to Critical Accounting Estimates Used by the Firm on pages 155–158 for further information on the allowance for credit losses and related management judgments. Refer to Consumer Credit Portfolio on pages 114–119, Wholesale Credit Portfolio on pages 120–130 for additional information on the consumer and wholesale credit portfolios.

Note 14 – Variable interest entities

Refer to Note 1 on page 171 for a further description of the Firm's accounting policies regarding consolidation of and involvement with VIEs.

The following table summarizes the most significant types of Firm-sponsored VIEs by business segment. The Firm considers a "Firm-sponsored" VIE to include any entity where: (1) JPMorgan Chase is the primary beneficiary of the structure; (2) the VIE is used by JPMorgan Chase to securitize Firm assets; (3) the VIE issues financial instruments with the JPMorgan Chase name; or (4) the entity is a JPMorgan Chase–administered asset-backed commercial paper conduit.

Line of Business	*Transaction Type*	*Activity*	*2023 Form 10-K page references*
CCB	Credit card securitization trusts	Securitization of originated credit card receivables	pages 261–262
	Mortgage securitization trusts	Servicing and securitization of both originated and purchased residential mortgages	pages 262–264
CIB	Mortgage and other securitization trusts	Securitization of both originated and purchased residential and commercial mortgages, and other consumer loans	pages 262–264
	Multi-seller conduits	Assisting clients in accessing the financial markets in a cost-efficient manner and structuring transactions to meet investor needs	page 264
	Municipal bond vehicles	Financing of municipal bond investments	pages 264–265

The Firm's other business segments are also involved with VIEs (both third-party and Firm-sponsored), but to a lesser extent, as follows:

- Asset & Wealth Management: AWM sponsors and manages certain funds that are deemed VIEs. As asset manager of the funds, AWM earns a fee based on assets managed; the fee varies with each fund's investment objective and is competitively priced. For fund entities that qualify as VIEs, AWM's interests are, in certain cases, considered to be significant variable interests that result in consolidation of the financial results of these entities.
- Commercial Banking: CB provides financing and lending-related services to a wide spectrum of clients, including certain third-party-sponsored entities that may meet the definition of a VIE. CB does not control the activities of these entities and does not consolidate these entities. CB's maximum loss exposure, regardless of whether the entity is a VIE, is generally limited to loans and lending-related commitments which are reported and disclosed in the same manner as any other third-party transaction.
- Corporate: Corporate is involved with entities that may meet the definition of VIEs; however these entities are generally subject to specialized investment company accounting, which does not require the consolidation of investments, including VIEs. In addition, Treasury and CIO invest in securities generally issued by third parties which may meet the definition of VIEs (e.g., issuers of asset-backed securities). In general, the Firm does not have the power to direct the significant activities of these entities and therefore does not consolidate these entities. Refer to Note 10 for further information on the Firm's investment securities portfolio.

In addition, CIB also invests in and provides financing and other services to VIEs sponsored by third parties. Refer to page 266 of this Note for more information on the VIEs sponsored by third parties.

Significant Firm-sponsored VIEs

Credit card securitizations

CCB's Card Services business may securitize originated credit card loans, primarily through the Chase Issuance Trust (the "Trust"). The Firm's continuing involvement in credit card securitizations includes servicing the receivables, retaining an undivided seller's interest in the receivables, retaining certain senior and subordinated securities and maintaining escrow accounts.

The Firm consolidates the assets and liabilities of its sponsored credit card trusts as it is considered to be the primary beneficiary of these securitization trusts based on the Firm's ability to direct the activities of these VIEs through its servicing responsibilities and other duties, including making decisions as to the receivables that are transferred into those trusts and as to any related modifications and workouts. Additionally, the nature and extent of the Firm's other continuing involvement with the trusts, as indicated above, obligates the Firm to absorb losses and gives the Firm the right to receive certain benefits from these VIEs that could potentially be significant.

The underlying securitized credit card receivables and other assets of the securitization trusts are available only for payment of the beneficial interests issued by the securitization trusts; they are not available to pay the Firm's other obligations or the claims of the Firm's creditors.

The agreements with the credit card securitization trusts require the Firm to maintain a minimum undivided interest in the credit card trusts (generally 5%). As of December 31, 2023 and 2022, the Firm held undivided interests in Firm-sponsored credit card securitization trusts of $4.9 billion and $6.1 billion, respectively. The Firm maintained an average undivided interest in principal receivables owned by those trusts of approximately 65%

and 62% for the years ended December 31, 2023 and 2022, respectively. The Firm did not retain any senior securities and retained $1.5 billion of subordinated securities in certain of its credit card securitization trusts at both December 31, 2023 and 2022. The Firm's undivided interests in the credit card trusts and securities retained are eliminated in consolidation.

Firm-sponsored mortgage and other securitization trusts

The Firm securitizes (or has securitized) originated and purchased residential mortgages, commercial mortgages and other consumer loans primarily in its CCB and CIB businesses. Depending on the particular transaction, as well as the respective business involved, the Firm may act as the servicer of the loans and/or retain certain beneficial interests in the securitization trusts.

The following tables present the total unpaid principal amount of assets held in Firm-sponsored private-label securitization entities, including those in which the Firm has continuing involvement, and those that are consolidated by the Firm. Continuing involvement includes servicing the loans, holding senior interests or subordinated interests (including amounts required to be held pursuant to credit risk retention rules), recourse or guarantee arrangements, and derivative contracts. In certain instances, the Firm's only continuing involvement is servicing the loans. The Firm's maximum loss exposure from retained and purchased interests is the carrying value of these interests.

	Principal amount outstanding			JPMorgan Chase interest in securitized assets in nonconsolidated VIEs[c][d][e]			
December 31, 2023 (in millions)	Total assets held by securitization VIEs	Assets held in consolidated securitization VIEs	Assets held in nonconsolidated securitization VIEs with continuing involvement	Trading assets	Investment securities	Other financial assets	Total interests held by JPMorgan Chase
Securitization-related[a]							
Residential mortgage:							
Prime/Alt-A and option ARMs	**$ 58,570**	**$ 675**	**$ 39,319**	**$ 595**	**$ 1,981**	**$ 60**	**$ 2,636**
Subprime	**8,881**	**–**	**1,312**	**3**	**–**	**–**	**3**
Commercial and other[b]	**168,042**	**–**	**120,262**	**831**	**5,638**	**1,354**	**7,823**
Total	**$ 235,493**	**$ 675**	**$ 160,893**	**$ 1,429**	**$ 7,619**	**$ 1,414**	**$ 10,462**

	Principal amount outstanding			JPMorgan Chase interest in securitized assets in nonconsolidated VIEs[c][d][e]			
December 31, 2022 (in millions)	Total assets held by securitization VIEs	Assets held in consolidated securitization VIEs	Assets held in nonconsolidated securitization VIEs with continuing involvement	Trading assets	Investment securities	Other financial assets	Total interests held by JPMorgan Chase
Securitization-related[a]							
Residential mortgage:							
Prime/Alt-A and option ARMs	$ 55,362	$ 754	$ 37,058	$ 744	$ 1,918	$ –	$ 2,662
Subprime	9,709	–	1,743	10	–	–	10
Commercial and other[b]	164,915	–	127,037	888	5,373	670	6,931
Total	$ 229,986	$ 754	$ 165,838	$ 1,642	$ 7,291	$ 670	$ 9,603

(a) Excludes U.S. GSEs and government agency securitizations and re-securitizations, which are not Firm-sponsored.
(b) Consists of securities backed by commercial real estate loans and non-mortgage-related consumer receivables.
(c) Excludes the following: retained servicing; securities retained from loan sales and securitization activity related to U.S. GSEs and government agencies; interest rate and foreign exchange derivatives primarily used to manage interest rate and foreign exchange risks of securitization entities; senior securities of $52 million and $134 million at December 31, 2023 and 2022, respectively, and subordinated securities were not material for both December 31, 2023 and 2022, which the Firm purchased in connection with CIB's secondary market-making activities.
(d) Includes interests held in re-securitization transactions.
(e) As of December 31, 2023 and 2022, 77% and 84%, respectively, of the Firm's retained securitization interests, which are predominantly carried at fair value and include amounts required to be held pursuant to credit risk retention rules, were risk-rated "A" or better, on an S&P-equivalent basis. The retained interests in prime residential mortgages consisted of $2.5 billion and $2.6 billion of investment-grade retained interests at December 31, 2023 and 2022, respectively, and $88 million and $27 million of noninvestment-grade retained interests at December 31, 2023 and 2022, respectively. The retained interests in commercial and other securitization trusts consisted of $6.1 billion and $5.8 billion of investment-grade retained interests, and $1.7 billion and $1.1 billion of noninvestment-grade retained interests at December 31, 2023 and 2022, respectively.

Residential mortgage

The Firm securitizes residential mortgage loans originated by CCB, as well as residential mortgage loans purchased from third parties by either CCB or CIB. CCB generally retains servicing for all residential mortgage loans it originated or purchased, and for certain mortgage loans purchased by CIB. For securitizations of loans serviced by CCB, the Firm has the power to direct the significant activities of the VIE because it is responsible for decisions related to loan modifications and workouts. CCB may also retain an interest upon securitization.

In addition, CIB engages in underwriting and trading activities involving securities issued by Firm-sponsored securitization trusts. As a result, CIB at times retains senior and/or subordinated interests (including residual interests and amounts required to be held pursuant to credit risk retention rules) in residential mortgage securitizations at the time of securitization, and/or reacquires positions in the secondary market in the normal course of business. In certain instances, as a result of the positions retained or reacquired by CIB or held by Treasury and CIO or CCB, when considered together with the servicing arrangements entered into by CCB, the Firm is deemed to be the primary beneficiary of certain securitization trusts.

The Firm does not consolidate residential mortgage securitizations (Firm-sponsored or third-party-sponsored) when it is not the servicer (and therefore does not have the power to direct the most significant activities of the trust) or does not hold a beneficial interest in the trust that could potentially be significant to the trust.

Commercial mortgages and other consumer securitizations

CIB originates and securitizes commercial mortgage loans, and engages in underwriting and trading activities involving the securities issued by securitization trusts. CIB may retain unsold senior and/or subordinated interests (including amounts required to be held pursuant to credit risk retention rules) in commercial mortgage securitizations at the time of securitization but, generally, the Firm does not service commercial loan securitizations. Treasury and CIO may choose to invest in these securitizations as well. For commercial mortgage securitizations the power to direct the significant activities of the VIE generally is held by the servicer or investors in a specified class of securities ("controlling class"). The Firm generally does not retain an interest in the controlling class in its sponsored commercial mortgage securitization transactions.

Re-securitizations

The Firm engages in certain re-securitization transactions in which debt securities are transferred to a VIE in exchange for new beneficial interests. These transfers occur in connection with both U.S. GSEs and government agency sponsored VIEs, which are backed by residential mortgages. The Firm's consolidation analysis is largely dependent on the Firm's role and interest in the re-securitization trusts.

The following table presents the principal amount of securities transferred to re-securitization VIEs.

Year ended December 31, (in millions)	**2023**	2022	2021
Transfers of securities to VIEs			
U.S. GSEs and government agencies	**$ 18,864**	$ 16,128	$ 53,923

Most re-securitizations with which the Firm is involved are client-driven transactions in which a specific client or group of clients is seeking a specific return or risk profile. For these transactions, the Firm has concluded that the decision-making power of the entity is shared between the Firm and its clients, considering the joint effort and decisions in establishing the re-securitization trust and its assets, as well as the significant economic interest the client holds in the re-securitization trust; therefore the Firm does not consolidate the re-securitization VIE.

The Firm did not transfer any private label securities to re-securitization VIEs during 2023, 2022 and 2021, and retained interests in any such Firm-sponsored VIEs as of December 31, 2023 and 2022 were not material.

Additionally, the Firm may invest in beneficial interests of third-party-sponsored re-securitizations and generally purchases these interests in the secondary market. In these circumstances, the Firm does not have the unilateral ability to direct the most significant activities of the re-securitization trust, either because it was not involved in the initial design of the trust, or the Firm was involved with an independent third-party sponsor and demonstrated shared power over the creation of the trust; therefore, the Firm does not consolidate the re-securitization VIE.

The following table presents information on the Firm's interests in nonconsolidated re-securitization VIEs.

December 31, (in millions)	Nonconsolidated re-securitization VIEs	
	2023	2022
U.S. GSEs and government agencies		
Interest in VIEs	**$ 3,371**	$ 2,580

As of December 31, 2023 and 2022, the Firm did not consolidate any U.S. GSE and government agency re-securitization VIEs or any Firm-sponsored private-label re-securitization VIEs.

Multi-seller conduits

Multi-seller conduit entities are separate bankruptcy remote entities that provide secured financing, collateralized by pools of receivables and other financial assets, to customers of the Firm. The conduits fund their financing facilities through the issuance of highly rated commercial paper. The primary source of repayment of the commercial paper is the cash flows from the pools of assets. In most instances, the assets are structured with deal-specific credit enhancements provided to the conduits by the customers (i.e., sellers) or other third parties. Deal-specific credit enhancements are generally structured to cover a multiple of historical losses expected on the pool of assets, and are typically in the form of overcollateralization provided by the seller. The deal-specific credit enhancements mitigate the Firm's potential losses on its agreements with the conduits.

To ensure timely repayment of the commercial paper, and to provide the conduits with funding to provide financing to customers in the event that the conduits do not obtain funding in the commercial paper market, each asset pool financed by the conduits has a minimum 100% deal-specific liquidity facility associated with it provided by JPMorgan Chase Bank, N.A. JPMorgan Chase Bank, N.A. also provides the multi-seller conduit vehicles with uncommitted program-wide liquidity facilities and program-wide credit enhancement in the form of standby letters of credit. The amount of program-wide credit enhancement required is based upon commercial paper issuance and approximates 10% of the outstanding balance of commercial paper.

The Firm consolidates its Firm-administered multi-seller conduits, as the Firm has both the power to direct the significant activities of the conduits and a potentially significant economic interest in the conduits. As administrative agent and in its role in structuring transactions, the Firm makes decisions regarding asset types and credit quality, and manages the commercial paper funding needs of the conduits. The Firm's interests that could potentially be significant to the VIEs include the fees received as administrative agent and liquidity and program-wide credit enhancement provider, as well as the potential exposure created by the liquidity and credit enhancement facilities provided to the conduits.

In the normal course of business, JPMorgan Chase makes markets in and invests in commercial paper issued by the Firm-administered multi-seller conduits. The Firm held $9.8 billion and $13.8 billion of the commercial paper issued by the Firm-administered multi-seller conduits at December 31, 2023 and 2022, respectively, which have been eliminated in consolidation. The Firm's investments reflect the Firm's funding needs and capacity and were not driven by market illiquidity. Other than the amounts required to be held pursuant to credit risk retention rules, the Firm is not obligated under any agreement to purchase the commercial paper issued by the Firm-administered multi-seller conduits.

Deal-specific liquidity facilities, program-wide liquidity and credit enhancement provided by the Firm have been eliminated in consolidation. The Firm or the Firm-administered multi-seller conduits provide lending-related commitments to certain clients of the Firm-administered multi-seller conduits. The unfunded commitments were $10.8 billion and $10.6 billion at December 31, 2023 and 2022, respectively, and are reported as off-balance sheet lending-related commitments in other unfunded commitments to extend credit. Refer to Note 28 for more information on off-balance sheet lending-related commitments.

Municipal bond vehicles

Municipal bond vehicles or tender option bond ("TOB") trusts allow institutions to finance their municipal bond investments at short-term rates. In a typical TOB transaction, the trust purchases highly rated municipal bond(s) of a single issuer and funds the purchase by issuing two types of securities: (1) puttable floating-rate certificates ("floaters") and (2) inverse floating-rate residual interests ("residuals"). The floaters are typically purchased by money market funds or other short-term investors and may be tendered, with requisite notice, to the TOB trust. The residuals are retained by the investor seeking to finance its municipal bond investment. TOB transactions where the residual is held by a third-party investor are typically known as customer TOB trusts, and non-customer TOB trusts are transactions where the Residual is retained by the Firm. Customer TOB trusts are sponsored by a third party. The Firm serves as sponsor for all non-customer TOB transactions. The Firm may provide various services to a TOB trust, including remarketing agent, liquidity or tender option provider, and/or sponsor.

J.P. Morgan Securities LLC may serve as a remarketing agent on the floaters for TOB trusts. The remarketing agent is responsible for establishing the periodic variable rate on the floaters, conducting the initial placement and remarketing tendered floaters. The remarketing agent may, but is not obligated to, make markets in floaters. Floaters held by the Firm were not material during 2023 and 2022.

JPMorgan Chase Bank, N.A. or J.P. Morgan Securities LLC often serves as the sole liquidity or tender option provider for the TOB trusts. The liquidity provider's obligation to perform is conditional and is limited by certain events

("Termination Events"), which include bankruptcy or failure to pay by the municipal bond issuer or credit enhancement provider, an event of taxability on the municipal bonds or the immediate downgrade of the municipal bond to below investment grade. In addition, the liquidity provider's exposure is typically further limited by the high credit quality of the underlying municipal bonds, the excess collateralization in the vehicle, or, in certain transactions, the reimbursement agreements with the Residual holders.

Holders of the floaters may "put," or tender, their floaters to the TOB trust. If the remarketing agent cannot successfully remarket the floaters to another investor, the liquidity provider either provides a loan to the TOB trust for the TOB trust's purchase of the floaters, or it directly purchases the tendered floaters.

TOB trusts are considered to be variable interest entities. The Firm consolidates non-customer TOB trusts because as the Residual holder, the Firm has the right to make decisions that significantly impact the economic performance of the municipal bond vehicle, and it has the right to receive benefits and bear losses that could potentially be significant to the municipal bond vehicle.

Consolidated VIE assets and liabilities

The following table presents information on assets and liabilities related to VIEs consolidated by the Firm as of December 31, 2023 and 2022.

	Assets				Liabilities		
December 31, 2023 (in millions)	Trading assets	Loans	Other[b]	Total assets[c]	Beneficial interests in VIE assets[d]	Other[e]	Total liabilities
VIE program type							
Firm-sponsored credit card trusts	**$ –**	**$ 9,460**	**$ 117**	**$ 9,577**	**$ 2,998**	**$ 6**	**$ 3,004**
Firm-administered multi-seller conduits	**1**	**27,372**	**194**	**27,567**	**17,781**	**30**	**17,811**
Municipal bond vehicles	**2,056**	**–**	**22**	**2,078**	**2,116**	**11**	**2,127**
Mortgage securitization entities[a]	**–**	**693**	**8**	**701**	**125**	**57**	**182**
Other	**113**	**86**	**250**	**449**	**–**	**159**	**159**
Total	**$ 2,170**	**$ 37,611**	**$ 591**	**$ 40,372**	**$ 23,020**	**$ 263**	**$ 23,283**

	Assets				Liabilities		
December 31, 2022 (in millions)	Trading assets	Loans	Other[b]	Total assets[c]	Beneficial interests in VIE assets[d]	Other[e]	Total liabilities
VIE program type							
Firm-sponsored credit card trusts	$ –	$ 9,699	$ 100	$ 9,799	$ 1,999	$ 2	$ 2,001
Firm-administered multi-seller conduits	–	22,819	170	22,989	9,236	39	9,275
Municipal bond vehicles	2,089	–	7	2,096	1,232	10	1,242
Mortgage securitization entities[a]	–	781	10	791	143	67	210
Other	62	1,112 [f]	263	1,437	–	161	161
Total	$ 2,151	$ 34,411	$ 550	$ 37,112	$ 12,610	$ 279	$ 12,889

(a) Includes residential mortgage securitizations.
(b) Includes assets classified as cash and other assets on the Consolidated balance sheets.
(c) The assets of the consolidated VIEs included in the program types above are used to settle the liabilities of those entities. The assets and liabilities include third-party assets and liabilities of consolidated VIEs and exclude intercompany balances that eliminate in consolidation.
(d) The interest-bearing beneficial interest liabilities issued by consolidated VIEs are classified in the line item on the Consolidated balance sheets titled, "Beneficial interests issued by consolidated VIEs". The holders of these beneficial interests generally do not have recourse to the general credit of JPMorgan Chase. Included in beneficial interests in VIE assets are long-term beneficial interests of $3.1 billion and $2.1 billion at December 31, 2023 and 2022, respectively.
(e) Includes liabilities classified as accounts payable and other liabilities on the Consolidated balance sheets.
(f) Primarily includes purchased supply chain finance receivables and purchased auto loan securitizations in CIB.

VIEs sponsored by third parties

The Firm enters into transactions with VIEs structured by other parties. These include, for example, acting as a derivative counterparty, liquidity provider, investor, underwriter, placement agent, remarketing agent, trustee or custodian. These transactions are conducted at arm's-length, and individual credit decisions are based on the analysis of the specific VIE, taking into consideration the quality of the underlying assets. Where the Firm does not have the power to direct the activities of the VIE that most significantly impact the VIE's economic performance, or a variable interest that could potentially be significant, the Firm generally does not consolidate the VIE, but it records and reports these positions on its Consolidated balance sheets in the same manner it would record and report positions in respect of any other third-party transaction.

Tax credit vehicles

The Firm holds investments in unconsolidated tax credit vehicles, which are limited partnerships and similar entities that own and operate affordable housing, energy, and other projects. These entities are primarily considered VIEs. A third party is typically the general partner or managing member and has control over the significant activities of the tax credit vehicles, and accordingly the Firm does not consolidate tax credit vehicles. The Firm generally invests in these partnerships as a limited partner and earns a return primarily through the receipt of tax credits allocated to the projects. The maximum loss exposure, represented by equity investments and funding commitments, was $35.1 billion and $30.2 billion, of which $14.7 billion and $10.6 billion was unfunded at December 31, 2023 and 2022, respectively. The Firm assesses each project and to reduce the risk of loss, may withhold varying amounts of its capital investment until the project qualifies for tax credits. Refer to Note 25 for further information on affordable housing tax credits and Note 28 for more information on off-balance sheet lending-related commitments.

Customer municipal bond vehicles (TOB trusts)

The Firm may provide various services to customer TOB trusts, including remarketing agent, liquidity or tender option provider. In certain customer TOB transactions, the Firm, as liquidity provider, has entered into a reimbursement agreement with the Residual holder. In those transactions, upon the termination of the vehicle, the Firm has recourse to the third-party Residual holders for any shortfall. The Firm does not have any intent to protect Residual holders from potential losses on any of the underlying municipal bonds. The Firm does not consolidate customer TOB trusts, since the Firm does not have the power to make decisions that significantly impact the economic performance of the municipal bond vehicle.

The Firm's maximum exposure as a liquidity provider to customer TOB trusts at December 31, 2023 and 2022, was $5.1 billion and $5.8 billion, respectively. The fair value of assets held by such VIEs at December 31, 2023 and 2022 was $7.3 billion and $8.2 billion respectively.

Loan securitizations

The Firm has securitized and sold a variety of loans, including residential mortgages, credit card receivables, commercial mortgages and other consumer loans. The purposes of these securitization transactions were to satisfy investor demand and to generate liquidity for the Firm.

For loan securitizations in which the Firm is not required to consolidate the trust, the Firm records the transfer of the loan receivable to the trust as a sale when all of the following accounting criteria for a sale are met: (1) the transferred financial assets are legally isolated from the Firm's creditors; (2) the transferee or beneficial interest holder can pledge or exchange the transferred financial assets; and (3) the Firm does not maintain effective control over the transferred financial assets (e.g., the Firm cannot repurchase the transferred assets before their maturity and it does not have the ability to unilaterally cause the holder to return the transferred assets).

For loan securitizations accounted for as a sale, the Firm recognizes a gain or loss based on the difference between the value of proceeds received (including cash, beneficial interests, or servicing assets received) and the carrying value of the assets sold. Gains and losses on securitizations are reported in noninterest revenue.

Securitization activity

The following table provides information related to the Firm's securitization activities for the years ended December 31, 2023, 2022 and 2021, related to assets held in Firm-sponsored securitization entities that were not consolidated by the Firm, and where sale accounting was achieved at the time of the securitization.

	2023		2022		2021	
Year ended December 31, (in millions)	Residential mortgage[d]	Commercial and other[e]	Residential mortgage[d]	Commercial and other[e]	Residential mortgage[d]	Commercial and other[e]
Principal securitized	**$ 7,678**	**$ 3,901**	$ 10,218	$ 9,036	$ 23,876	$ 14,917
All cash flows during the period:[a]						
Proceeds received from loan sales as financial instruments[b][c]	**$ 7,251**	**$ 3,896**	$ 9,783	$ 8,921	$ 24,450	$ 15,044
Servicing fees collected	**24**	**5**	62	2	153	1
Cash flows received on interests	**325**	**425**	489	285	578	273

(a) Excludes re-securitization transactions.
(b) Predominantly includes Level 2 assets.
(c) The carrying value of the loans accounted for at fair value approximated the proceeds received upon loan sale.
(d) Represents prime mortgages. Excludes loan securitization activity related to U.S. GSEs and government agencies.
(e) Includes commercial mortgage and other consumer loans.

Key assumptions used to value retained interests originated during the year are shown in the table below.

Year ended December 31,	2023	2022	2021
Residential mortgage retained interest:			
Weighted-average life (in years)	**9.6**	10.8	3.9
Weighted-average discount rate	**4.8 %**	4.0 %	3.3 %
Commercial mortgage retained interest:			
Weighted-average life (in years)	**3.0**	5.9	6.0
Weighted-average discount rate	**4.6 %**	2.9 %	1.2 %

Loans and excess MSRs sold to U.S. government-sponsored enterprises and loans in securitization transactions pursuant to Ginnie Mae guidelines

In addition to the amounts reported in the securitization activity tables above, the Firm, in the normal course of business, sells originated and purchased mortgage loans and certain originated excess MSRs on a nonrecourse basis, predominantly to U.S. GSEs. These loans and excess MSRs are sold primarily for the purpose of securitization by the U.S. GSEs, who provide certain guarantee provisions (e.g., credit enhancement of the loans). The Firm also sells loans into securitization transactions pursuant to Ginnie Mae guidelines; these loans are typically insured or guaranteed by another U.S. government agency. The Firm does not consolidate the securitization vehicles underlying these transactions as it is not the primary beneficiary. For a limited number of loan sales, the Firm is obligated to share a portion of the credit risk associated with the sold loans with the purchaser. Refer to Note 28 for additional information about the Firm's loan sales- and securitization-related indemnifications and Note 15 for additional information about the impact of the Firm's sale of certain excess MSRs.

The following table summarizes the activities related to loans sold to the U.S. GSEs, and loans in securitization transactions pursuant to Ginnie Mae guidelines.

Year ended December 31, (in millions)	2023	2022	2021
Carrying value of loans sold	$ 19,906	$ 48,891	$ 105,035
Proceeds received from loan sales as cash	$ 300	$ 22	$ 161
Proceeds from loan sales as securities[(a)(b)]	19,389	48,096	103,286
Total proceeds received from loan sales[(c)]	$ 19,689	$ 48,118	$ 103,447
Gains/(losses) on loan sales[(d)(e)]	$ –	$ (25)	$ 9

(a) Includes securities from U.S. GSEs and Ginnie Mae that are generally sold shortly after receipt or retained as part of the Firm's investment securities portfolio.
(b) Included in level 2 assets.
(c) Excludes the value of MSRs retained upon the sale of loans.
(d) Gains/(losses) on loan sales include the value of MSRs.
(e) The carrying value of the loans accounted for at fair value approximated the proceeds received upon loan sale.

Options to repurchase delinquent loans

In addition to the Firm's obligation to repurchase certain loans due to material breaches of representations and warranties as discussed in Note 28, the Firm also has the option to repurchase delinquent loans that it services for Ginnie Mae loan pools, as well as for other U.S. government agencies under certain arrangements. The Firm typically elects to repurchase delinquent loans from Ginnie Mae loan pools as it continues to service them and/or manage the foreclosure process in accordance with the applicable requirements, and such loans continue to be insured or guaranteed. When the Firm's repurchase option becomes exercisable, such loans must be reported on the Consolidated balance sheets as a loan with a corresponding liability. Refer to Note 12 for additional information.

The following table presents loans the Firm repurchased or had an option to repurchase, real estate owned, and foreclosed government-guaranteed residential mortgage loans recognized on the Firm's Consolidated balance sheets as of December 31, 2023 and 2022. Substantially all of the loans and real estate owned are insured or guaranteed by U.S. government agencies.

December 31, (in millions)	2023	2022
Loans repurchased or option to repurchase[(a)]	$ 597	$ 839
Real estate owned	8	10
Foreclosed government-guaranteed residential mortgage loans[(b)]	22	27

(a) Predominantly all of these amounts relate to loans that have been repurchased from Ginnie Mae loan pools.
(b) Relates to voluntary repurchases of loans, which are included in accrued interest and accounts receivable.

Loan delinquencies and liquidation losses

The table below includes information about components of and delinquencies related to nonconsolidated securitized financial assets held in Firm-sponsored private-label securitization entities, in which the Firm has continuing involvement as of December 31, 2023 and 2022.

As of or for the year ended December 31, (in millions)	Securitized assets		90 days past due		Net liquidation losses / (recoveries)	
	2023	2022	2023	2022	2023	2022
Securitized loans						
Residential mortgage:						
Prime/ Alt-A & option ARMs	$ 39,319	$ 37,058	$ 440	$ 511	$ 14	$ (29)
Subprime	1,312	1,743	131	212	5	(1)
Commercial and other	120,262	127,037	2,874	948	60	50
Total loans securitized	$ 160,893	$ 165,838	$ 3,445	$ 1,671	$ 79	$ 20

Note 15 – Goodwill, mortgage servicing rights, and other intangible assets

Goodwill

Goodwill is recorded upon completion of a business combination as the difference between the purchase price and the fair value of the net assets acquired, and can be adjusted up to one year from the acquisition date as additional information pertaining to facts and circumstances that existed as of the acquisition date is obtained about the fair value of assets acquired and liabilities assumed. Subsequent to initial recognition, goodwill is not amortized but is tested for impairment during the fourth quarter of each fiscal year, or more often if events or circumstances, such as adverse changes in the business climate, indicate that there may be an impairment.

The goodwill associated with each business combination is allocated to the related reporting units, which are generally determined based on how the Firm's businesses are managed and how they are reviewed. The following table presents goodwill attributed to the reportable business segments and Corporate.

December 31, (in millions)	2023	2022	2021
Consumer & Community Banking	**$ 32,116**	$ 32,121	$ 31,474
Corporate & Investment Bank	**8,266**	8,008	7,906
Commercial Banking	**2,985**	2,985	2,986
Asset & Wealth Management	**8,582**	7,902	7,222
Corporate	**685**	646	727
Total goodwill	**$ 52,634**	$ 51,662	$ 50,315

The following table presents changes in the carrying amount of goodwill.

Year ended December 31, (in millions)	2023	2022	2021
Balance at beginning of period	**$ 51,662**	$ 50,315	$ 49,248
Changes during the period from:			
Business combinations[(a)]	**917**	1,426	1,073
Other[(b)]	**55**	(79)	(6)
Balance at December 31,	**$ 52,634**	$ 51,662	$ 50,315

(a) For 2023, predominantly represents estimated goodwill associated with the acquisition of the remaining 51% interest in CIFM in AWM and the acquisition of Aumni Inc. in CIB. For 2022, represents estimated goodwill associated with the acquisitions of Global Shares PLC in AWM, Frosch Travel Group, LLC and Figg, Inc. in CCB, and Renovite Technologies, Inc. and Volkswagen Payments S.A. in CIB. For 2021, represents goodwill associated with the acquisitions of Nutmeg in Corporate, OpenInvest and Campbell Global in AWM, and Frank and The Infatuation in CCB.

(b) Predominantly foreign currency adjustments.

Goodwill impairment testing

The Firm's goodwill was not impaired at December 31, 2023, 2022 and 2021.

The goodwill impairment test is generally performed by comparing the current fair value of each reporting unit with its carrying value. If the fair value is in excess of the carrying value, then the reporting unit's goodwill is considered not to be impaired. If the fair value is less than the carrying value, then an impairment is recognized for the amount by which the reporting unit's carrying value exceeds its fair value, up to the amount of goodwill allocated to that reporting unit.

The Firm uses the reporting units' allocated capital plus goodwill and other intangible assets as a proxy for the carrying values of equity for the reporting units in the goodwill impairment testing. Reporting unit equity is determined on a similar basis as the allocation of capital to the LOBs which takes into consideration a variety of factors including capital levels of similarly rated peers and applicable regulatory capital requirements. LOB's allocated capital levels are incorporated into the Firm's annual budget process, which is reviewed by the Firm's Board of Directors and Operating Committee. Allocated capital is further reviewed at least annually and updated as needed.

The primary method the Firm uses to estimate the fair value of its reporting units is the income approach. This approach projects cash flows for the forecast period and uses the perpetuity growth method to calculate terminal values. These cash flows and terminal values, which are based on the reporting units' annual budgets and forecasts are then discounted using an appropriate discount rate. The discount rate used for each reporting unit represents an estimate of the cost of equity for that reporting unit and is determined considering the Firm's overall estimated cost of equity (estimated using the Capital Asset Pricing Model), as adjusted for the risk characteristics specific to each reporting unit (for example, for higher levels of risk or uncertainty associated with the business or management's forecasts and assumptions). To assess the reasonableness of the discount rates used for each reporting unit, management compares the discount rate to the estimated cost of equity for publicly traded institutions with similar businesses and risk characteristics. In addition, the weighted average cost of equity (aggregating the various reporting units) is compared with the Firm's overall estimated cost of equity for reasonableness. The valuations derived from the discounted cash flow analysis are then compared with market-based trading and transaction multiples for relevant competitors. Trading and transaction comparables are used as general indicators to assess the overall reasonableness of the estimated fair values, although precise conclusions generally cannot be drawn due to the differences that naturally exist between the Firm's businesses and competitor institutions.

The Firm also takes into consideration a comparison between the aggregate fair values of the Firm's reporting

units and JPMorgan Chase's market capitalization. In evaluating this comparison, the Firm considers several factors, including (i) a control premium that would exist in a market transaction, (ii) factors related to the level of execution risk that would exist at the Firmwide level that do not exist at the reporting unit level and (iii) short-term market volatility and other factors that do not directly affect the value of individual reporting units.

Unanticipated declines in business performance, increases in credit losses, increases in capital requirements, as well as deterioration in economic or market conditions, adverse regulatory or legislative changes or increases in the estimated market cost of equity, could cause the estimated fair values of the Firm's reporting units to decline in the future, which could result in a material impairment loss to earnings in a future period related to some portion of the associated goodwill.

Mortgage servicing rights

MSRs represent the fair value of expected future cash flows for performing servicing activities for others. The fair value considers estimated future servicing fees and ancillary revenue, offset by estimated costs to service the loans, and generally declines over time as net servicing cash flows are received, effectively amortizing the MSR asset against contractual servicing and ancillary fee income. MSRs are either purchased from third parties or recognized upon sale or securitization of mortgage loans if servicing is retained.

As permitted by U.S. GAAP, the Firm has elected to account for its MSRs at fair value. The Firm treats its MSRs as a single class of servicing assets based on the availability of market inputs used to measure the fair value of its MSR asset and its treatment of MSRs as one aggregate pool for risk management purposes. The Firm estimates the fair value of MSRs using an option-adjusted spread ("OAS") model, which projects MSR cash flows over multiple interest rate scenarios in conjunction with the Firm's prepayment model, and then discounts these cash flows at risk-adjusted rates. The model considers portfolio characteristics, contractually specified servicing fees, prepayment assumptions, delinquency rates, costs to service, late charges and other ancillary revenue, and other economic factors. The Firm compares fair value estimates and assumptions to observable market data where available, and also considers recent market activity and actual portfolio experience.

The fair value of MSRs is sensitive to changes in interest rates, including their effect on prepayment speeds. MSRs typically decrease in value when interest rates decline because declining interest rates tend to increase prepayments and therefore reduce the expected life of the net servicing cash flows that comprise the MSR asset. Conversely, securities (e.g., mortgage-backed securities), and certain derivatives (e.g., those for which the Firm receives fixed-rate interest payments) increase in value when interest rates decline. JPMorgan Chase uses combinations of derivatives and securities to manage the risk of changes in the fair value of MSRs. The intent is to offset any interest-rate related changes in the fair value of MSRs with changes in the fair value of the related risk management instruments.

The following table summarizes MSR activity for the years ended December 31, 2023, 2022 and 2021.

As of or for the year ended December 31, (in millions, except where otherwise noted)	2023	2022	2021
Fair value at beginning of period	**$ 7,973**	$ 5,494	$ 3,276
MSR activity:			
Originations of MSRs	**253**	798	1,659
Purchase of MSRs[(a)]	**1,028**	1,400	1,363
Disposition of MSRs[(b)]	**(188)**	(822)	(114)
Net additions/(dispositions)	**1,093**	1,376	2,908
Changes due to collection/realization of expected cash flows	**(1,011)**	(936)	(788)
Changes in valuation due to inputs and assumptions:			
Changes due to market interest rates and other[(c)]	**424**	2,022	404
Changes in valuation due to other inputs and assumptions:			
Projected cash flows (e.g., cost to service)	**(22)**	14	109
Discount rates	**14**	–	–
Prepayment model changes and other[(d)]	**51**	3	(415)
Total changes in valuation due to other inputs and assumptions	**43**	17	(306)
Total changes in valuation due to inputs and assumptions	**467**	2,039	98
Fair value at December 31,	**$ 8,522**	$ 7,973	$ 5,494
Change in unrealized gains/(losses) included in income related to MSRs held at December 31,	**$ 467**	$ 2,039	$ 98
Contractual service fees, late fees and other ancillary fees included in income	**1,590**	1,535	1,298
Third-party mortgage loans serviced at December 31, (in billions)	**632**	584	520
Servicer advances, net of an allowance for uncollectible amounts, at December 31[(e)]	**659**	758	1,611

(a) Includes purchase price adjustments associated with MSRs purchased, primarily as a result of loans that prepaid within 90 days of settlement, allowing the Firm to recover the purchase price.

(b) Includes excess MSRs transferred to agency-sponsored trusts in exchange for stripped mortgage-backed securities ("SMBS"). In each transaction, a portion of the SMBS was acquired by third parties at the transaction date; the Firm acquired the remaining balance of those SMBS as trading securities.

(c) Represents both the impact of changes in estimated future prepayments due to changes in market interest rates, and the difference between actual and expected prepayments.

(d) Represents changes in prepayments other than those attributable to changes in market interest rates.

(e) Represents amounts the Firm pays as the servicer (e.g., scheduled principal and interest, taxes and insurance), which will generally be reimbursed within a short period of time after the advance from future cash flows from the trust or the underlying loans. The Firm's credit risk associated with these servicer advances is minimal because reimbursement of the advances is typically senior to all cash payments to investors. In addition, the Firm maintains the right to stop payment to investors if the collateral is insufficient to cover the advance. However, certain of these servicer advances may not be recoverable if they were not made in accordance with applicable rules and agreements.

The following table presents the components of mortgage fees and related income (including the impact of MSR risk management activities) for the years ended December 31, 2023, 2022 and 2021.

Year ended December 31, (in millions)	2023	2022	2021
CCB mortgage fees and related income			
Production revenue	**$ 421**	$ 497	$ 2,215
Net mortgage servicing revenue:			
Operating revenue:			
Loan servicing revenue	**1,634**	1,582	1,257
Changes in MSR asset fair value due to collection/realization of expected cash flows	**(1,011)**	(936)	(788)
Total operating revenue	**623**	646	469
Risk management:			
Changes in MSR asset fair value due to market interest rates and other[(a)]	**424**	2,022	404
Other changes in MSR asset fair value due to other inputs and assumptions in model[(b)]	**43**	17	(306)
Change in derivative fair value and other	**(336)**	(1,946)	(623)
Total risk management	**131**	93	(525)
Total net mortgage servicing revenue	**754**	739	(56)
Total CCB mortgage fees and related income	**1,175**	1,236	2,159
All other	**1**	14	11
Mortgage fees and related income	**$ 1,176**	$ 1,250	$ 2,170

(a) Represents both the impact of changes in estimated future prepayments due to changes in market interest rates, and the difference between actual and expected prepayments.

(b) Represents the aggregate impact of changes in model inputs and assumptions such as projected cash flows (e.g., cost to service), discount rates and changes in prepayments other than those attributable to changes in market interest rates (e.g., changes in prepayments due to changes in home prices).

Changes in fair value based on variations in assumptions generally cannot be easily extrapolated, because the relationship of the change in the assumptions to the change in fair value are often highly interrelated and may not be linear. In the following table, the effect that a change in a particular assumption may have on the fair value is calculated without changing any other assumption. In reality, changes in one factor may result in changes in another, which would either magnify or counteract the impact of the initial change.

The table below outlines the key economic assumptions used to determine the fair value of the Firm's MSRs at December 31, 2023 and 2022, and outlines the sensitivities of those fair values to immediate adverse changes in those assumptions, as defined below.

December 31, (in millions, except rates)	2023	2022
Weighted-average prepayment speed assumption (constant prepayment rate)	**6.29 %**	6.12 %
Impact on fair value of 10% adverse change	**$ (206)**	$ (183)
Impact on fair value of 20% adverse change	**(401)**	(356)
Weighted-average option adjusted spread[(a)]	**6.10 %**	5.77 %
Impact on fair value of 100 basis points adverse change	**$ (369)**	$ (341)
Impact on fair value of 200 basis points adverse change	**(709)**	(655)

(a) Includes the impact of operational risk and regulatory capital.

Other intangible assets

The Firm's finite-lived and indefinite-lived other intangible assets are initially recorded at their fair value primarily upon completion of a business combination. Subsequently, the Firm's finite-lived intangible assets, including core deposit intangibles, customer relationship intangibles, and certain other intangible assets, are amortized over their useful lives, estimated based on the expected future economic benefits to the Firm of the intangible asset. The Firm's intangible assets with indefinite lives, such as asset management contracts, are not subject to amortization and are assessed periodically for impairment.

As of December 31, 2023 and 2022, the gross carrying values of other intangible assets were $4.2 billion and $1.9 billion, respectively, and the accumulated amortization was $994 million and $679 million, respectively.

As of December 31, 2023 and 2022, the net carrying values consist of finite-lived intangible assets of $2.0 billion and $707 million, respectively, as well as indefinite-lived intangible assets, which are not subject to amortization, of $1.2 billion and $517 million, respectively.

As of December 31, 2023, other intangible assets reflected core deposit and certain wealth management customer relationship intangibles related to the First Republic acquisition, and asset management contracts related to the Firm's acquisition of the remaining 51% interest in CIFM. Refer to Note 34 for additional information on the First Republic acquisition.

As of December 31, 2023 and 2022, amortization expense was $315 million and $145 million, respectively.

The following table presents estimated future amortization expense.

December 31, (millions)	Finite-lived intangible assets
2024	$ 330
2025	294
2026	290
2027	288
2028	272

Impairment testing

The Firm's finite-lived and indefinite-lived other intangible assets are assessed for impairment annually or more often if events or changes in circumstances indicate that the asset might be impaired. Once the Firm determines that an impairment exists for an intangible asset, the impairment is recognized in other expense.

Note 16 – Premises and equipment

Premises and equipment includes land carried at cost, as well as buildings, leasehold improvements, internal-use software and furniture and equipment carried at cost less accumulated depreciation and amortization. The Firm's operating lease right-of-use assets are also included in Premises and equipment. Refer to Note 18 for a further discussion of the Firm's right-of-use assets.

The following table presents certain components of Premises and equipment.

December 31, (in millions)	2023	2022
Land, buildings and leasehold improvements	**$ 14,862**	$ 13,486
Right-of-use assets[a]	**7,917**	7,432
Other premises and equipment[b]	**7,378**	6,816
Total premises and equipment	**$ 30,157**	$ 27,734

(a) Excluded $514 million and $350 million of right-of-use assets that were recorded in Other assets at December 31, 2023 and 2022, respectively.
(b) Other premises and equipment is comprised of internal-use software and furniture and equipment.

JPMorgan Chase computes depreciation using the straight-line method over the estimated useful life for buildings and furniture and equipment. The Firm depreciates leasehold improvements over the lesser of the remainder of the lease term or the estimated useful life. The Firm also capitalizes certain costs associated with the acquisition or development of internal-use software. Once the software is ready for its intended use, these costs are amortized on a straight-line basis over the software's expected useful life. The estimated useful lives range from 10 to 50 years for buildings and leasehold improvements, and 3 to 10 years for internal-use software and furniture and equipment.

Impairment is assessed when events or changes in circumstances indicate that the carrying value of an asset may not be fully recoverable.

Note 17 – Deposits

As of December 31, 2023 and 2022, noninterest-bearing and interest-bearing deposits were as follows.

December 31, (in millions)	2023	2022
U.S. offices		
Noninterest-bearing (included **$75,393** and $26,363 at fair value)[a]	**$ 643,748**	$ 644,902
Interest-bearing (included **$573** and $586 at fair value)[a]	**1,303,100**	1,276,346
Total deposits in U.S. offices	**1,946,848**	1,921,248
Non-U.S. offices		
Noninterest-bearing (included **$1,737** and $1,398 at fair value)[a]	**23,097**	27,005
Interest-bearing (included **$681** and $273 at fair value)[a]	**430,743**	391,926
Total deposits in non-U.S. offices	**453,840**	418,931
Total deposits	**$ 2,400,688**	$ 2,340,179

(a) Includes structured notes classified as deposits for which the fair value option has been elected. Refer to Note 3 for further discussion.

As of December 31, 2023 and 2022, time deposits in denominations that met or exceeded the insured limit were as follows.

December 31, (in millions)	2023	2022
U.S. offices	**$ 132,654**	$ 64,622
Non-U.S. offices[a]	**90,187**	77,907
Total	**$ 222,841**	$ 142,529

(a) Represents all time deposits in non-U.S. offices as these deposits typically exceed the insured limit.

As of December 31, 2023, the remaining maturities of interest-bearing time deposits were as follows.

December 31, (in millions)	U.S.	Non-U.S.	Total
2024	$194,895	$ 86,971	$ 281,866
2025	742	180	922
2026	243	21	264
2027	140	35	175
2028	136	992	1,128
After 5 years	475	251	726
Total	$196,631	$ 88,450	$ 285,081

Note 18 - Leases

Firm as lessee

At December 31, 2023, JPMorgan Chase and its subsidiaries were obligated under a number of noncancellable leases, predominantly operating leases for premises and equipment used primarily for business purposes. These leases generally have terms of 20 years or less, determined based on the contractual maturity of the lease, and include periods covered by options to extend or terminate the lease when the Firm is reasonably certain that it will exercise those options. All leases with lease terms greater than twelve months are reported as a lease liability with a corresponding right-of-use ("ROU") asset. None of these lease agreements impose restrictions on the Firm's ability to pay dividends, engage in debt or equity financing transactions or enter into further lease agreements. Certain of these leases contain escalation clauses that will increase rental payments based on maintenance, utility and tax increases, which are non-lease components. The Firm elected not to separate lease and non-lease components of a contract for its real estate leases. As such, real estate lease payments represent payments on both lease and non-lease components.

Operating lease liabilities and ROU assets are recognized at the lease commencement date based on the present value of the future minimum lease payments over the lease term. The future lease payments are discounted at a rate that estimates the Firm's collateralized borrowing rate for financing instruments of a similar term and are included in accounts payable and other liabilities. The operating lease ROU assets, predominantly included in premises and equipment, also include any lease prepayments made, plus initial direct costs incurred, less any lease incentives received. Rental expense associated with operating leases is recognized on a straight-line basis over the lease term, and generally included in occupancy expense in the Consolidated statements of income.

The carrying values of the Firm's operating leases were as follows:

December 31, (in millions, except where otherwise noted)	2023		2022
Right-of-use assets	**$ 8,431**	(a)	$ 7,782
Lease liabilities	**8,833**	(b)	8,183
Weighted average remaining lease term (in years)	**8.4**		8.4
Weighted average discount rate	**4.01 %**		3.55 %
Supplemental cash flow information			
Cash paid for amounts included in the measurement of lease liabilities - operating cash flows	**$ 1,662**		$ 1,613
Supplemental non-cash information			
Right-of-use assets obtained in exchange for operating lease obligations	**$ 2,094**		$ 1,435

(a) Included $647 million of right-of-use assets associated with First Republic.

(b) Included $712 million of lease liabilities associated with First Republic.

Year ended December 31, (in millions)	2023	2022
Rental expense		
Gross rental expense	**$ 2,079**	$ 2,079
Sublease rental income	**(72)**	(119)
Net rental expense	**$ 2,007**	$ 1,960

The following table presents future payments under operating leases as of December 31, 2023:

Year ended December 31, (in millions)	
2024	$ 1,685
2025	1,576
2026	1,318
2027	1,169
2028	1,015
After 2028	3,767
Total future minimum lease payments	10,530
Less: Imputed interest	(1,697)
Total	$ 8,833

In addition to the table above, as of December 31, 2023, the Firm had additional future operating lease commitments of $420 million that were signed but had not yet commenced. These operating leases will commence between 2024 and 2026 with lease terms up to 21 years.

Firm as lessor

The Firm provides auto and equipment lease financing to its customers through lease arrangements with lease terms that may contain renewal, termination and/or purchase options. The Firm's lease financings are predominantly auto operating leases. These assets subject to operating leases are recognized in other assets on the Firm's Consolidated balance sheets and are depreciated on a straight-line basis over the lease term to reduce the asset to its estimated residual value. Depreciation expense is included in technology, communications and equipment expense in the Consolidated statements of income. The Firm's lease income is generally recognized on a straight-line basis over the lease term and is included in other income in the Consolidated statements of income.

On a periodic basis, the Firm assesses leased assets for impairment, and if the carrying amount of the leased asset exceeds the undiscounted cash flows from the lease payments and the estimated residual value upon disposition of the leased asset, an impairment is recognized.

The risk of loss on auto and equipment leased assets relating to the residual value of the leased assets is monitored through projections of the asset residual values at lease origination and periodic review of residual values, and is mitigated through arrangements with certain manufacturers or lessees.

The following table presents the carrying value of assets subject to leases reported on the Consolidated balance sheets:

December 31, (in millions)	**2023**	2022
Carrying value of assets subject to operating leases, net of accumulated depreciation	**$ 10,663**	$ 12,302
Accumulated depreciation	**3,288**	4,282

The following table presents the Firm's operating lease income and the related depreciation expense on the Consolidated statements of income:

Year ended December 31, (in millions)	**2023**	2022	2021
Operating lease income	**$ 2,843**	$ 3,654	$ 4,914
Depreciation expense	**1,778**	2,475	3,380

The following table presents future receipts under operating leases as of December 31, 2023:

Year ended December 31, (in millions)	
2024	$ 1,868
2025	1,158
2026	451
2027	32
2028	9
After 2028	8
Total future minimum lease receipts	$ 3,526

Note 19 – Accounts payable and other liabilities

Accounts payable and other liabilities consist of brokerage payables, which include payables to customers and payables related to security purchases that did not settle, as well as other accrued expenses, such as compensation accruals, credit card rewards liability, operating lease liabilities, accrued interest payables, merchant servicing payables, income tax payables and litigation reserves.

The following table presents the components of accounts payable and other liabilities.

December 31, (in millions)	2023	2022
Brokerage payables	**$ 161,960**	$ 188,692
Other payables and liabilities[(a)]	**128,347**	111,449
Total accounts payable and other liabilities	**$ 290,307**	$ 300,141

(a) Includes credit card rewards liability of $13.2 billion and $11.3 billion at December 31, 2023 and 2022, respectively.

The credit card rewards liability represents the estimated cost of rewards points earned and expected to be redeemed by cardholders. The liability is accrued as the cardholder earns the benefit and is reduced when the cardholder redeems points. The redemption rate and cost per point assumptions are key assumptions to estimate the liability and the current period impact is recognized in Card Income.

Refer to Note 7, 18, 25 and 30 for additional information on accrued interest, operating lease liabilities, income taxes and litigation reserves, respectively.

Note 20 – Long-term debt

JPMorgan Chase issues long-term debt denominated in various currencies, predominantly U.S. dollars, with both fixed and variable interest rates. Included in senior and subordinated debt below are various equity-linked or other indexed instruments, which the Firm has elected to measure at fair value. Changes in fair value are recorded in principal transactions revenue in the Consolidated statements of income, except for unrealized gains/(losses) due to DVA which are recorded in OCI. The following table is a summary of long-term debt carrying values (including unamortized premiums and discounts, issuance costs, valuation adjustments and fair value adjustments, where applicable) by remaining contractual maturity as of December 31, 2023.

By remaining maturity at December 31, (in millions, except rates)		2023				2022
		Under 1 year	1-5 years	After 5 years	**Total**	Total
Parent company						
Senior debt:	Fixed rate	**$ 5,981**	**$ 86,113**	**$ 108,890**	**$ 200,984**	$ 194,515
	Variable rate	**131**	**5,989**	**1,985**	**8,105**	11,565
	Interest rates[f]	**2.52 %**	**2.91 %**	**3.72 %**	**3.32 %**	3.06 %
Subordinated debt:	Fixed rate	**$ 2,976**	**$ 5,886**	**$ 8,863**	**$ 17,725**	$ 19,693
	Variable rate	**–**	**–**	**–**	**–**	–
	Interest rates[f]	**3.88 %**	**4.88 %**	**4.69 %**	**4.62 %**	4.50 %
	Subtotal	**$ 9,088**	**$ 97,988**	**$ 119,738**	**$ 226,814**	$ 225,773
Subsidiaries						
Federal Home Loan Banks advances:	Fixed rate	**$ 13,940**	**$ 9,269**	**$ 37**	**$ 23,246** [g]	$ 93
	Variable rate	**4,000**	**14,000**	**–**	**18,000**	11,000
	Interest rates[f]	**4.59 %**	**5.12 %**	**6.06 %**	**4.89 %**	4.32 %
Purchase Money Note[a]:	Fixed rate	**$ –**	**$ 48,989**	**$ –**	**$ 48,989**	NA
	Interest rates[f]	**– %**	**3.40 %**	**– %**	**3.40 %**	NA
Senior debt:	Fixed rate	**$ 2,958**	**$ 11,551**	**$ 6,236**	**$ 20,745**	$ 15,383
	Variable rate	**20,933**	**25,336**	**5,779**	**52,048**	41,506
	Interest rates[f]	**4.28 %**	**5.41%**	**1.48 %**	**3.91 %**	2.02 %
Subordinated debt:	Fixed rate	**$ 255**	**$ –**	**$ –**	**$ 255**	$ 262
	Variable rate	**–**	**–**	**–**	**–**	–
	Interest rates[f]	**8.25 %**	**– %**	**– %**	**8.25 %**	8.25 %
	Subtotal	**$ 42,086**	**$ 109,145**	**$ 12,052**	**$ 163,283**	$ 68,244
Junior subordinated debt:	Fixed rate	**$ –**	**$ –**	**$ 518**	**$ 518**	$ 550
	Variable rate	**–**	**420**	**790**	**1,210**	1,298
	Interest rates[f]	**– %**	**6.18 %**	**7.45 %**	**7.14 %**	6.33 %
	Subtotal	**$ –**	**$ 420**	**$ 1,308**	**$ 1,728**	$ 1,848
Total long-term debt[b][c][d]		**$ 51,174**	**$ 207,553**	**$ 133,098**	**$ 391,825** [h][i]	$ 295,865
Long-term beneficial interests:	Fixed rate	**$ –**	**$ 2,998**	**$ –**	**$ 2,998**	$ 1,999
	Variable rate	**–**	**–**	**125**	**125**	143
	Interest rates[f]	**– %**	**4.74 %**	**3.45 %**	**4.69 %**	2.81 %
Total long-term beneficial interests[e]		**$ –**	**$ 2,998**	**$ 125**	**$ 3,123**	$ 2,142

(a) Reflects the Purchase Money Note associated with the First Republic acquisition. Refer to Note 34 for additional information.
(b) Included long-term debt of $93.0 billion and $13.8 billion secured by assets totaling $218.5 billion and $208.3 billion at December 31, 2023 and 2022, respectively. The amount of long-term debt secured by assets does not include amounts related to hybrid instruments.
(c) Included $87.9 billion and $72.3 billion of long-term debt accounted for at fair value at December 31, 2023 and 2022, respectively.
(d) Included $12.5 billion and $10.3 billion of outstanding zero-coupon notes at December 31, 2023 and 2022, respectively. The aggregate principal amount of these notes at their respective maturities is $47.9 billion and $45.3 billion, respectively. The aggregate principal amount reflects the contractual principal payment at maturity, which may exceed the contractual principal payment at the Firm's next call date, if applicable.
(e) Included on the Consolidated balance sheets in beneficial interests issued by consolidated VIEs. Also included amounts accounted for at fair value which were not material as of December 31, 2023 and 2022. Excluded short-term commercial paper and other short-term beneficial interests of $19.9 billion and $10.5 billion at December 31, 2023 and 2022, respectively.
(f) The interest rates shown are the weighted average of contractual rates in effect at December 31, 2023 and 2022, respectively, including non-U.S. dollar fixed- and variable-rate issuances, which excludes the effects of the associated derivative instruments used in hedge accounting relationships, if applicable. The interest rates shown exclude structured notes accounted for at fair value.
(g) As of December 31, 2023, included $23.2 billion of FHLB advances associated with First Republic. Refer to Note 34 for additional information.
(h) As of December 31, 2023, long-term debt in the aggregate of $208.2 billion was redeemable at the option of JPMorgan Chase, in whole or in part, prior to maturity, based on the terms specified in the respective instruments.
(i) The aggregate carrying values of debt that matures in each of the five years subsequent to 2023 is $51.2 billion in 2024, $53.5 billion in 2025, $48.7 billion in 2026, $26.2 billion in 2027 and $79.0 billion in 2028.

The weighted-average contractual interest rates for total long-term debt excluding structured notes accounted for at fair value were 3.65% and 3.26% as of December 31, 2023 and 2022, respectively. In order to modify exposure to interest rate and currency exchange rate movements, JPMorgan Chase utilizes derivative instruments, primarily interest rate and cross-currency interest rate swaps, in conjunction with some of its debt issuances. The use of these instruments modifies the Firm's interest expense on the associated debt. The modified weighted-average interest rates for total long-term debt, including the effects of related derivative instruments, were 5.20% and 4.89% as of December 31, 2023 and 2022, respectively.

JPMorgan Chase & Co. has guaranteed certain long-term debt of its subsidiaries, including structured notes. These guarantees rank pari passu with the Firm's other unsecured and unsubordinated indebtedness. The amount of such guaranteed long-term debt and structured notes was $41.1 billion and $28.2 billion at December 31, 2023 and 2022, respectively.

The Firm's unsecured debt does not contain requirements that would call for an acceleration of payments, maturities or changes in the structure of the existing debt, provide any limitations on future borrowings or require additional collateral, based on unfavorable changes in the Firm's credit ratings, financial ratios, earnings or stock price.

Note 21 – Preferred stock

At December 31, 2023 and 2022, JPMorgan Chase was authorized to issue 200 million shares of preferred stock, in one or more series, with a par value of $1 per share. In the event of a liquidation or dissolution of the Firm, JPMorgan Chase's preferred stock then outstanding takes precedence over the Firm's common stock with respect to the payment of dividends and the distribution of assets.

The following is a summary of JPMorgan Chase's non-cumulative preferred stock outstanding as of December 31, 2023 and 2022, and the quarterly dividend declarations for the years ended December 31, 2023, 2022 and 2021.

	Shares[a]		Carrying value (in millions)						Dividend declared per share[d]			
	December 31,		December 31,						Year ended December 31,			
	2023	2022	2023	2022	Issue date	Contractual rate in effect at December 31, 2023	Earliest redemption date[b]	Floating annualized rate[c]	2023	2022	2021	
Fixed-rate:												
Series AA	–	–	$ –	$ –	6/4/2015	– %	9/1/2020	NA	$ –	$ –	$ 305.00	
Series BB	–	–	–	–	7/29/2015	–	9/1/2020	NA	–	–	307.50	
Series DD	169,625	169,625	1,696	1,696	9/21/2018	5.750	12/1/2023	NA	575.00	575.00	575.00	
Series EE	185,000	185,000	1,850	1,850	1/24/2019	6.000	3/1/2024	NA	600.00	600.00	600.00	
Series GG	90,000	90,000	900	900	11/7/2019	4.750	12/1/2024	NA	475.00	475.00	475.00	
Series JJ	150,000	150,000	1,500	1,500	3/17/2021	4.550	6/1/2026	NA	455.00	455.00	321.03	[e]
Series LL	185,000	185,000	1,850	1,850	5/20/2021	4.625	6/1/2026	NA	462.52	462.52	245.39	[e]
Series MM	200,000	200,000	2,000	2,000	7/29/2021	4.200	9/1/2026	NA	420.00	420.00	142.33	[e]
Fixed-to-floating rate:												
Series I	–	–	$ –	$ –	4/23/2008	– %	4/30/2018	– %	$ –	$ 375.03	$ 370.38	
Series Q	150,000	150,000	1,500	1,500	4/23/2013	SOFR + 3.25	5/1/2023	SOFR + 3.25	801.41	515.00	515.00	[f]
Series R	150,000	150,000	1,500	1,500	7/29/2013	SOFR + 3.30	8/1/2023	SOFR + 3.30	756.73	600.00	600.00	[g]
Series S	200,000	200,000	2,000	2,000	1/22/2014	6.750	2/1/2024	SOFR + 3.78	675.00	675.00	675.00	
Series U	100,000	100,000	1,000	1,000	3/10/2014	6.125	4/30/2024	SOFR + 3.33	612.50	612.50	612.50	
Series V	–	–	–	–	6/9/2014	–	7/1/2019	–	–	340.91	353.65	
Series X	160,000	160,000	1,600	1,600	9/23/2014	6.100	10/1/2024	SOFR + 3.33	610.00	610.00	610.00	
Series Z	–	–	–	–	4/21/2015	–	5/1/2020	–	–	–	401.44	
Series CC	125,750	125,750	1,258	1,258	10/20/2017	SOFR + 2.58	11/1/2022	SOFR + 2.58	804.08	526.27	462.50	[h]
Series FF	225,000	225,000	2,250	2,250	7/31/2019	5.000	8/1/2024	SOFR + 3.38	500.00	500.00	500.00	
Series HH	300,000	300,000	3,000	3,000	1/23/2020	4.600	2/1/2025	SOFR + 3.125	460.00	460.00	460.00	
Series II	150,000	150,000	1,500	1,500	2/24/2020	4.000	4/1/2025	SOFR + 2.745	400.00	400.00	400.00	
Series KK	200,000	200,000	2,000	2,000	5/12/2021	3.650	6/1/2026	CMT + 2.85	365.00	365.00	201.76	[e]
Total preferred stock	2,740,375	2,740,375	$ 27,404	$ 27,404								

(a) Represented by depositary shares.
(b) Each series of fixed-to-floating rate preferred stock converts to a floating rate at the earliest redemption date.
(c) Effective June 30, 2023, CME Term SOFR became the replacement reference rate for fixed-to-floating rate preferred stock issued by the Firm that formerly referenced U.S. dollar LIBOR. References in the table to "SOFR" mean a floating annualized rate equal to three-month term SOFR (plus a spread adjustment of 0.26% per annum) plus the spreads noted. The reference to "CMT" means a floating annualized rate equal to the five-year Constant Maturity Treasury ("CMT") rate plus the spread noted.
(d) Dividends on preferred stock are discretionary and non-cumulative. When declared, dividends are declared quarterly. Dividends are payable quarterly on fixed-rate preferred stock. Dividends are payable semiannually on fixed-to-floating rate preferred stock while at a fixed rate, and payable quarterly after converting to a floating rate.
(e) The initial dividend declared is prorated based on the number of days outstanding for the period. Dividends were declared quarterly thereafter at the contractual rate.
(f) The dividend rate for Series Q preferred stock became floating and payable quarterly starting on May 1, 2023; prior to which the dividend rate was fixed at 5.15% or $257.50 per share payable semiannually. The dividend rate for each quarterly dividend period commencing on August 1, 2023 is three-month term SOFR (plus a spread adjustment of 0.26% per annum) plus the spread of 3.25%.
(g) The dividend rate for Series R preferred stock became floating and payable quarterly starting on August 1, 2023; prior to which the dividend rate was fixed at 6.00% or $300.00 per share payable semiannually. The dividend rate for each quarterly dividend period commencing on August 1, 2023 is three-month term SOFR (plus a spread adjustment of 0.26% per annum) plus the spread of 3.30%.
(h) The dividend rate for Series CC preferred stock became floating and payable quarterly starting on November 1, 2022; prior to which the dividend rate was fixed at 4.625% or $231.25 per share payable semiannually. The dividend rate for each quarterly dividend period commencing on August 1, 2023 is three-month term SOFR (plus a spread adjustment of 0.26% per annum) plus the spread of 2.58%.

Each series of preferred stock has a liquidation value and redemption price per share of $10,000, plus accrued but unpaid dividends. The aggregate liquidation value was $27.7 billion at December 31, 2023.

Redemptions

On October 31, 2022, the Firm redeemed all $2.9 billion of its fixed-to-floating rate non-cumulative perpetual preferred stock, Series I.

On October 3, 2022, the Firm redeemed all $2.5 billion of its fixed-to-floating rate non-cumulative preferred stock, Series V.

On February 1, 2022, the Firm redeemed all $2.0 billion of its fixed-to-floating rate non-cumulative preferred stock, Series Z.

Redemption rights

Each series of the Firm's preferred stock may be redeemed on any dividend payment date on or after the earliest redemption date for that series. All outstanding preferred stock series may also be redeemed following a "capital treatment event," as described in the terms of each series. Any redemption of the Firm's preferred stock is subject to non-objection from the Board of Governors of the Federal Reserve System (the "Federal Reserve").

Note 22 – Common stock

At December 31, 2023 and 2022, JPMorgan Chase was authorized to issue 9.0 billion shares of common stock with a par value of $1 per share.

Common shares issued which were reissued from treasury by the Firm during the years ended December 31, 2023, 2022 and 2021 were as follows.

Year ended December 31, (in millions)	2023	2022	2021
Total issued – balance at January 1	**4,104.9**	4,104.9	4,104.9
Treasury – balance at January 1	**(1,170.7)**	(1,160.8)	(1,055.5)
Repurchase	**(69.5)**	(23.1)	(119.7)
Reissuance:			
Employee benefits and compensation plans	**10.9**	12.0	13.5
Employee stock purchase plans	**1.0**	1.2	0.9
Total reissuance	**11.9**	13.2	14.4
Total treasury – balance at December 31	**(1,228.3)**	(1,170.7)	(1,160.8)
Outstanding at December 31	**2,876.6**	2,934.2	2,944.1

Effective May 1, 2022, the Firm is authorized to purchase up to $30 billion under its common share repurchase program previously approved by the Board of Directors, which was announced on April 13, 2022.

The following table sets forth the Firm's repurchases of common stock for the years ended December 31, 2023, 2022 and 2021.

Year ended December 31, (in millions)	2023	2022[b]	2021[c]
Total number of shares of common stock repurchased	**69.5**	23.1	119.7
Aggregate purchase price of common stock repurchases[a]	**$9,898**	$ 3,122	$ 18,448

(a) Excludes excise tax and commissions. As part of the Inflation Reduction Act of 2022, a 1% excise tax was imposed on net share repurchases effective January 1, 2023.

(b) In the second half of 2022, the Firm temporarily suspended share repurchases, which it resumed under its current common share repurchase program in the first quarter of 2023.

(c) As directed by the Federal Reserve, total net repurchases and common stock dividends in the first and second quarter of 2021 were restricted and could not exceed the average of the Firm's net income for the four preceding calendar quarters. Effective July 1, 2021, the Firm became subject to the normal capital distribution restrictions provided under the regulatory capital framework.

The Board of Directors' authorization to repurchase common shares is utilized at management's discretion, and the timing of purchases and the exact amount of common shares that may be repurchased is subject to various factors, including market conditions; legal and regulatory considerations affecting the amount and timing of repurchase activity; the Firm's capital position (taking into account goodwill and intangibles); internal capital generation; current and proposed future capital requirements; and alternative investment opportunities. The $30 billion common share repurchase program approved by the Board does not establish specific price targets or timetables. The repurchase program may be suspended by management at any time; and may be executed through open market purchases or privately negotiated transactions, or utilizing Rule 10b5-1 plans, which are written trading plans that the Firm may enter into from time to time under Rule 10b5-1 of the Securities Exchange Act of 1934 and which allow the Firm to repurchase its common shares during periods when it may otherwise not be repurchasing common shares – for example, during internal trading blackout periods.

As of December 31, 2023, approximately 61.6 million shares of common stock were reserved for issuance under various employee incentive, compensation, option and stock purchase plans, and directors' compensation plans.

Note 23 – Earnings per share

Basic earnings per share ("EPS") is calculated using the two-class method. Under the two-class method, all earnings (distributed and undistributed) are allocated to common stock and participating securities. JPMorgan Chase grants RSUs under its share-based compensation programs, predominantly all of which entitle recipients to receive nonforfeitable dividends during the vesting period on a basis equivalent to dividends paid to holders of the Firm's common stock. These unvested RSUs meet the definition of participating securities based on their respective rights to receive nonforfeitable dividends, and they are treated as a separate class of securities in computing basic EPS. Participating securities are not included as incremental shares in computing diluted EPS; refer to Note 9 for additional information.

Diluted EPS incorporates the potential impact of contingently issuable shares, including awards which require future service as a condition of delivery of the underlying common stock. Diluted EPS is calculated under both the two-class and treasury stock methods, and the more dilutive amount is reported. For each of the periods presented in the table below, diluted EPS calculated under the two-class method was more dilutive.

The following table presents the calculation of net income applicable to common stockholders and basic and diluted EPS for the years ended December 31, 2023, 2022 and 2021.

Year ended December 31, (in millions, except per share amounts)	**2023**	2022	2021
Basic earnings per share			
Net income	**$ 49,552**	$ 37,676	$ 48,334
Less: Preferred stock dividends	**1,501**	1,595	1,600
Net income applicable to common equity	**48,051**	36,081	46,734
Less: Dividends and undistributed earnings allocated to participating securities	**291**	189	231
Net income applicable to common stockholders	**$ 47,760**	$ 35,892	$ 46,503
Total weighted-average basic shares outstanding	**2,938.6**	2,965.8	3,021.5
Net income per share	**$ 16.25**	$ 12.10	$ 15.39
Diluted earnings per share			
Net income applicable to common stockholders	**$ 47,760**	$ 35,892	$ 46,503
Total weighted-average basic shares outstanding	**2,938.6**	2,965.8	3,021.5
Add: Dilutive impact of unvested PSUs, nondividend-earning RSUs and SARs	**4.5**	4.2	5.1
Total weighted-average diluted shares outstanding	**2,943.1**	2,970.0	3,026.6
Net income per share	**$ 16.23**	$ 12.09	$ 15.36

Note 24 – Accumulated other comprehensive income/(loss)

AOCI includes the after-tax change in unrealized gains and losses on investment securities, foreign currency translation adjustments (including the impact of related derivatives), fair value changes of excluded components on fair value hedges, cash flow hedging activities, net gain/(loss) related to the Firm's defined benefit pension and OPEB plans, and fair value option-elected liabilities arising from changes in the Firm's own credit risk (DVA).

Year ended December 31, (in millions)	Unrealized gains/(losses) on investment securities	Translation adjustments, net of hedges	Fair value hedges	Cash flow hedges	Defined benefit pension and OPEB plans	DVA on fair value option elected liabilities	Accumulated other comprehensive income/(loss)
Balance at December 31, 2020	$ 8,180	$ (473)	$ (112)	$ 2,383	$ (1,132)	$ (860)	$ 7,986
Net change	(5,540)	(461)	(19)	(2,679)	922	(293)	(8,070)
Balance at December 31, 2021	$ 2,640 [a]	$ (934)	$ (131)	$ (296)	$ (210)	$ (1,153)	$ (84)
Net change	(11,764)	(611)	98	(5,360)	(1,241)	1,621	(17,257)
Balance at December 31, 2022	$ (9,124) [a]	$ (1,545)	$ (33)	$ (5,656)	$ (1,451)	$ 468	$ (17,341)
Net change	5,381	329	(101)	1,724	373	(808)	6,898
Balance at December 31, 2023	**$ (3,743) [a]**	**$ (1,216)**	**$ (134)**	**$ (3,932)**	**$ (1,078)**	**$ (340)**	**$ (10,443)**

(a) As of December 31, 2023 includes after-tax net unamortized unrealized gains/(losses) of $(29) million related to HTM securities that have been transferred to AFS as permitted by the new hedge accounting guidance adopted on January 1, 2023. Includes after-tax net unamortized unrealized gains/(losses) of $(895) million, $(1.3) billion, and $2.4 billion related to AFS securities that have been transferred to HTM for the years ended 2023, 2022 and 2021, respectively. Refer to Note 10 for further information.

The following table presents the pre-tax and after-tax changes in the components of OCI.

	2023			2022			2021		
Year ended December 31, (in millions)	Pre-tax	Tax effect	After-tax	Pre-tax	Tax effect	After-tax	Pre-tax	Tax effect	After-tax
Unrealized gains/(losses) on investment securities:									
Net unrealized gains/(losses) arising during the period	**$ 3,891**	**$ (922)**	**$ 2,969**	$(17,862)	$ 4,290	$(13,572)	$ (7,634)	$ 1,832	$ (5,802)
Reclassification adjustment for realized (gains)/losses included in net income[a]	**3,180**	**(768)**	**2,412**	2,380	(572)	1,808	345	(83)	262
Net change	**7,071**	**(1,690)**	**5,381**	(15,482)	3,718	(11,764)	(7,289)	1,749	(5,540)
Translation adjustments[b]:									
Translation	**1,714**	**(95)**	**1,619**	(3,574)	265	(3,309)	(2,447)	125	(2,322)
Hedges	**(1,697)**	**407**	**(1,290)**	3,553	(855)	2,698	2,452	(591)	1,861
Net change	**17**	**312**	**329**	(21)	(590)	(611)	5	(466)	(461)
Fair value hedges, net change[c]:	**(134)**	**33**	**(101)**	130	(32)	98	(26)	7	(19)
Cash flow hedges:									
Net unrealized gains/(losses) arising during the period	**483**	**(114)**	**369**	(7,473)	1,794	(5,679)	(2,303)	553	(1,750)
Reclassification adjustment for realized (gains)/losses included in net income[d]	**1,775**	**(420)**	**1,355**	420	(101)	319	(1,222)	293	(929)
Net change	**2,258**	**(534)**	**1,724**	(7,053)	1,693	(5,360)	(3,525)	846	(2,679)
Defined benefit pension and OPEB plans, net change[e]:	**421**	**(48)**	**373**	(1,459)	218	(1,241)	1,129	(207)	922
DVA on fair value option elected liabilities, net change:	**(1,066)**	**258**	**(808)**	2,141	(520)	1,621	(393)	100	(293)
Total other comprehensive income/(loss)	**$ 8,567**	**$ (1,669)**	**$ 6,898**	$(21,744)	$ 4,487	$(17,257)	$(10,099)	$ 2,029	$ (8,070)

(a) The pre-tax amount is reported in Investment securities gains/(losses) in the Consolidated statements of income.

(b) Reclassifications of pre-tax realized gains/(losses) on translation adjustments and related hedges are reported in other income/expense in the Consolidated statements of income. During the year ended December 31, 2023, the Firm reclassified a net pre-tax loss of $(3) million to other revenue, $(35) million related to the net investment hedge loss, and a $32 million gain related to cumulative translation adjustment, including the impact of the acquisition of CIFM. During the year ended December 31, 2022, the Firm reclassified a net pre-tax loss of $(8) million. During the year ended December 31, 2021, the Firm reclassified a net pre-tax loss of $(7) million.

(c) Represents changes in fair value of cross-currency swaps attributable to changes in cross-currency basis spreads, which are excluded from the assessment of hedge effectiveness and recorded in other comprehensive income. The initial cost of cross-currency basis spreads is recognized in earnings as part of the accrual of interest on the cross-currency swaps.

(d) The pre-tax amounts are primarily recorded in noninterest revenue, net interest income and compensation expense in the Consolidated statements of income.

(e) During the year ended December 31, 2022, a remeasurement of the Firm's U.S. principal defined benefit plan in the third quarter, was required as a result of a pension settlement. The remeasurement resulted in a net decrease of $1.4 billion in pre-tax AOCI. Refer to Note 8 for further information.

Note 25 – Income taxes

JPMorgan Chase and its eligible subsidiaries file a consolidated U.S. federal income tax return. JPMorgan Chase uses the asset and liability method to provide for income taxes on all transactions recorded in the Consolidated Financial Statements. This method requires that income taxes reflect the expected future tax consequences of temporary differences between the carrying amounts of assets or liabilities for book and tax purposes. Accordingly, a deferred tax asset or liability for each temporary difference is determined based on the tax rates that the Firm expects to be in effect when the underlying items of income and expense are realized. JPMorgan Chase's expense for income taxes includes the current and deferred portions of that expense. A valuation allowance is established to reduce deferred tax assets to the amount the Firm expects to realize.

Due to the inherent complexities arising from the nature of the Firm's businesses, and from conducting business and being taxed in a substantial number of jurisdictions, significant judgments and estimates are required to be made. Agreement of tax liabilities between JPMorgan Chase and the many tax jurisdictions in which the Firm files tax returns may not be finalized for several years. Thus, the Firm's final tax-related assets and liabilities may ultimately be different from those currently reported.

Effective tax rate and expense

The following table presents a reconciliation of the applicable statutory U.S. federal income tax rate to the effective tax rate.

Effective tax rate

Year ended December 31,	2023	2022	2021
Statutory U.S. federal tax rate	**21.0 %**	21.0 %	21.0 %
Increase/(decrease) in tax rate resulting from:			
U.S. state and local income taxes, net of U.S. federal income tax benefit	**2.8**	3.5	3.0
Tax-exempt income	**(0.9)**	(0.9)	(0.9)
Non-U.S. earnings	**1.5**	0.4	0.1
Business tax credits	**(4.4)**	(5.4)	(4.2)
Other, net	**(0.4)**	(0.2)	(0.1)
Effective tax rate	**19.6 %** [(a)]	18.4 %	18.9 %

(a) Income tax expense associated with the First Republic acquisition was reflected in the estimated bargain purchase gain, which resulted in a reduction in the Firm's effective tax rate.

The following table reflects the components of income tax expense/(benefit) included in the Consolidated statements of income.

Income tax expense/(benefit)

Year ended December 31, (in millions)	2023	2022	2021
Current income tax expense/ (benefit)			
U.S. federal	**$ 8,973**	$ 5,606	$ 2,865
Non-U.S.	**4,355**	2,992	2,718
U.S. state and local	**3,266**	2,630	1,897
Total current income tax expense/ (benefit)	**16,594**	11,228	7,480
Deferred income tax expense/ (benefit)			
U.S. federal	**(3,475)**	(2,004)	3,460
Non-U.S.	**35**	(154)	(101)
U.S. state and local	**(1,094)**	(580)	389
Total deferred income tax expense/(benefit)	**(4,534)**	(2,738)	3,748
Total income tax expense	**$ 12,060**	$ 8,490	$11,228

Total income tax expense includes $68 million of tax benefits in 2023, $331 million of tax benefits in 2022, and $69 million of tax expenses in 2021, resulting from the resolution of tax audits.

Tax effect of items recorded in stockholders' equity

The preceding table does not reflect the tax effect of certain items that are recorded each period directly in stockholders' equity, which are predominantly reflected in OCI as disclosed in Note 24. For the year ended December 31, 2023, stockholders' equity also reflected the tax effect associated with the Firm's adoption of the TDR accounting guidance recognized in retained earnings. Refer to Note 1 for further information.

Results from U.S. and non-U.S. earnings

The following table presents the U.S. and non-U.S. components of income before income tax expense.

Year ended December 31, (in millions)	2023	2022	2021
U.S.	**$ 46,868**	$ 34,626	$ 50,126
Non-U.S.[(a)]	**14,744**	11,540	9,436
Income before income tax expense	**$ 61,612**	$ 46,166	$ 59,562

(a) For purposes of this table, non-U.S. income is defined as income generated from operations located outside the U.S.

The Firm will recognize any U.S. income tax expense it may incur on global intangible low tax income as income tax expense in the period in which the tax is incurred.

Affordable housing tax credits

The Firm recognized $2.0 billion of tax credits and other tax benefits associated with investments in affordable housing projects within income tax expense for the year ended 2023, and $1.8 billion and $1.7 billion for the years ended 2022 and 2021, respectively. The amount of amortization of such investments reported in income tax expense was $1.6 billion, $1.4 billion and $1.3 billion, respectively. The carrying value of these investments, which are reported in other assets on the Firm's Consolidated balance sheets, was $14.6 billion and $12.1 billion at December 31, 2023 and 2022, respectively. The amount of commitments related to these investments, which are reported in accounts payable and other liabilities on the Firm's Consolidated balance sheets, was $6.8 billion and $5.4 billion at December 31, 2023 and 2022, respectively.

Deferred taxes

Deferred income tax expense/(benefit) reflects the differences between assets and liabilities measured for financial reporting purposes versus income tax return purposes. Deferred tax assets are recognized if, in management's judgment, their realizability is determined to be more likely than not. If a deferred tax asset is determined to be unrealizable, a valuation allowance is established. The significant components of deferred tax assets and liabilities are reflected in the following table, the net deferred tax assets are reflected in other assets on the Firm's Consolidated balance sheets.

December 31, (in millions)	2023	2022
Deferred tax assets		
Allowance for loan losses	**$ 5,809**	$ 5,193
Employee benefits	**1,247**	1,342
Accrued expenses and other	**9,887** [(a)]	8,577
Non-U.S. operations	**860**	1,148
Tax attribute carryforwards	**290**	365
Gross deferred tax assets	**18,093**	16,625
Valuation allowance	**(183)**	(198)
Deferred tax assets, net of valuation allowance	**$ 17,910**	$ 16,427
Deferred tax liabilities		
Depreciation and amortization	**$ 779**	$ 2,044
Mortgage servicing rights, net of hedges	**1,794**	1,864
Leasing transactions	**2,254**	2,843
Other, net	**2,935**	3,801
Gross deferred tax liabilities	**7,762**	10,552
Net deferred tax assets	**$ 10,148**	$ 5,875

(a) Includes the estimated net deferred tax asset associated with the First Republic acquisition. The allocation of the tax basis to individual assets may be refined during the measurement period, which could result in an impact to the gross deferred tax assets and liabilities.

JPMorgan Chase has recorded deferred tax assets of $290 million at December 31, 2023 in connection with tax attribute carryforwards. State and local capital loss carryforwards were $1.2 billion, U.S. federal NOL carryforwards were $586 million, non-U.S. NOL carryforwards were $570 million, and other U.S. federal tax attributes were $118 million. If not utilized, a portion of the U.S. federal NOL carryforwards and other U.S. federal tax attributes will expire between 2026 and 2037 whereas others have an unlimited carryforward period. Similarly, certain non-U.S. NOL carryforwards will expire between 2026 and 2040 whereas others have an unlimited carryforward period. The state and local capital loss carryforwards will expire in 2026 and 2027.

The valuation allowance at December 31, 2023, was due to the state and local capital loss carryforwards and certain non-U.S. deferred tax assets, including NOL carryforwards.

Unrecognized tax benefits

At December 31, 2023, 2022 and 2021, JPMorgan Chase's unrecognized tax benefits, excluding related interest expense and penalties, were $5.4 billion, $5.0 billion and $4.6 billion, respectively, of which $3.9 billion, $3.8 billion and $3.4 billion, respectively, if recognized, would reduce the annual effective tax rate. Included in the amount of unrecognized tax benefits are certain items that would not affect the effective tax rate if they were recognized in the Consolidated statements of income. These unrecognized items include the tax effect of certain temporary differences, the portion of gross state and local unrecognized tax benefits that would be offset by the benefit from associated U.S. federal income tax deductions, and the portion of gross non-U.S. unrecognized tax benefits that would have offsets in other jurisdictions. JPMorgan Chase evaluates the need for changes in unrecognized tax benefits based on its anticipated tax return filing positions as part of its U.S. federal and state and local tax returns. In addition, the Firm is presently under audit by a number of taxing authorities, most notably by the Internal Revenue Service, as summarized in the Tax examination status table below. The evaluation of unrecognized tax benefits as well as the potential for audit settlements make it reasonably possible that over the next 12 months the gross balance of unrecognized tax benefits may increase or decrease by as much as approximately $1.1 billion. The change in the unrecognized tax benefit would result in a payment or income statement recognition.

The following table presents a reconciliation of the beginning and ending amount of unrecognized tax benefits.

Year ended December 31, (in millions)	**2023**	2022	2021
Balance at January 1,	**$ 5,043**	$ 4,636	$ 4,250
Increases based on tax positions related to the current period	**1,440**	1,234	798
Increases based on tax positions related to prior periods	**37**	123	393
Decreases based on tax positions related to prior periods	**(1,110)**	(824)	(657)
Decreases related to cash settlements with taxing authorities	**(9)**	(126)	(148)
Balance at December 31,	**$ 5,401**	$ 5,043	$ 4,636

After-tax interest expense/(benefit) and penalties related to income tax liabilities recognized in income tax expense were $229 million, $141 million and $174 million in 2023, 2022 and 2021, respectively.

At December 31, 2023 and 2022, in addition to the liability for unrecognized tax benefits, the Firm had accrued $1.6 billion and $1.3 billion, respectively, for income tax-related interest and penalties.

Tax examination status

JPMorgan Chase is continually under examination by the Internal Revenue Service, by taxing authorities throughout the world, and by many state and local jurisdictions throughout the U.S. The following table summarizes the status of tax years that remain subject to income tax examination of JPMorgan Chase and its consolidated subsidiaries by significant jurisdictions as of December 31, 2023.

	Periods under examination	Status
JPMorgan Chase - U.S.	2011 - 2013	Field examination of amended returns; certain matters at Appellate level
JPMorgan Chase - U.S.	2014 - 2020	Field examination of original and amended returns; certain matters at Appellate level
JPMorgan Chase - New York State	2012 - 2014	Field Examination
JPMorgan Chase - New York City	2015 - 2017	Field Examination
JPMorgan Chase - U.K.	2011 - 2020	Field examination of certain select entities

Note 26 – Restricted cash, other restricted assets and intercompany funds transfers

Restricted cash and other restricted assets

Certain of the Firm's cash and other assets are restricted as to withdrawal or usage. These restrictions are imposed by various regulatory authorities based on the particular activities of the Firm's subsidiaries.

The business of JPMorgan Chase Bank, N.A. is subject to examination and regulation by the OCC. The Bank is a member of the U.S. Federal Reserve System, and its deposits in the U.S. are insured by the FDIC, subject to applicable limits.

The Firm is required to maintain cash reserves at certain non-US central banks.

The Firm is also subject to rules and regulations established by other U.S. and non U.S. regulators. As part of its compliance with the respective regulatory requirements, the Firm's broker-dealer activities are subject to certain restrictions on cash and other assets.

The following table presents the components of the Firm's restricted cash:

December 31, (in billions)	**2023**	2022
Segregated for the benefit of securities and cleared derivative customers	**10.3**	18.7
Cash reserves at non-U.S. central banks and held for other general purposes	**9.3**	8.1
Total restricted cash[a]	**$ 19.6**	$ 26.8

(a) Comprises $18.2 billion and $25.4 billion in deposits with banks, and $1.4 billion and $1.4 billion in cash and due from banks on the Consolidated balance sheets as of December 31, 2023 and 2022, respectively.

Also, as of December 31, 2023 and 2022, the Firm had the following other restricted assets:

- Cash and securities pledged with clearing organizations for the benefit of customers of $40.5 billion and $42.4 billion, respectively.
- Securities with a fair value of $20.5 billion and $31.7 billion, respectively, were also restricted in relation to customer activity.

Intercompany funds transfers

Restrictions imposed by U.S. federal law prohibit JPMorgan Chase Bank, N.A., and its subsidiaries, from lending to JPMorgan Chase & Co. ("Parent Company") and certain of its affiliates unless the loans are secured in specified amounts. Such secured loans provided by any banking subsidiary to the Parent Company or to any particular affiliate, together with certain other transactions with such affiliate (collectively referred to as "covered transactions"), must be made on terms and conditions that are consistent with safe and sound banking practices. In addition, unless collateralized with cash or US Government debt obligations, covered transactions are generally limited to 10% of the banking subsidiary's total capital, as determined by the risk-based capital guidelines; the aggregate amount of covered transactions between any banking subsidiary and all of its affiliates is limited to 20% of the banking subsidiary's total capital.

The Parent Company's two principal subsidiaries are JPMorgan Chase Bank, N.A. and JPMorgan Chase Holdings LLC, an intermediate holding company (the "IHC"). The IHC generally holds the stock of JPMorgan Chase's subsidiaries other than JPMorgan Chase Bank, N.A. and its subsidiaries. The IHC also owns other assets and provides intercompany loans to the Parent Company. The Parent Company is obligated to contribute to the IHC substantially all the net proceeds received from securities issuances (including issuances of senior and subordinated debt securities and of preferred and common stock).

The principal sources of income and funding for the Parent Company are dividends from JPMorgan Chase Bank, N.A. and dividends and extensions of credit from the IHC. In addition to dividend restrictions set forth in statutes and regulations, the Federal Reserve, the OCC and the FDIC have authority under the Financial Institutions Supervisory Act to prohibit or to limit the payment of dividends by the banking organizations they supervise, including the Parent Company and its subsidiaries that are banks or bank holding companies, if, in the banking regulator's opinion, payment of a dividend would constitute an unsafe or unsound practice in light of the financial condition of the banking organization. The IHC is prohibited from paying dividends or extending credit to the Parent Company if certain capital or liquidity "thresholds" are breached or if limits are otherwise imposed by the Parent Company's management or Board of Directors.

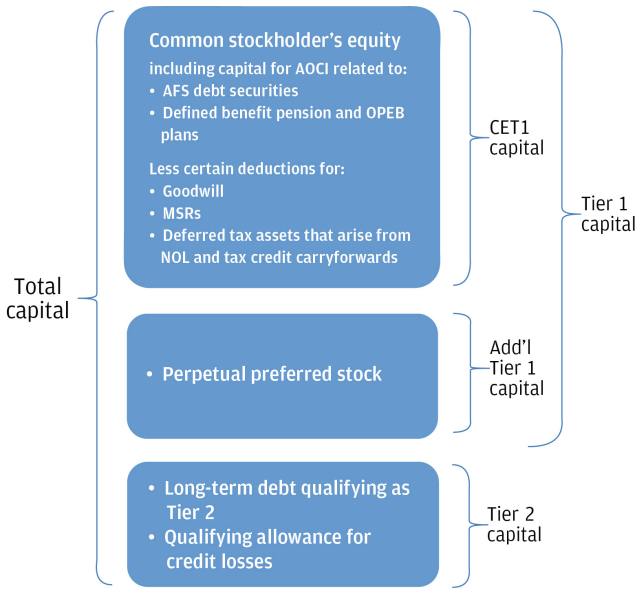
At January 1, 2024, the Parent Company's banking subsidiaries could pay, in the aggregate, approximately $20 billion in dividends to their respective bank holding companies without the prior approval of their relevant banking regulators. The capacity to pay dividends in 2024 will be supplemented by the banking subsidiaries' earnings during the year.

Note 27 – Regulatory capital

The Federal Reserve establishes capital requirements, including well-capitalized standards, for the Firm as a consolidated financial holding company. The OCC establishes similar minimum capital requirements and standards for the Firm's principal IDI subsidiary, JPMorgan Chase Bank, N.A.

The capital rules under Basel III establish minimum capital ratios and overall capital adequacy standards for large and internationally active U.S. bank holding companies and banks, including the Firm and JPMorgan Chase Bank, N.A. Two comprehensive approaches are prescribed for calculating RWA: a standardized approach ("Basel III Standardized"), and an advanced approach ("Basel III Advanced"). For each of the risk-based capital ratios, the capital adequacy of the Firm and JPMorgan Chase Bank, N.A. is evaluated against the lower of the Standardized or Advanced approaches compared to their respective regulatory capital ratio requirements.

The three components of regulatory capital under the Basel III rules are as illustrated below:



Under the risk-based capital and leverage-based guidelines of the Federal Reserve, JPMorgan Chase is required to maintain minimum ratios for CET1 capital, Tier 1 capital, Total capital, Tier 1 leverage and the SLR. Failure to meet these minimum requirements could cause the Federal Reserve to take action. JPMorgan Chase Bank, N.A. is also subject to these capital requirements established by its primary regulators.

The following table presents the risk-based regulatory capital ratio requirements and well-capitalized ratios to which the Firm and JPMorgan Chase Bank, N.A. were subject as of December 31, 2023 and 2022.

	Standardized capital ratio requirements		Advanced capital ratio requirements		Well-capitalized ratios	
	BHC[a][b]	IDI[c]	BHC[a][b]	IDI[c]	BHC[d]	IDI[e]
Risk-based capital ratios						
CET1 capital	11.4 %	7.0 %	11.0 %	7.0 %	NA	6.5 %
Tier 1 capital	12.9	8.5	12.5	8.5	6.0 %	8.0
Total capital	14.9	10.5	14.5	10.5	10.0	10.0

Note: The table above is as defined by the regulations issued by the Federal Reserve, OCC and FDIC and to which the Firm and JPMorgan Chase Bank, N.A. are subject.

(a) Represents the regulatory capital ratio requirements applicable to the Firm. The CET1, Tier 1 and Total capital ratio requirements each include a respective minimum requirement plus a GSIB surcharge of 4.0% as calculated under Method 2; plus a 2.9% SCB for Basel III Standardized ratios and a fixed 2.5% capital conservation buffer for Basel III Advanced ratios. The countercyclical buffer is currently set to 0% by the federal banking agencies.

(b) For the period ended December 31, 2022, the CET1, Tier 1, and Total capital ratio requirements under Basel III Standardized applicable to the Firm were 12.0%, 13.5% and 15.5%, respectively; the Basel III Advanced CET1, Tier 1, and Total capital ratio requirements applicable to the Firm were 10.5%, 12.0%, and 14.0%, respectively. SCB for Basel III Standardized ratio for 2022 was 4.0%.

(c) Represents requirements for JPMorgan Chase Bank, N.A. The CET1, Tier 1 and Total capital ratio requirements include a fixed capital conservation buffer requirement of 2.5% that is applicable to JPMorgan Chase Bank, N.A. JPMorgan Chase Bank, N.A. is not subject to the GSIB surcharge.

(d) Represents requirements for bank holding companies pursuant to regulations issued by the Federal Reserve.

(e) Represents requirements for JPMorgan Chase Bank, N.A. pursuant to regulations issued under the FDIC Improvement Act.

The following table presents the leverage-based regulatory capital ratio requirements and well-capitalized ratios to which the Firm and JPMorgan Chase Bank, N.A. were subject as of December 31, 2023 and 2022.

	Capital ratio requirements[a]		Well-capitalized ratios	
	BHC	IDI	BHC[b]	IDI
Leverage-based capital ratios				
Tier 1 leverage	4.0 %	4.0 %	NA	5.0 %
SLR	5.0	6.0	NA	6.0

Note: The table above is as defined by the regulations issued by the Federal Reserve, OCC and FDIC and to which the Firm and JPMorgan Chase Bank, N.A. are subject.

(a) Represents minimum SLR requirement of 3.0%, as well as supplementary leverage buffer requirements of 2.0% and 3.0% for BHC and JPMorgan Chase Bank, N.A., respectively.

(b) The Federal Reserve's regulations do not establish well-capitalized thresholds for these measures for BHCs.

CECL Regulatory Capital Transition

Beginning January 1, 2022, the $2.9 billion CECL capital benefit, provided by the Federal Reserve in response to the COVID-19 pandemic, is being phased out at 25% per year over a three-year period. As of December 31, 2023, the Firm's CET1 capital reflected the remaining $1.4 billion benefit associated with the CECL capital transition provisions.

Similarly, as of January 1, 2023, the Firm has phased out 50% of the other CECL capital transition provisions which impacted Tier 2 capital, adjusted average assets, total leverage exposure and RWA, as applicable.

The following tables present risk-based capital metrics under both the Basel III Standardized and Basel III Advanced approaches and leverage-based capital metrics for JPMorgan Chase and JPMorgan Chase Bank, N.A. As of December 31, 2023 and 2022, JPMorgan Chase and JPMorgan Chase Bank, N.A. were well-capitalized and met all capital requirements to which each was subject.

December 31, 2023 (in millions, except ratios)	Basel III Standardized		Basel III Advanced	
	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.
Risk-based capital metrics:[a]				
CET1 capital	**$ 250,585**	**$ 262,030**	**$ 250,585**	**$ 262,030**
Tier 1 capital	**277,306**	**262,032**	**277,306**	**262,032**
Total capital	**308,497**	**281,308**	**295,417** [b]	**268,392**
Risk-weighted assets	**1,671,995**	**1,621,789**	**1,669,156** [b]	**1,526,952**
CET1 capital ratio	**15.0 %**	**16.2 %**	**15.0 %**	**17.2 %**
Tier 1 capital ratio	**16.6**	**16.2**	**16.6**	**17.2**
Total capital ratio	**18.5**	**17.3**	**17.7**	**17.6**

December 31, 2022 (in millions, except ratios)	Basel III Standardized		Basel III Advanced	
	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.
Risk-based capital metrics:[a]				
CET1 capital	$ 218,934	$ 269,668	$ 218,934	$ 269,668
Tier 1 capital	245,631	269,672	245,631	269,672
Total capital	277,769	288,433	264,583	275,255
Risk-weighted assets	1,653,538	1,597,072	1,609,773	1,475,602
CET1 capital ratio	13.2 %	16.9 %	13.6 %	18.3 %
Tier 1 capital ratio	14.9	16.9	15.3	18.3
Total capital ratio	16.8	18.1	16.4	18.7

(a) The capital metrics reflect the CECL capital transition provisions.

(b) Includes the impacts of certain assets associated with First Republic to which the Standardized approach has been applied as permitted by the transition provisions in the U.S. capital rules.

Three months ended (in millions, except ratios)	December 31, 2023		December 31, 2022	
	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.	JPMorgan Chase & Co.	JPMorgan Chase Bank, N.A.
Leverage-based capital metrics:[a]				
Adjusted average assets[b]	**$ 3,831,200**	**$ 3,337,842**	$ 3,703,873	$ 3,249,912
Tier 1 leverage ratio	**7.2 %**	**7.9 %**	6.6 %	8.3 %
Total leverage exposure	**$ 4,540,465**	**$ 4,038,739**	$ 4,367,092	$ 3,925,502
SLR	**6.1 %**	**6.5 %**	5.6 %	6.9 %

(a) The capital metrics reflect the CECL capital transition provisions.

(b) Adjusted average assets, for purposes of calculating the leverage ratios, includes quarterly average assets adjusted for on-balance sheet assets that are subject to deduction from Tier 1 capital, predominantly goodwill, inclusive of estimated equity method goodwill, and other intangible assets.

Note 28 – Off-balance sheet lending-related financial instruments, guarantees, and other commitments

JPMorgan Chase provides lending-related financial instruments (e.g., commitments and guarantees) to address the financing needs of its customers and clients. The contractual amount of these financial instruments represents the maximum possible credit risk to the Firm should the customer or client draw upon the commitment or the Firm be required to fulfill its obligation under the guarantee, and should the customer or client subsequently fail to perform according to the terms of the contract. Most of these commitments and guarantees have historically been refinanced, extended, cancelled, or expired without being drawn or a default occurring. As a result, the total contractual amount of these instruments is not, in the Firm's view, representative of its expected future credit exposure or funding requirements.

To provide for expected credit losses in wholesale and certain consumer lending-related commitments, an allowance for credit losses on lending-related commitments is maintained. Refer to Note 13 for further information regarding the allowance for credit losses on lending-related commitments.

The following table summarizes the contractual amounts and carrying values of off-balance sheet lending-related financial instruments, guarantees and other commitments at December 31, 2023 and 2022. The amounts in the table below for credit card and home equity lending-related commitments represent the total available credit for these products. The Firm has not experienced, and does not anticipate, that all available lines of credit for these products will be utilized at the same time. The Firm can reduce or cancel credit card lines of credit by providing the borrower notice or, in some cases as permitted by law, without notice. In addition, the Firm typically closes credit card lines when the borrower is 60 days or more past due. The Firm may reduce or close HELOCs when there are significant decreases in the value of the underlying property, or when there has been a demonstrable decline in the creditworthiness of the borrower.

Off–balance sheet lending-related financial instruments, guarantees and other commitments

	Contractual amount						Carrying value[h][i]		
	2023					2022	2023		2022
By remaining maturity as of December 31, (in millions)	Expires in 1 year or less	Expires after 1 year through 3 years	Expires after 3 years through 5 years	Expires after 5 years	Total	Total			
Lending-related									
Consumer, excluding credit card:									
Residential Real Estate[a]	**$ 6,917**	**$ 7,175**	**$ 6,493**	**$ 9,540**	**$ 30,125**	$ 21,287	**678**	[j]	75
Auto and other	**12,247**	**159**	**–**	**2,872**	**15,278**	12,231	**148**	[j]	–
Total consumer, excluding credit card	**19,164**	**7,334**	**6,493**	**12,412**	**45,403**	33,518	**826**		75
Credit card[b]	**915,658**	**–**	**–**	**–**	**915,658**	821,284	**–**		–
Total consumer[c]	**934,822**	**7,334**	**6,493**	**12,412**	**961,061**	854,802	**826**		75
Wholesale:									
Other unfunded commitments to extend credit[d]	**125,478**	**175,190**	**179,046**	**23,812**	**503,526**	440,407	**2,797**	[j][k]	2,328 [k]
Standby letters of credit and other financial guarantees[d]	**13,775**	**10,478**	**3,628**	**991**	**28,872**	27,439	**479**		408
Other letters of credit[d]	**4,084**	**222**	**82**	**–**	**4,388**	4,134	**37**		6
Total wholesale[c]	**143,337**	**185,890**	**182,756**	**24,803**	**536,786**	471,980	**3,313**		2,742
Total lending-related	**$1,078,159**	**$ 193,224**	**$ 189,249**	**$ 37,215**	**$1,497,847**	$1,326,782	**$4,139**		$ 2,817
Other guarantees and commitments									
Securities lending indemnification agreements and guarantees[e]	**$ 283,664**	**$ –**	**$ –**	**$ –**	**$ 283,664**	$ 283,386	**$ –**		$ –
Derivatives qualifying as guarantees	**1,693**	**364**	**11,657**	**40,848**	**54,562**	59,180	**89**		649
Unsettled resale and securities borrowed agreements	**94,920**	**186**	**–**	**–**	**95,106**	116,975	**–**		(2)
Unsettled repurchase and securities loaned agreements	**60,170**	**554**	–	–	**60,724**	66,407	**–**		(7)
Loan sale and securitization-related indemnifications:									
Mortgage repurchase liability	**NA**	**NA**	**NA**	**NA**	**NA**	NA	**76**		76
Loans sold with recourse	**NA**	**NA**	**NA**	**NA**	**803**	820	**24**		28
Exchange & clearing house guarantees and commitments[f]	**265,887**	**–**	**–**	**–**	**265,887**	191,068	**–**		–
Other guarantees and commitments[g]	**9,216**	**1,516**	**314**	**4,028**	**15,074**	8,634	**38**		53

(a) Includes certain commitments to purchase loans from correspondents.
(b) Also includes commercial card lending-related commitments primarily in CB and CIB.
(c) Predominantly all consumer and wholesale lending-related commitments are in the U.S.
(d) As of December 31, 2023 and 2022, reflected the contractual amount net of risk participations totaling $88 million and $71 million, respectively, for other unfunded commitments to extend credit; $8.2 billion at both periods for standby letters of credit and other financial guarantees; and $589 million and $512 million, respectively, for other letters of credit. In regulatory filings with the Federal Reserve these commitments are shown gross of risk participations.
(e) As of December 31, 2023 and 2022, collateral held by the Firm in support of securities lending indemnification agreements was $300.3 billion and $298.5 billion, respectively. Securities lending collateral primarily consists of cash, G7 government securities, and securities issued by U.S. GSEs and government agencies.
(f) As of December 31, 2023 and 2022, includes guarantees to the Fixed Income Clearing Corporation under the sponsored member repo program and commitments and guarantees associated with the Firm's membership in certain clearing houses.
(g) As of December 31, 2023 and 2022, primarily includes unfunded commitments related to certain tax-oriented equity investments, other equity investment commitments. and unfunded commitments to purchase secondary market loans.
(h) For lending-related products, the carrying value includes the allowance for lending-related commitments and the guarantee liability; for derivative-related products, and lending-related commitments for which the fair value option was elected, the carrying value represents the fair value.
(i) For lending-related commitments, the carrying value also includes fees and any purchase discounts or premiums that are deferred and recognized in accounts payable and other liabilities on the Consolidated balance sheets. Deferred amounts for revolving commitments and commitments not expected to fund, are amortized to lending- and deposit-related fees on a straight line basis over the commitment period. For all other commitments the deferred amounts remain deferred until the commitment funds or is sold.
(j) As of December 31, 2023, includes fair value adjustments associated with First Republic for residential real estate lending-related commitments totaling $630 million, for auto and other lending-related commitments totaling $148 million and for other unfunded commitments to extend credit totaling $1.1 billion. Refer to Note 34 for additional information.
(k) As of December 31, 2022, included net markdowns on held-for-sale positions related to unfunded commitments in the bridge financing portfolio.

Other unfunded commitments to extend credit

Other unfunded commitments to extend credit generally consist of commitments for working capital and general corporate purposes, extensions of credit to support commercial paper facilities and bond financings in the event that those obligations cannot be remarketed to new investors, as well as committed liquidity facilities to clearing organizations. The Firm also issues commitments under multipurpose facilities which could be drawn upon in several forms, including the issuance of a standby letter of credit.

Guarantees

U.S. GAAP requires that a guarantor recognize, at the inception of a guarantee, a liability in an amount equal to the fair value of the obligation undertaken in issuing the guarantee. U.S. GAAP defines a guarantee as a contract that contingently requires the guarantor to pay the guaranteed party based upon: (a) changes in an underlying asset, liability or equity security of the guaranteed party; or (b) a third party's failure to perform under a specified agreement. The Firm considers the following off–balance sheet arrangements to be guarantees under U.S. GAAP: standby letters of credit and other financial guarantees, securities lending indemnifications, certain indemnification agreements included within third-party contractual arrangements, certain derivative contracts and the guarantees under the sponsored member repo program.

As required by U.S. GAAP, the Firm initially records guarantees at the inception date fair value of the non-contingent obligation assumed (e.g., the amount of consideration received or the net present value of the premium receivable). For these obligations, the Firm records this fair value amount in other liabilities with an offsetting entry recorded in cash (for premiums received), or other assets (for premiums receivable). Any premium receivable recorded in other assets is reduced as cash is received under the contract, and the fair value of the liability recorded at inception is amortized into income as lending and deposit-related fees over the life of the guarantee contract. The lending-related contingent obligation is recognized based on expected credit losses in addition to, and separate from, any non-contingent obligation.

Non-lending-related contingent obligations are recognized when the liability becomes probable and reasonably estimable. These obligations are not recognized if the estimated amount is less than the carrying amount of any non-contingent liability recognized at inception (adjusted for any amortization). Examples of non-lending-related contingent obligations include indemnifications provided in sales agreements, where a portion of the sale proceeds is allocated to the guarantee, which adjusts the gain or loss that would otherwise result from the transaction. For these indemnifications, the initial liability is amortized to income as the Firm's risk is reduced (i.e., over time or when the indemnification expires).

The contractual amount and carrying value of guarantees and indemnifications are included in the table on page 292.

For additional information on the guarantees, see below.

Standby letters of credit and other financial guarantees

Standby letters of credit and other financial guarantees are conditional lending commitments issued by the Firm to guarantee the performance of a client or customer to a third party under certain arrangements, such as commercial paper facilities, bond financings, acquisition financings, trade financings and similar transactions.

The following table summarizes the contractual amount and carrying value of standby letters of credit and other financial guarantees and other letters of credit arrangements as of December 31, 2023 and 2022.

Standby letters of credit, other financial guarantees and other letters of credit

	2023		2022	
December 31, (in millions)	Standby letters of credit and other financial guarantees	Other letters of credit	Standby letters of credit and other financial guarantees	Other letters of credit
Investment-grade[(a)]	**$ 19,694**	**$ 3,552**	$ 19,205	$ 3,040
Noninvestment-grade[(a)]	**9,178**	**836**	8,234	1,094
Total contractual amount	**$ 28,872**	**$ 4,388**	$ 27,439	$ 4,134
Allowance for lending-related commitments	**$ 110**	**$ 37**	$ 82	$ 6
Guarantee liability	**369**	**–**	326	–
Total carrying value	**$ 479**	**$ 37**	$ 408	$ 6
Commitments with collateral	**$ 16,861**	**$ 539**	$ 15,296	$ 795

(a) The ratings scale is based on the Firm's internal risk ratings. Refer to Note 12 for further information on internal risk ratings.

Securities lending indemnifications
Through the Firm's securities lending program, counterparties' securities, via custodial and non-custodial arrangements, may be lent to third parties. As part of this program, the Firm provides an indemnification in the lending agreements which protects the lender against the failure of the borrower to return the lent securities. To minimize its liability under these indemnification agreements, the Firm obtains cash or other highly liquid collateral with a market value exceeding 100% of the value of the securities on loan from the borrower. Collateral is marked to market daily to help assure that collateralization is adequate. Additional collateral is called from the borrower if a shortfall exists, or collateral may be released to the borrower in the event of overcollateralization. If a borrower defaults, the Firm would use the collateral held to purchase replacement securities in the market or to credit the lending client or counterparty with the cash equivalent thereof.

The cash collateral held by the Firm may be invested on behalf of the client in indemnified resale agreements, whereby the Firm indemnifies the client against the loss of principal invested. To minimize its liability under these agreements, the Firm obtains collateral with a market value exceeding 100% of the principal invested.

Derivatives qualifying as guarantees
The Firm transacts in certain derivative contracts that have the characteristics of a guarantee under U.S. GAAP. These contracts include written put options that require the Firm to purchase assets upon exercise by the option holder at a specified price by a specified date in the future. The Firm may enter into written put option contracts in order to meet client needs, or for other trading purposes. The terms of written put options are typically five years or less.

Derivatives deemed to be guarantees also includes stable value contracts, commonly referred to as "stable value products", that require the Firm to make a payment of the difference between the market value and the book value of a counterparty's reference portfolio of assets in the event that market value is less than book value and certain other conditions have been met. Stable value products are transacted in order to allow investors to realize investment returns with less volatility than an unprotected portfolio. These contracts are typically longer-term or may have no stated maturity, but allow the Firm to elect to terminate the contract under certain conditions.

The notional value of derivative guarantees generally represents the Firm's maximum exposure. However, exposure to certain stable value products is contractually limited to a substantially lower percentage of the notional amount.

The fair value of derivative guarantees reflects the probability, in the Firm's view, of whether the Firm will be required to perform under the contract. The Firm reduces exposures to these contracts by entering into offsetting transactions, or by entering into contracts that hedge the market risk related to the derivative guarantees.

The following table summarizes the derivatives qualifying as guarantees as of December 31, 2023 and 2022.

(in millions)	December 31, 2023	December 31, 2022
Notional amounts		
Derivative guarantees	**$ 54,562**	$ 59,180
Stable value contracts with contractually limited exposure	**32,488**	31,820
Maximum exposure of stable value contracts with contractually limited exposure	**1,652**	2,063
Fair value		
Derivative payables	**89**	649

In addition to derivative contracts that meet the characteristics of a guarantee, the Firm is both a purchaser and seller of credit protection in the credit derivatives market. Refer to Note 5 for a further discussion of credit derivatives.

Unsettled securities financing agreements

In the normal course of business, the Firm enters into resale and securities borrowed agreements. At settlement, these commitments result in the Firm advancing cash to and receiving securities collateral from the counterparty. The Firm also enters into repurchase and securities loaned agreements. At settlement, these commitments result in the Firm receiving cash from and providing securities collateral to the counterparty. Such agreements settle at a future date. These agreements generally do not meet the definition of a derivative, and therefore, are not recorded on the Consolidated balance sheets until settlement date. These agreements predominantly have regular-way settlement terms. Refer to Note 11 for a further discussion of securities financing agreements.

Loan sales- and securitization-related indemnifications

Mortgage repurchase liability
In connection with the Firm's mortgage loan sale and securitization activities with U.S. GSEs the Firm has made representations and warranties that the loans sold meet certain requirements, and that may require the Firm to repurchase mortgage loans and/or indemnify the loan purchaser if such representations and warranties are breached by the Firm.

Private label securitizations
The liability related to repurchase demands associated with private label securitizations is separately evaluated by the Firm in establishing its litigation reserves.

Refer to Note 30 for additional information regarding litigation.

Loans sold with recourse
The Firm provides servicing for mortgages and certain commercial lending products on both a recourse and nonrecourse basis. In nonrecourse servicing, the principal credit risk to the Firm is the cost of temporary servicing advances of funds (i.e., normal servicing advances). In recourse servicing, the servicer agrees to share credit risk with the owner of the mortgage loans, such as Fannie Mae

or Freddie Mac or a private investor, insurer or guarantor. Losses on recourse servicing predominantly occur when foreclosure sales proceeds of the property underlying a defaulted loan are less than the sum of the outstanding principal balance, plus accrued interest on the loan and the cost of holding and disposing of the underlying property. The Firm's securitizations are predominantly nonrecourse, thereby effectively transferring the risk of future credit losses to the purchaser of the mortgage-backed securities issued by the trust. The unpaid principal balance of loans sold with recourse as well as the carrying value of the related liability that the Firm has recorded in accounts payable and other liabilities on the Consolidated balance sheets, which is representative of the Firm's view of the likelihood it will have to perform under its recourse obligations, are disclosed in the table on page 292.

Other off-balance sheet arrangements

Indemnification agreements – general

In connection with issuing securities to investors outside the U.S., the Firm may agree to pay additional amounts to the holders of the securities in the event that, due to a change in tax law, certain types of withholding taxes are imposed on payments on the securities. The terms of the securities may also give the Firm the right to redeem the securities if such additional amounts are payable. The Firm may also enter into indemnification clauses in connection with the licensing of software to clients ("software licensees") or when it sells a business or assets to a third party ("third-party purchasers"), pursuant to which it indemnifies software licensees for claims of liability or damages that may occur subsequent to the licensing of the software, or third-party purchasers for losses they may incur due to actions taken by the Firm prior to the sale of the business or assets. It is difficult to estimate the Firm's maximum exposure under these indemnification arrangements, since this would require an assessment of future changes in tax law and future claims that may be made against the Firm that have not yet occurred. However, based on historical experience, management expects the risk of loss to be remote.

Merchant charge-backs

Under the rules of payment networks, in its role as a merchant acquirer, the Firm's Merchant Services business in CIB Payments, retains a contingent liability for disputed processed credit and debit card transactions that result in a charge-back to the merchant. If a dispute is resolved in the cardholder's favor, the Firm will (through the cardholder's issuing bank) credit or refund the amount to the cardholder and will charge back the transaction to the merchant. If the Firm is unable to collect the amount from the merchant, the Firm will bear the loss for the amount credited or refunded to the cardholder. The Firm mitigates this risk by withholding future settlements, retaining cash reserve accounts or obtaining other collateral. In addition, the Firm recognizes a valuation allowance that covers the payment or performance risk related to charge-backs.

For the years ended December 31, 2023, 2022 and 2021, the Firm processed an aggregate volume of $2,411.0 billion, $2,158.4 billion, and $1,886.7 billion, respectively.

Clearing Services – Client Credit Risk

The Firm provides clearing services for clients by entering into securities purchases and sales and derivative contracts with CCPs, including ETDs such as futures and options, as well as OTC-cleared derivative contracts. As a clearing member, the Firm stands behind the performance of its clients, collects cash and securities collateral (margin) as well as any settlement amounts due from or to clients, and remits them to the relevant CCP or client in whole or part. There are two types of margin: variation margin is posted on a daily basis based on the value of clients' derivative contracts and initial margin is posted at inception of a derivative contract, generally on the basis of the potential changes in the variation margin requirement for the contract.

As a clearing member, the Firm is exposed to the risk of nonperformance by its clients, but is not liable to clients for the performance of the CCPs. Where possible, the Firm seeks to mitigate its risk to the client through the collection of appropriate amounts of margin at inception and throughout the life of the transactions. The Firm can also cease providing clearing services if clients do not adhere to their obligations under the clearing agreement. In the event of nonperformance by a client, the Firm would close out the client's positions and access available margin. The CCP would utilize any margin it holds to make itself whole, with any remaining shortfalls required to be paid by the Firm as a clearing member.

The Firm reflects its exposure to nonperformance risk of the client through the recognition of margin receivables from clients and margin payables to CCPs; the clients' underlying securities or derivative contracts are not reflected in the Firm's Consolidated Financial Statements.

It is difficult to estimate the Firm's maximum possible exposure through its role as a clearing member, as this would require an assessment of transactions that clients may execute in the future. However, based upon historical experience, and the credit risk mitigants available to the Firm, management believes it is unlikely that the Firm will have to make any material payments under these arrangements and the risk of loss is expected to be remote.

Refer to Note 5 for information on the derivatives that the Firm executes for its own account and records in its Consolidated Financial Statements.

Exchange & Clearing House Memberships
The Firm is a member of several securities and derivative exchanges and clearing houses, both in the U.S. and other countries, and it provides clearing services to its clients. Membership in some of these organizations requires the Firm to pay a pro rata share of the losses incurred by the organization as a result of the default of another member. Such obligations vary with different organizations. These obligations may be limited to the amount (or a multiple of the amount) of the Firm's contribution to the guarantee fund maintained by a clearing house or exchange as part of the resources available to cover any losses in the event of a member default. Alternatively, these obligations may also include a pro rata share of the residual losses after applying the guarantee fund. Additionally, certain clearing houses require the Firm as a member to pay a pro rata share of losses that may result from the clearing house's investment of guarantee fund contributions and initial margin, unrelated to and independent of the default of another member. Generally a payment would only be required should such losses exceed the resources of the clearing house or exchange that are contractually required to absorb the losses in the first instance. In certain cases, it is difficult to estimate the Firm's maximum possible exposure under these membership agreements, since this would require an assessment of future claims that may be made against the Firm that have not yet occurred. However, based on historical experience, management expects the risk of loss to the Firm to be remote. Where the Firm's maximum possible exposure can be estimated, the amount is disclosed in the table on page 292, in the Exchange & clearing house guarantees and commitments line.

Sponsored member repo program
The Firm acts as a sponsoring member to clear eligible overnight and term resale and repurchase agreements through the Government Securities Division of the Fixed Income Clearing Corporation ("FICC") on behalf of clients that become sponsored members under the FICC's rules. The Firm also guarantees to the FICC the prompt and full payment and performance of its sponsored member clients' respective obligations under the FICC's rules. The Firm minimizes its liability under these guarantees by obtaining a security interest in the cash or high-quality securities collateral that the clients place with the clearing house; therefore, the Firm expects the risk of loss to be remote. The Firm's maximum possible exposure, without taking into consideration the associated collateral, is included in the Exchange & clearing house guarantees and commitments line on page 292. Refer to Note 11 for additional information on credit risk mitigation practices on resale agreements and the types of collateral pledged under repurchase agreements.

Guarantees of subsidiaries
In the normal course of business, the Parent Company may provide counterparties with guarantees of certain of the trading and other obligations of its subsidiaries on a contract-by-contract basis, as negotiated with the Firm's counterparties. The obligations of the subsidiaries are included on the Firm's Consolidated balance sheets or are reflected as off-balance sheet commitments; therefore, the Parent Company has not recognized a separate liability for these guarantees. The Firm believes that the occurrence of any event that would trigger payments by the Parent Company under these guarantees is remote.

The Parent Company has guaranteed certain long-term debt and structured notes of its subsidiaries, including JPMorgan Chase Financial Company LLC ("JPMFC"), a 100%-owned finance subsidiary. All securities issued by JPMFC are fully and unconditionally guaranteed by the Parent Company and no other subsidiary of the parent company guarantees these securities. These guarantees, which rank pari passu with the Firm's unsecured and unsubordinated indebtedness, are not included in the table on page 292 of this Note. Refer to Note 20 for additional information.

Note 29 – Pledged assets and collateral

Pledged assets

The Firm pledges financial assets that it owns to maintain potential borrowing capacity at discount windows with Federal Reserve banks, various other central banks and FHLBs. Additionally, the Firm pledges assets for other purposes, including to collateralize repurchase and other securities financing agreements, to cover short sales and to collateralize derivative contracts and deposits. Certain of these pledged assets may be sold or repledged or otherwise used by the secured parties and are parenthetically identified on the Consolidated balance sheets as assets pledged.

The following table presents the Firm's pledged assets.

December 31, (in billions)	**2023**	2022
Assets that may be sold or repledged or otherwise used by secured parties	**$ 145.0**	$ 110.8
Assets that may not be sold or repledged or otherwise used by secured parties [(a)]	**244.2**	114.8
Assets pledged at Federal Reserve banks and FHLBs	**675.6**	567.6
Total pledged assets	**$ 1,064.8**	$ 793.2

(a) As of December 31, 2023, included $88.4 billion of assets pledged to the FDIC associated with the First Republic acquisition. Refer to Note 34 for additional information.

Total pledged assets do not include assets of consolidated VIEs; these assets are used to settle the liabilities of those entities. Refer to Note 14 for additional information on assets and liabilities of consolidated VIEs. Refer to Note 11 for additional information on the Firm's securities financing activities. Refer to Note 20 for additional information on the Firm's long-term debt. The significant components of the Firm's pledged assets were as follows.

December 31, (in billions)	**2023**	2022
Investment securities	**$ 108.6**	$ 104.4
Loans	**681.7**	485.9
Trading assets and other	**274.5**	202.9
Total pledged assets	**$ 1,064.8**	$ 793.2

Collateral

The Firm accepts financial assets as collateral that it is permitted to sell or repledge, deliver or otherwise use. This collateral is generally obtained under resale and other securities financing agreements, prime brokerage-related held-for-investment customer receivables and derivative contracts. Collateral is generally used under repurchase and other securities financing agreements, to cover short sales, and to collateralize derivative contracts and deposits.

The following table presents the fair value of collateral accepted.

December 31, (in billions)	**2023**	2022
Collateral permitted to be sold or repledged, delivered, or otherwise used	**$ 1,303.9**	$ 1,346.9
Collateral sold, repledged, delivered or otherwise used	**982.8**	1,019.4

Note 30 – Litigation

Contingencies

As of December 31, 2023, the Firm and its subsidiaries and affiliates are defendants or respondents in numerous evolving legal proceedings, including private proceedings, public proceedings, government investigations, regulatory enforcement matters, and the matters described below. The litigations range from individual actions involving a single plaintiff to class action lawsuits with potentially millions of class members. Investigations and regulatory enforcement matters involve both formal and informal proceedings, by both governmental agencies and self-regulatory organizations. These legal proceedings are at varying stages of adjudication, arbitration or investigation, and involve each of the Firm's lines of business and several geographies and a wide variety of claims (including common law tort and contract claims and statutory antitrust, securities and consumer protection claims), some of which present novel legal theories.

The Firm believes the estimate of the aggregate range of reasonably possible losses, in excess of reserves established, for its legal proceedings is from $0 to approximately $1.3 billion at December 31, 2023. This estimated aggregate range of reasonably possible losses was based upon information available as of that date for those proceedings in which the Firm believes that an estimate of reasonably possible loss can be made. For certain matters, the Firm does not believe that such an estimate can be made, as of that date. The Firm's estimate of the aggregate range of reasonably possible losses involves significant judgment, given:

- the number, variety and varying stages of the proceedings, including the fact that many are in preliminary stages,
- the existence in many such proceedings of multiple defendants, including the Firm, whose share of liability (if any) has yet to be determined,
- the numerous yet-unresolved issues in many of the proceedings, including issues regarding class certification and the scope of many of the claims, and
- the uncertainty of the various potential outcomes of such proceedings, including where the Firm has made assumptions concerning future rulings by the court or other adjudicator, or about the behavior or incentives of adverse parties or regulatory authorities, and those assumptions prove to be incorrect.

In addition, the outcome of a particular proceeding may be a result which the Firm did not take into account in its estimate because the Firm had deemed the likelihood of that outcome to be remote. Accordingly, the Firm's estimate of the aggregate range of reasonably possible losses will change from time to time, and actual losses may vary significantly.

Set forth below are descriptions of the Firm's material legal proceedings.

1MDB Litigation. J.P. Morgan (Suisse) SA was named as a defendant in a civil litigation filed in May 2021 in Malaysia by 1Malaysia Development Berhad ("1MDB"), a Malaysian state-owned and controlled investment fund. The claim alleges "dishonest assistance" against J.P. Morgan (Suisse) SA in relation to payments of $300 million and $500 million, from 2009 and 2010, respectively, received from 1MDB and paid into an account at J.P. Morgan (Suisse) SA held by 1MDB PetroSaudi Limited, a joint venture company between 1MDB and PetroSaudi Holdings (Cayman) Limited. The Firm is challenging the validity of service and the Malaysian Court's jurisdiction to hear the claim. In August 2023 the Court denied an application by 1MDB to discontinue its claim with permission to re-file a new claim in the future. An appeals court is scheduled in August 2024 to hear separate appeals filed by 1MDB and the Firm against that August 2023 decision. In its appeal, the Firm seeks to prevent any claim from continuing.

In addition, in November 2023, the Federal Office of the Attorney General (OAG) in Switzerland notified J.P. Morgan (Suisse) SA that it is conducting an investigation into possible criminal liability in connection with transactions arising from J.P. Morgan (Suisse) SA's relationship with the 1MDB PetroSaudi joint venture and its related persons for the period September 2009 through August 2015. The OAG investigation is ongoing.

Amrapali. India's Enforcement Directorate ("ED") is investigating J.P. Morgan India Private Limited in connection with investments made in 2010 and 2012 by two offshore funds formerly managed by JPMorgan Chase entities into residential housing projects developed by the Amrapali Group ("Amrapali") relating to delays in delivering or failure to deliver residential units. In August 2021, the ED issued an order fining J.P. Morgan India Private Limited approximately $31.5 million, and the Firm is appealing that order. Relatedly, in July 2019, the Supreme Court of India issued an order making preliminary findings that Amrapali and other parties, including unspecified JPMorgan Chase entities and the offshore funds that had invested in the projects, violated certain criminal currency control and money laundering provisions, and ordered the ED to conduct a further inquiry. The Firm is responding to and cooperating with the inquiry.

Foreign Exchange Investigations and Litigation. The Firm previously reported settlements with certain government authorities relating to its foreign exchange ("FX") sales and trading activities and controls related to those activities. Among those resolutions, in May 2015, the Firm pleaded guilty to a single violation of federal antitrust law. The Department of Labor ("DOL") granted the Firm exemptions that permit the Firm and its affiliates to continue to rely on the Qualified Professional Asset Manager exemption under

the Employee Retirement Income Security Act ("ERISA") through the ten-year disqualification period following the antitrust plea. The only remaining FX-related governmental inquiry is a South Africa Competition Commission matter which is currently pending before the South Africa Competition Tribunal.

With respect to civil litigation matters, in a putative class action filed against the Firm and other foreign exchange dealers on behalf of certain parties who purchased foreign currencies at allegedly inflated rates, the District Court denied certification of a class and granted summary judgment against the named plaintiffs in March 2023. An appeal by those plaintiffs of the District Court's decision is pending. In addition, some FX-related individual and putative class actions based on similar alleged underlying conduct have been filed outside the U.S., including in the U.K., Israel, the Netherlands, Brazil and Australia. An agreement to resolve one of the U.K. actions was reached in December 2022. In July 2023, the U.K. Court of Appeal overturned the Competition Appeal Tribunal's earlier denial of a request for class certification on an opt-out basis. In Israel, a settlement in principle has been reached on the putative class action, which remains subject to court approval.

Government Inquiries Related to the Zelle Network. The Firm is responding to inquiries from civil government authorities regarding the handling of disputes related to transfers of funds through the Zelle Network. The Firm is cooperating with these inquiries and responding to requests for information.

Interchange Litigation. Groups of merchants and retail associations filed a series of class action complaints alleging that Visa and Mastercard, as well as certain banks, conspired to set the price of credit and debit card interchange fees and enacted related rules in violation of antitrust laws.

In September 2018, the parties settled the class action seeking monetary relief, with the defendants collectively contributing approximately $6.2 billion. The settlement has been approved by the District Court and affirmed on appeal. Based on the percentage of merchants that opted out of the settlement, $700 million has been returned to the defendants from the settlement escrow. A separate class action seeking injunctive relief continues, and in September 2021, the District Court granted plaintiffs' motion for class certification in part, and denied the motion in part.

Of the merchants who opted out of the damages class settlement, certain merchants filed individual actions raising similar allegations against Visa and Mastercard, as well as against the Firm and other banks. While some of those actions remain pending, the defendants have reached settlements with the merchants who opted out representing approximately 70% of the combined Mastercard-branded and Visa-branded payment card sales volume.

Jeffrey Epstein Litigation. JPMorgan Chase Bank, N.A. was named as a defendant in lawsuits filed in the United States District Court for the Southern District of New York alleging that JPMorgan Chase Bank, N.A. knowingly facilitated Jeffrey Epstein's sex trafficking and other unlawful conduct by providing banking services to Epstein until 2013. In June 2023, the Court granted preliminary approval of a settlement between the victim class and JPMorgan Chase Bank, N.A., pursuant to which JPMorgan Chase Bank, N.A. paid $290 million to a fund for Epstein survivors. In November 2023, the Court granted final approval of the settlement, rejecting objections, including those of certain state Attorneys General, regarding the victims' releases.

LIBOR and Other Benchmark Rate Investigations and Litigation. JPMorgan Chase has responded to inquiries from various governmental agencies and entities around the world relating primarily to the British Bankers Association's ("BBA") London Interbank Offered Rate ("LIBOR") for various currencies and the European Banking Federation's Euro Interbank Offered Rate ("EURIBOR"). The Swiss Competition Commission's investigation relating to EURIBOR, to which the Firm and one other bank remain subject, continues. The Firm appealed a December 2016 decision by the European Commission against the Firm and other banks finding an infringement of European antitrust rules relating to EURIBOR. In December 2023, the European General Court annulled the fine imposed by the European Commission, but exercised its discretion to re-impose a fine in an identical amount. The Firm is considering its options.

In addition, the Firm has been named as a defendant along with other banks in various individual and putative class actions related to benchmark rates, including U.S. dollar LIBOR. In actions related to U.S. dollar LIBOR during the period that it was administered by the BBA, the Firm has obtained dismissal of certain actions and resolved certain other actions, and others are in various stages of litigation. The United States District Court for the Southern District of New York has granted class certification of antitrust claims related to bonds and interest rate swaps sold directly by the defendants, including the Firm. In addition, a lawsuit filed by a group of individual plaintiffs asserting antitrust claims, alleging that the Firm and other defendants were engaged in an unlawful agreement to set U.S. dollar LIBOR and conspired to monopolize the market for LIBOR-based consumer loans and credit cards was dismissed in October 2023. Plaintiff filed an appeal of the dismissal to the United States Court of Appeals for the Ninth Circuit in November 2023. The Firm has resolved all non-U.S. dollar LIBOR actions.

Russian Litigation. The Firm is obligated to comply with international sanctions laws, which mandate the freezing or restriction of certain assets. These laws apply when assets associated with individuals, companies, products or services are within the scope of the sanctions. The Firm has faced actual and threatened litigation in Russia seeking payments on transactions that the Firm cannot make, and is contractually excused from paying, under relevant sanctions laws, with judgment entered against the Firm in one claim in February 2024. The Russian court may

disregard the parties' contractual agreement on forum selection, and may not recognize foreign sanctions laws as a basis for not making payment. The Firm holds assets in Russia, which could be seized if the claims are granted and enforced.

SEC Inquiries. The Firm is responding to requests from the SEC regarding aspects of certain advisory programs within J.P. Morgan Securities LLC, including aggregation of accounts for billing, discounting advisory fees, and selecting portfolio managers. Separately, the Firm is responding to requests from the SEC in connection with the timing of the Firm's liquidation of shares distributed in-kind to certain investment vehicles that invest in third-party managed private funds. The Firm is cooperating with the SEC in regard to both inquires.

Securities Lending Antitrust Litigation. JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC, J.P. Morgan Prime, Inc., and J.P. Morgan Strategic Securities Lending Corp. are named as defendants in a putative class action filed in the United States District Court for the Southern District of New York. The complaint asserts violations of federal antitrust law and New York State common law in connection with an alleged conspiracy to prevent the emergence of anonymous exchange trading for securities lending transactions. The settlement of this action by the parties has been preliminarily approved, and is subject to final court approval.

Shareholder Litigation. Several shareholder putative class actions, as well as shareholder derivative actions purporting to act on behalf of the Firm, have been filed against the Firm, its Board of Directors and certain of its current and former officers.

Certain of these shareholder suits relate to historical trading practices by former employees in the precious metals and U.S. treasuries markets and related conduct which were the subject of the Firm's resolutions with the DOJ, CFTC and SEC in September 2020, and fiduciary activities that were separately the subject of a resolution between JPMorgan Chase Bank, N.A. and the OCC in November 2020. One of these shareholder derivative suits was filed in the Supreme Court of the State of New York in May 2022, asserting breach of fiduciary duty and unjust enrichment claims relating to the historical trading practices and related conduct and fiduciary activities which were the subject of the resolutions described above. In December 2022, the court granted defendants' motion to dismiss this action in full, and in July 2023, the plaintiff filed an appeal, which remains pending. A second shareholder derivative action was filed in the United States District Court for the Eastern District of New York in December 2022 relating to the historical trading practices and related conduct, which asserts breach of fiduciary duty and contribution claims and alleges that the shareholder is excused from making a demand to commence litigation because such a demand would have been futile. Defendants have moved to dismiss the complaint. In addition, a consolidated putative class action is pending in the United States District Court for the Eastern District of New York on behalf of shareholders who acquired shares of JPMorgan Chase common stock during the putative class period, alleging that certain SEC filings of the Firm were materially false or misleading because they did not disclose certain information relating to the historical trading practices and conduct. In December 2023, the court granted Defendants' motion to dismiss the amended complaint.

A shareholder derivative suit was filed in May 2023 in the United States District Court for the Southern District of New York against various officers and directors of the Firm asserting breaches of fiduciary duty and unjust enrichment based upon allegations that the defendants caused the Firm to retain Jeffrey Epstein as a client of the bank after defendants knew, or should have known, that Epstein was using the Firm's financial services to facilitate his alleged sex trafficking activities. In December 2023, the Court dismissed the derivative action.

A separate shareholder derivative suit was filed in March 2022 in the United States District Court for the Eastern District of New York asserting breaches of fiduciary duty and violations of federal securities laws based on the alleged failure of the Board of Directors to exercise adequate oversight over the Firm's compliance with records preservation requirements which were the subject of resolutions between certain of the Firm's subsidiaries and the SEC and the CFTC. Defendants' motion to dismiss the amended complaint is pending.

Trading Venues Investigations. The Firm has been responding to government inquiries regarding its processes to inventory trading venues and confirm the completeness of certain data fed to trade surveillance platforms. The Firm self-identified that certain trading and order data through the CIB was not feeding into its trade surveillance platforms. The Firm has completed enhancements to the CIB's venue inventory and data completeness controls, and other remediation is underway. The Firm has also performed a review of the data not originally surveilled, which is nearly complete, and has not identified any employee misconduct, harm to clients or the market. While the identified gaps represent a fraction of the overall activity across the CIB, the data gap on one venue, which largely consisted of sponsored client access activity, was significant. The Firm is dedicated to maintaining rigorous controls and continuously enhancing the reliability of its trade infrastructure. The Firm expects to enter into resolutions with two U.S. regulators that will require the Firm to, among other things, complete its remediation, engage an independent consultant, and pay aggregate civil penalties of approximately $350 million. The Firm is also in advanced negotiations with a third U.S. regulator, but there is no assurance that such discussions will result in a resolution. The Firm does not expect any disruption of service to clients as a result of these resolutions.

* * *

In addition to the various legal proceedings discussed above, JPMorgan Chase and its subsidiaries are named as defendants or are otherwise involved in a substantial number of other legal proceedings. The Firm believes it has meritorious defenses to the claims asserted against it in its currently outstanding legal proceedings and it intends to defend itself vigorously. Additional legal proceedings may be initiated from time to time in the future.

The Firm has established reserves for several hundred of its currently outstanding legal proceedings. In accordance with the provisions of U.S. GAAP for contingencies, the Firm accrues for a litigation-related liability when it is probable that such a liability has been incurred and the amount of the loss can be reasonably estimated. The Firm evaluates its outstanding legal proceedings each quarter to assess its litigation reserves, and makes adjustments in such reserves, upward or downward, as appropriate, based on management's best judgment after consultation with counsel. The Firm's legal expense was $1.4 billion, $266 million and $426 million for the years ended December 31, 2023, 2022 and 2021, respectively. There is no assurance that the Firm's litigation reserves will not need to be adjusted in the future.

In view of the inherent difficulty of predicting the outcome of legal proceedings, particularly where the claimants seek very large or indeterminate damages, or where the matters present novel legal theories, involve a large number of parties or are in early stages of discovery, the Firm cannot state with confidence what will be the eventual outcomes of the currently pending matters, the timing of their ultimate resolution or the eventual losses, fines, penalties or consequences related to those matters. JPMorgan Chase believes, based upon its current knowledge and after consultation with counsel, consideration of the material legal proceedings described above and after taking into account its current litigation reserves and its estimated aggregate range of possible losses, that the other legal proceedings currently pending against it should not have a material adverse effect on the Firm's consolidated financial condition. The Firm notes, however, that in light of the uncertainties involved in such proceedings, there is no assurance that the ultimate resolution of these matters will not significantly exceed the reserves it has currently accrued or that a matter will not have material reputational consequences. As a result, the outcome of a particular matter may be material to JPMorgan Chase's operating results for a particular period, depending on, among other factors, the size of the loss or liability imposed and the level of JPMorgan Chase's income for that period.

Note 31 – International operations

The following table presents income statement and balance sheet-related information for JPMorgan Chase by major international geographic area. The Firm defines international activities for purposes of this footnote presentation as business transactions that involve clients residing outside of the U.S., and the information presented below is based predominantly on the domicile of the client, the location from which the client relationship is managed, booking location or the location of the trading desk. However, many of the Firm's U.S. operations serve international businesses.

As the Firm's operations are highly integrated, estimates and subjective assumptions have been made to apportion revenue and expense between U.S. and international operations. These estimates and assumptions are consistent with the allocations used for the Firm's segment reporting as set forth in Note 32.

The Firm's long-lived assets for the periods presented are not considered by management to be significant in relation to total assets. The majority of the Firm's long-lived assets are located in the U.S.

As of or for the year ended December 31, (in millions)	Revenue[c]	Expense[d]	Income before income tax expense	Net income	Total assets	
2023						
Europe/Middle East/Africa	**$ 20,974**	**$ 11,947**	**$ 9,027**	**$ 6,402**	**$ 529,335**	[e]
Asia-Pacific	**10,605**	**6,550**	**4,055**	**2,709**	**251,588**	
Latin America/Caribbean	**3,294**	**1,971**	**1,323**	**994**	**83,003**	
Total international	**34,873**	**20,468**	**14,405**	**10,105**	**863,926**	
North America[a][b]	**123,231**	**76,024**	**47,207**	**39,447**	**3,011,467**	
Total	**$ 158,104**	**$ 96,492**	**$ 61,612**	**$ 49,552**	**$ 3,875,393**	
2022						
Europe/Middle East/Africa	$ 18,765	$ 11,754	$ 7,011	$ 5,158	$ 558,430	[e]
Asia-Pacific	10,025	6,763	3,262	2,119	281,479	
Latin America/Caribbean	3,178	1,697	1,481	1,156	78,673	
Total international	31,968	20,214	11,754	8,433	918,582	
North America[a]	96,727	62,315	34,412	29,243	2,747,161	
Total	$ 128,695	$ 82,529	$ 46,166	$ 37,676	$ 3,665,743	
2021						
Europe/Middle East/Africa	$ 16,561	$ 10,833	$ 5,728	$ 4,202	$ 517,904	[e]
Asia-Pacific	9,654	6,372	3,282	2,300	277,897	
Latin America/Caribbean	2,756	1,589	1,167	878	65,040	
Total international	28,971	18,794	10,177	7,380	860,841	
North America[a]	92,678	43,293	49,385	40,954	2,882,726	
Total	$ 121,649	$ 62,087	$ 59,562	$ 48,334	$ 3,743,567	

(a) Substantially reflects the U.S.
(b) Includes the impact of First Republic. Refer to Note 34 for additional information.
(c) Revenue is composed of net interest income and noninterest revenue.
(d) Expense is composed of noninterest expense and the provision for credit losses.
(e) Total assets for the U.K. were approximately $352 billion, $357 billion and $365 billion at December 31, 2023, 2022 and 2021, respectively.

Note 32 – Business segments

The Firm is managed on an LOB basis. There are four major reportable business segments – Consumer & Community Banking, Corporate & Investment Bank, Commercial Banking and Asset & Wealth Management. In addition, there is a Corporate segment. The business segments are determined based on the products and services provided, or the type of customer served, and they reflect the manner in which financial information is evaluated by the Firm's Operating Committee. Segment results are presented on a managed basis. Refer to Segment results of this footnote for a further discussion of JPMorgan Chase's business segments.

The following is a description of each of the Firm's business segments, and the products and services they provide to their respective client bases.

Consumer & Community Banking

Consumer & Community Banking offers products and services to consumers and small businesses through bank branches, ATMs, digital (including mobile and online) and telephone banking. CCB is organized into Banking & Wealth Management (including Consumer Banking, J.P. Morgan Wealth Management and Business Banking), Home Lending (including Home Lending Production, Home Lending Servicing and Real Estate Portfolios) and Card Services & Auto. Banking & Wealth Management offers deposit, investment and lending products, cash management, payments and services. Home Lending includes mortgage origination and servicing activities, as well as portfolios consisting of residential mortgages and home equity loans. Card Services issues credit cards and offers travel services. Auto originates and services auto loans and leases.

Corporate & Investment Bank

The Corporate & Investment Bank, which consists of Banking and Markets & Securities Services, offers a broad suite of investment banking, market-making, prime brokerage, lending, and treasury and securities products and services to a global client base of corporations, investors, financial institutions, merchants, government and municipal entities. Banking offers a full range of investment banking products and services in all major capital markets, including advising on corporate strategy and structure, capital-raising in equity and debt markets, as well as loan origination and syndication. Banking also includes Payments, which provides services, that enable clients to manage payments globally across liquidity and account solutions, commerce solutions, clearing, trade and working capital. Markets & Securities Services includes Markets, a global market-maker across products, including cash and derivative instruments, which also offers sophisticated risk management solutions, prime brokerage, clearing and research. Markets & Securities Services also includes Securities Services, a leading global custodian which provides custody, fund accounting and administration, and securities lending products principally for asset managers, insurance companies and public and private investment funds.

Commercial Banking

Commercial Banking provides comprehensive financial solutions, including lending, payments, investment banking and asset management products across three primary client segments: Middle Market Banking, Corporate Client Banking and Commercial Real Estate Banking. Other includes amounts not aligned with a primary client segment.

Middle Market Banking covers small and midsized companies, local governments and nonprofit clients.

Corporate Client Banking covers large corporations.

Commercial Real Estate Banking covers investors, developers, and owners of multifamily, office, retail, industrial and affordable housing properties.

Asset & Wealth Management

Asset & Wealth Management, with client assets of $5.0 trillion, is a global leader in investment and wealth management.

Asset Management
Offers multi-asset investment management solutions across equities, fixed income, alternatives and money market funds to institutional and retail investors providing for a broad range of clients' investment needs.

Global Private Bank
Provides retirement products and services, brokerage, custody, estate planning, lending, deposits and investment management to high net worth clients.

The majority of AWM's client assets are in actively managed portfolios.

Corporate

The Corporate segment consists of Treasury and Chief Investment Office ("CIO") and Other Corporate. Treasury and CIO is predominantly responsible for measuring, monitoring, reporting and managing the Firm's liquidity, funding, capital, structural interest rate and foreign exchange risks.

Other Corporate includes staff functions and expense that is centrally managed as well as certain Firm initiatives and activities not solely aligned to a specific LOB. The major Other Corporate functions include Real Estate, Technology, Legal, Corporate Finance, Human Resources, Internal Audit, Risk Management, Compliance, Control Management, Corporate Responsibility and various Other Corporate groups.

Segment results

The following table provides a summary of the Firm's segment results as of or for the years ended December 31, 2023, 2022 and 2021, on a managed basis. The Firm's definition of managed basis starts with the reported U.S. GAAP results and includes certain reclassifications to present total net revenue for the Firm (and each of the reportable business segments) on an FTE basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in the managed results on a basis comparable to taxable investments and securities. This allows management to assess the comparability of revenue from year-to-year arising from both taxable and tax-exempt sources. The corresponding income tax impact related to tax-exempt items is recorded within income tax expense/(benefit). These adjustments have no impact on net income as reported by the Firm as a whole or by the LOBs.

Capital allocation

Each business segment is allocated capital by taking into consideration a variety of factors including capital levels of similarly rated peers and applicable regulatory capital requirements. ROE is measured and internal targets for expected returns are established as key measures of a business segment's performance.

The Firm's current allocation methodology incorporates Basel III Standardized RWA and the GSIB surcharge, both under rules currently in effect, as well as a simulation of capital in a severe stress environment. At least annually, the assumptions, judgments and methodologies used to allocate capital are reassessed and, as a result, the capital allocated to the LOBs may change.

Segment results and reconciliation[(a)]

(Table continued on next page)

As of or for the year ended December 31, (in millions, except ratios)	Consumer & Community Banking			Corporate & Investment Bank			Commercial Banking			Asset & Wealth Management		
	2023	2022	2021	**2023**	2022	2021	**2023**	2022	2021	**2023**	2022	2021
Noninterest revenue	**$ 15,118**	$14,886 [(b)]	$17,092 [(b)]	**$40,315**	$ 36,202 [(b)]	$38,403 [(b)]	**$ 3,494**	$ 3,336	$ 3,929	**$13,560**	$12,507	$13,071
Net interest income	**55,030**	39,928	32,787	**8,492**	11,900	13,540	**12,052**	8,197	6,079	**6,267**	5,241	3,886
Total net revenue	**70,148**	54,814	49,879	**48,807**	48,102	51,943	**15,546**	11,533	10,008	**19,827**	17,748	16,957
Provision for credit losses	**6,899**	3,813	(6,989)	**121**	1,158	(1,174)	**1,970**	1,268	(947)	**159**	128	(227)
Noninterest expense	**34,819**	31,208 [(b)]	29,028 [(b)]	**28,594**	27,350 [(b)]	25,553 [(b)]	**5,378**	4,719	4,041	**12,780**	11,829	10,919
Income/(loss) before income tax expense/ (benefit)	**28,430**	19,793	27,840	**20,092**	19,594	27,564	**8,198**	5,546	6,914	**6,888**	5,791	6,265
Income tax expense/ (benefit)	**7,198**	4,877 [(b)]	6,883 [(b)]	**5,963**	4,669 [(b)]	6,457 [(b)]	**2,055**	1,333	1,668	**1,661**	1,426	1,528
Net income/(loss)	**$ 21,232**	$14,916	$20,957	**$14,129**	$ 14,925	$ 21,107	**$ 6,143**	$ 4,213	$ 5,246	**$ 5,227**	$ 4,365	$ 4,737
Average equity	**$ 54,349**	$50,000	$50,000	**$108,000**	$103,000	$ 83,000	**$29,507**	$25,000	$24,000	**$16,671**	$17,000	$14,000
Total assets	**642,951**	514,085	500,370	**1,338,168**	1,334,296	1,259,896	**300,325**	257,106	230,776	**245,512**	232,037	234,425
Return on equity	**38 %**	29 %	41 %	**13 %**	14 %	25 %	**20 %**	16 %	21 %	**31 %**	25 %	33 %
Overhead ratio	**50**	57	58	**59**	57	49	**35**	41	40	**64**	67	64

(Table continued from previous page)

As of or for the year ended December 31, (in millions, except ratios)	Corporate			Reconciling Items[a]			Total		
	2023	2022	2021	**2023**	2022	2021	**2023**	2022	2021
Noninterest revenue	**$ 132**	$ (1,798)	$ 68	**$ (3,782)**	$ (3,148)	$ (3,225)	**$ 68,837**	$ 61,985	$ 69,338
Net interest income	**7,906**	1,878	(3,551)	**(480)**	(434)	(430)	**89,267**	66,710	52,311
Total net revenue	**8,038**	80	(3,483)	**(4,262)**	(3,582)	(3,655)	**158,104**	128,695	121,649
Provision for credit losses	**171**	22	81	**–**	–	–	**9,320**	6,389	(9,256)
Noninterest expense	**5,601**	1,034	1,802	**–**	–	–	**87,172**	76,140	71,343
Income/(loss) before income tax expense/(benefit)	**2,266**	(976)	(5,366)	**(4,262)**	(3,582)	(3,655)	**61,612**	46,166	59,562
Income tax expense/(benefit)	**(555)**	(233)	(1,653)	**(4,262)**	(3,582)	(3,655)	**12,060**	8,490	11,228
Net income/(loss)	**$ 2,821**	$ (743)	$ (3,713)	**$ –**	$ –	$ –	**$ 49,552**	$ 37,676	$ 48,334
Average equity	**$ 73,529**	$ 58,068	$ 79,968	**$ –**	$ –	$ –	**$ 282,056**	$ 253,068	$ 250,968
Total assets	**1,348,437**	1,328,219	1,518,100	**NA**	NA	NA	**3,875,393**	3,665,743	3,743,567
Return on equity	**NM**	NM	NM	**NM**	NM	NM	**17 %**	14 %	19 %
Overhead ratio	**NM**	NM	NM	**NM**	NM	NM	**55**	59	59

(a) Segment results on a managed basis reflect revenue on a FTE basis with the corresponding income tax impact recorded within income tax expense/(benefit). These adjustments are eliminated in reconciling items to arrive at the Firm's reported U.S. GAAP results.

(b) In the first quarter of 2023, the allocations of revenue and expense to CCB associated with a Merchant Services revenue sharing agreement were discontinued and are now retained in Payments in CIB. Prior-period amounts have been revised to conform with the current presentation.

As a result of the organizational changes that were announced on January 25, 2024, the Firm will be reorganizing its business segments to reflect the manner in which the segments will be managed. The reorganization of the business segments is expected to be effective in the second quarter of 2024.

Note 33 – Parent Company

The following tables present Parent Company-only financial statements.

Statements of income and comprehensive income

Year ended December 31, (in millions)	2023	2022	2021
Income			
Dividends from subsidiaries and affiliates:			
Bank and bank holding company	**$ 61,000**	$ 40,500	$ 10,000
Non-bank	**–**	–	–
Interest income from subsidiaries	**1,166**	498	32
Other income/(expense) from subsidiaries:			
Bank and bank holding company	**1,801**	(3,497)	859
Non-bank	**250**	335	366
Other income/(expense)	**(654)**	5,271	1,137
Total income	**63,563**	43,107	12,394
Expense			
Interest expense/(income) to subsidiaries and affiliates[a]	**2,258**	22,731	5,353
Other interest expense/(income)[a]	**11,714**	(14,658)	(1,349)
Noninterest expense	**3,431**	2,817	2,637
Total expense	**17,403**	10,890	6,641
Income before income tax benefit and undistributed net income of subsidiaries	**46,160**	32,217	5,753
Income tax benefit	**1,525**	1,260	1,329
Equity in undistributed net income of subsidiaries	**1,867**	4,199	41,252
Net income	**$ 49,552**	$ 37,676	$ 48,334
Other comprehensive income/(loss), net	**6,898**	(17,257)	(8,070)
Comprehensive income	**$ 56,450**	$ 20,419	$ 40,264

Balance sheets

December 31, (in millions)	2023	2022
Assets		
Cash and due from banks	**$ 42**	$ 41
Deposits with banking subsidiaries	**9,804**	9,806
Trading assets	**3,198**	2,727
Advances to, and receivables from, subsidiaries:		
Bank and bank holding company	**152**	136
Non-bank	**21**	46
Investments (at equity) in subsidiaries and affiliates:		
Bank and bank holding company	**568,472**	532,759
Non-bank	**1,045**	1,064
Other assets	**8,962**	9,108
Total assets	**$ 591,696**	$ 555,687
Liabilities and stockholders' equity		
Borrowings from, and payables to, subsidiaries and affiliates	**$ 22,777**	$ 24,164
Short-term borrowings	**999**	1,130
Other liabilities	**11,500**	10,440
Long-term debt[b][c]	**228,542**	227,621
Total liabilities[c]	**263,818**	263,355
Total stockholders' equity	**327,878**	292,332
Total liabilities and stockholders' equity	**$ 591,696**	$ 555,687

Statements of cash flows

Year ended December 31, (in millions)	2023	2022	2021
Operating activities			
Net income	**$ 49,552**	$ 37,676	$ 48,334
Less: Net income of subsidiaries and affiliates	**62,868**	44,699	51,252
Parent company net loss	**(13,316)**	(7,023)	(2,918)
Cash dividends from subsidiaries and affiliates	**61,000**	40,500	10,000
Other operating adjustments	**9,412**	(23,747)	(12,677)
Net cash provided by/(used in) operating activities	**57,096**	9,730	(5,595)
Investing activities			
Net change in:			
Advances to and investments in subsidiaries and affiliates, net	**(25,000)**	–	(3,000)
All other investing activities, net	**25**	31	31
Net cash provided by/(used in) investing activities	**(24,975)**	31	(2,969)
Financing activities			
Net change in:			
Borrowings from subsidiaries and affiliates	**(2,249)**	(4,491)	2,647
Short-term borrowings	**–**	–	–
Proceeds from long-term borrowings	**19,398**	41,389	49,169
Payments of long-term borrowings	**(25,105)**	(18,294)	(15,543)
Proceeds from issuance of preferred stock	**–**	–	7,350
Redemption of preferred stock	**–**	(7,434)	(2,575)
Treasury stock repurchased	**(9,824)**	(3,162)	(18,408)
Dividends paid	**(13,463)**	(13,562)	(12,858)
All other financing activities, net	**(879)**	(1,205)	(1,238)
Net cash provided by/(used in) financing activities	**(32,122)**	(6,759)	8,544
Net increase/(decrease) in cash and due from banks and deposits with banking subsidiaries	**(1)**	3,002	(20)
Cash and due from banks and deposits with banking subsidiaries at the beginning of the year	**9,847**	6,845	6,865
Cash and due from banks and deposits with banking subsidiaries at the end of the year	**$ 9,846**	$ 9,847	$ 6,845
Cash interest paid	**$ 13,742**	$ 7,462	$ 4,065
Cash income taxes paid, net[d]	**10,291**	6,941	15,259

(a) Includes interest expense for intercompany derivative hedges on the Firm's LTD and related fair value adjustments, which is offset by related amounts in Other interest expense/(income).

(b) At December 31, 2023, long-term debt that contractually matures in 2024 through 2028 totaled $9.1 billion, $27.5 billion, $29.1 billion, $20.1 billion, and $21.8 billion, respectively.

(c) Refer to Notes 20 and 28 for information regarding the Parent Company's guarantees of its subsidiaries' obligations.

(d) Represents payments, net of refunds, made by the Parent Company to various taxing authorities and includes taxes paid on behalf of certain of its subsidiaries that are subsequently reimbursed. The reimbursements were $13.2 billion, $11.3 billion, and $13.9 billion for the years ended December 31, 2023, 2022 and 2021, respectively.

Note 34 – Business combinations

On May 1, 2023, JPMorgan Chase acquired certain assets and assumed certain liabilities of First Republic Bank (the "First Republic acquisition") from the Federal Deposit Insurance Corporation (“FDIC”), as receiver. The Firm believes that the First Republic acquisition is complementary to the Firm's existing franchises. The acquisition resulted in an estimated bargain purchase gain, which represents the excess of the estimated fair value of the net assets acquired above the purchase price.

The Firm has determined that this acquisition constitutes a business combination under U.S. GAAP. Accordingly, the initial recognition of the assets acquired and liabilities assumed were generally measured at their estimated fair values as of May 1, 2023. The determination of those fair values required management to make certain market-based assumptions about expected future cash flows, discount rates and other valuation inputs at the time of the acquisition. The Firm believes that the fair value estimates of the assets acquired and liabilities assumed provide a reasonable basis for determining the estimated bargain purchase gain.

The Firm and the FDIC have not yet completed the settlement process under which the purchase price, and the identification of the assets acquired and liabilities assumed, will be finalized. The finalization of this settlement process may impact the amount of the estimated bargain purchase gain. The purchase and assumption agreement entered into with the FDIC allows for final settlement to occur up to a year after the acquisition date.

In addition, the purchase price and the estimated bargain purchase gain could change pending management's finalization of its acquisition date fair value estimates for certain of the assets acquired and liabilities assumed, which may take place up to one year from the acquisition date, as permitted by U.S. GAAP.

The First Republic acquisition resulted in a preliminary estimated bargain purchase gain of $2.7 billion. The Firm has continued to progress in the settlement process with the FDIC and refine its acquisition-date fair value estimates. As a result, during the year ended December 31, 2023, adjustments totaling $63 million were made, increasing the estimated bargain purchase gain to $2.8 billion.

In connection with the First Republic acquisition, the Firm and the FDIC entered into two shared-loss agreements with respect to certain loans and lending-related commitments (the "shared-loss assets"): the Commercial Shared-Loss Agreement ("CSLA") and the Single-Family Shared-Loss Agreement (“SFSLA”). The CSLA covers 80% of credit losses, on a pari passu basis, over 5 years with a subsequent 3-year recovery period for certain acquired commercial loans and other real estate exposure. The SFSLA covers 80% of credit losses, on a pari passu basis, for 7 years for certain acquired loans secured by mortgages on real property or shares in cooperative property constituting a primary residence. The indemnification assets, which represent the fair value of the CSLA and SFSLA on the acquisition date, are reflected in the total assets acquired.

As part of the consideration paid, JPMorgan Chase issued a five-year, $50 billion secured note to the FDIC (the "Purchase Money Note"). The Purchase Money Note bears interest at a fixed rate of 3.4% and is secured by certain of the acquired loans. The Purchase Money Note is prepayable upon notice to the holder.

The Firm had placed a $5 billion deposit with First Republic Bank on March 16, 2023, as part of $30 billion of deposits provided by a consortium of large U.S. banks. The Firm's $5 billion deposit was effectively settled as part of the acquisition and the associated allowance for credit losses was released upon closing. The Firm subsequently repaid the remaining $25 billion of deposits to the consortium of banks, including accrued interest through the payment date on May 9, 2023.

The computation of the purchase price, the estimated fair values of the assets acquired and liabilities assumed as part of the First Republic acquisition and the related estimated bargain purchase gain are presented below, and reflect the adjustments made through December 31, 2023 to the acquisition-date fair value of the net assets acquired.

(in millions)		Fair value purchase price allocation as of May 1, 2023
Purchase price consideration		
Amounts paid/due to the FDIC, net of cash acquired[(a)]	$	13,524
Purchase Money Note (at fair value)		48,848
Settlement of First Republic deposit and other related party transactions[(b)]		5,447
Contingent consideration - Shared-loss agreements		15
Purchase price consideration	$	67,834
Assets		
Securities	$	30,285
Loans[(c)]		153,242
Core deposit and customer relationship intangibles		1,455
Indemnification assets - Shared-loss agreements		675
Accounts receivable and other assets[(c)(d)]		6,574
Total assets acquired	$	192,231
Liabilities		
Deposits	$	87,572
FHLB advances		27,919
Lending-related commitments		2,614
Accounts payable and other liabilities[(c)(d)]		2,793
Deferred tax liabilities		724
Total liabilities assumed	$	121,622
Fair value of net assets acquired	$	70,609
Estimated gain on acquisition, after-tax	$	2,775

(a) Includes $10.6 billion of cash paid to the FDIC at acquisition and $3.6 billion payable to the FDIC, less cash acquired of $680 million.
(b) Includes $447 million of securities financing transactions with First Republic Bank that were effectively settled on the acquisition date.
(c) In the fourth quarter, certain assets and liabilities were reclassified resulting in a $762 million increase to loans, an $870 million decrease to accounts receivable and other assets and a $30 million increase to accounts payable and other liabilities.
(d) Other assets include $1.2 billion in tax-oriented investments and $683 million of lease right-of-use assets. Other liabilities include the related tax-oriented investment liabilities of $669 million and lease liabilities of $748 million. Refer to Note 14 and Note 18 for additional information.

The issuance of the $50 billion Purchase Money Note, the effective settlement of the Firm's $5 billion deposit and $447 million of securities financing with First Republic Bank, and the $3.6 billion payable to the FDIC as part of the purchase price consideration are considered non-cash transactions.

The following describes the accounting policies and fair value methodologies generally used by the Firm for the following assets acquired and liabilities assumed: core deposit and customer relationship intangibles, shared-loss agreements and the related indemnification assets, Purchase Money Note, and FHLB advances.

For further discussion of the Firm's accounting policies and valuation methodologies, refer to Note 2 and Note 3 for fair value measurement, Note 10 for investment securities, Note 12 for loans, Note 17 for deposits, and Note 28 for lending-related commitments.

Core deposit and customer relationship intangibles

Core deposit and certain wealth management customer relationship intangibles were acquired as part of the First Republic acquisition. The core deposit intangible of $1.3 billion was valued by discounting estimated after-tax cost savings over the remaining useful life of the deposits using the favorable source of funds method. The after-tax cost savings were estimated based on the difference between the cost of maintaining the core deposit base relative to the cost of next best alternative funding sources available to market participants. The customer relationship intangibles of $180 million were valued by discounting estimated after-tax earnings over their remaining useful lives using the multi-period excess earnings method. Both intangible asset valuations utilized assumptions that the Firm believes a market participant would use to estimate fair values, such as growth and attrition rates, projected fee income as well as related costs to service the relationships, and discount rates. The core deposit and customer relationship intangibles will be amortized over a projected period of future cash flows of approximately 7 years. Refer to Note 15 for further discussion on other intangible assets.

Indemnification assets - Shared-loss agreements

The indemnification assets represent forecasted recoveries from the FDIC associated with the shared-loss assets over the respective shared-loss recovery periods. The indemnification assets were recorded at fair value in other

assets on the Consolidated balance sheets on the acquisition date. The fair values of the indemnification assets were estimated based on the timing of the forecasted losses underlying the related allowance for credit losses. The subsequent quarterly remeasurement of the indemnification assets is based on changes in the amount and timing of forecasted losses in the allowance for credit losses associated with the shared-loss assets and is recorded in other income. Under certain circumstances, the Firm may be required to make a payment to the FDIC upon termination of the shared-loss agreements based on the level of actual losses and recoveries on the shared-loss assets. The estimated potential future payment is reflected as contingent consideration as part of the purchase price consideration.

Purchase Money Note and FHLB advances

The Purchase Money Note is recorded in long-term debt on the Consolidated balance sheets. The fair value of the Purchase Money Note was estimated based on a discounted cash flow methodology and incorporated estimated market discount rates.

The FHLB advances assumed in the acquisition are recorded in short-term borrowings and in long-term debt. The fair values of the FHLB advances were based on a discounted cash flow methodology and considered the observed FHLB advance issuance rates.

Loans

The following table presents the unpaid principal balance ("UPB") and estimated fair values of the loans acquired as of May 1, 2023, and reflects adjustments to the acquisition-date fair value of the loans acquired through December 31, 2023.

	May 1, 2023	
(in millions)	UPB	Fair value
Residential real estate	**$ 106,240**	**$ 92,053**
Auto and other	**3,093**	**2,030**
Total consumer	**109,333**	**94,083**
Secured by real estate	**37,117**	**33,602**
Commercial & industrial	**4,332**	**3,932**
Other[(a)]	**23,499**	**21,625**
Total wholesale	**64,948**	**59,159**
Total loans	**$ 174,281**	**$ 153,242**

(a) In the fourth quarter, certain assets and liabilities were reclassified resulting in a $900 million increase to the UPB and a $762 million increase to the fair value of Other wholesale loans.

Unaudited pro forma condensed combined financial information

Included in the Firm's Consolidated statements of income are noninterest revenue, net interest income and net income contributed by First Republic of $4.4 billion, $3.7 billion and $4.1 billion, respectively, for the year ended December 31, 2023.

The following table presents certain unaudited pro forma financial information for the year ended December 31, 2023 and 2022 as if the First Republic acquisition had occurred on January 1, 2022, including recognition of the estimated bargain purchase gain of $2.8 billion and the provision for credit losses of $1.2 billion. Additional adjustments include the interest on the Purchase Money Note and the impact of amortizing and accreting certain estimated fair value adjustments related to intangible assets, loans and lending-related commitments.

The Firm expects to achieve operating cost savings and other business synergies resulting from the acquisition that are not reflected in the pro forma amounts. The pro forma information is not necessarily indicative of the historical results of operations had the acquisition occurred on January 1, 2022, nor is it indicative of the results of operations in future periods, particularly in light of recent changes in market and economic conditions.

	Year ended December 31,	
(in millions)	2023	2022
Noninterest revenue	**$ 65,816**	$ 66,510
Net interest income	**90,856**	71,005
Net income	**48,665**	41,089

Supplementary Information: Distribution of assets, liabilities and stockholders' equity; interest rates and interest differentials

Consolidated average balance sheets, interest and rates

Provided below is a summary of JPMorgan Chase's consolidated average balances, interest and rates on a taxable-equivalent basis for the years 2021 through 2023. Income computed on a taxable-equivalent basis is the income reported in the Consolidated statements of income, adjusted to present interest income and rates earned on assets exempt from income taxes (i.e., federal taxes) on a basis comparable with other taxable investments. The incremental tax rate used for calculating the taxable-equivalent adjustment was approximately 24% in 2023, 2022 and 2021.

(Table continued on next page)

(Unaudited)	2023		
Year ended December 31, (Taxable-equivalent interest and rates; in millions, except rates)	Average balance	Interest[g]	Rate
Assets			
Deposits with banks	$ 499,396	$ 21,797	4.36 %
Federal funds sold and securities purchased under resale agreements	317,159	15,079	4.75
Securities borrowed	193,228	7,983	4.13
Trading assets – debt instruments	376,928	16,001	4.25
Taxable securities	573,914	17,390	3.03
Non-taxable securities[a]	30,886	1,560	5.05
Total investment securities	604,800	18,950	3.13 [i]
Loans	1,248,076	83,589 [h]	6.70
All other interest-earning assets[b][c]	86,121	7,669	8.90
Total interest-earning assets	3,325,708	171,068	5.14
Allowance for loan losses	(20,762)		
Cash and due from banks	24,853		
Trading assets – equity and other instruments	160,087		
Trading assets – derivative receivables	64,227		
Goodwill, MSRs and other intangible assets	63,212		
All other noninterest-earning assets	204,899		
Total assets	$ 3,822,224		
Liabilities			
Interest-bearing deposits	$ 1,698,529	$ 40,016	2.36 %
Federal funds purchased and securities loaned or sold under repurchase agreements	256,086	13,259	5.18
Short-term borrowings	37,468	1,894	5.05
Trading liabilities – debt and all other interest-bearing liabilities[d][e]	286,605	9,396	3.28
Beneficial interests issued by consolidated VIEs	18,648	953	5.11
Long-term debt	296,433	15,803	5.33
Total interest-bearing liabilities	2,593,769	81,321	3.14
Noninterest-bearing deposits	660,538		
Trading liabilities – equity and other instruments[e]	30,501		
Trading liabilities – derivative payables	46,355		
All other liabilities, including the allowance for lending-related commitments	181,601		
Total liabilities	3,512,764		
Stockholders' equity			
Preferred stock	27,404		
Common stockholders' equity	282,056		
Total stockholders' equity	309,460 [f]		
Total liabilities and stockholders' equity	$ 3,822,224		
Interest rate spread			2.00 %
Net interest income and net yield on interest-earning assets		$ 89,747	2.70

(a) Represents securities that are tax-exempt for U.S. federal income tax purposes.
(b) Includes brokerage-related held-for-investment customer receivables, which are classified in accrued interest and accounts receivable, and all other interest-earning assets, which are classified in other assets on the Consolidated Balance Sheets.
(c) The rates reflect the impact of interest earned on cash collateral where the cash collateral has been netted against certain derivative payables.
(d) All other interest-bearing liabilities include brokerage-related customer payables.

Within the Consolidated average balance sheets, interest and rates summary, the principal amounts of nonaccrual loans have been included in the average loan balances used to determine the average interest rate earned on loans. Refer to Note 12 for additional information on nonaccrual loans, including interest accrued.

(Table continued from previous page)

	2022			2021		
	Average balance	Interest[g]	Rate	Average balance	Interest[g]	Rate
	$ 670,773	$ 9,039	1.35 %	$ 719,772	$ 512	0.07 %
	307,150	4,632	1.51	269,231	958	0.36
	205,516	2,237	1.09	190,655	(385)	(0.20) [j]
	283,108	9,097	3.21	283,829	6,856	2.42
	626,122	10,372	1.66	563,147	6,460	1.15
	27,863	1,224	4.39	30,830	1,336	4.33
	653,985	11,596	1.77 [i]	593,977	7,796	1.31 [i]
	1,100,318	52,877 [h]	4.81	1,035,399	41,663 [h]	4.02
	128,229	3,763	2.93	123,079	894	0.73
	3,349,079	93,241	2.78	3,215,942	58,294	1.81
	(17,399)			(22,179)		
	27,601			26,776		
	140,778			172,822		
	78,606			69,101		
	59,467			55,003		
	215,408			207,737		
	$ 3,853,540			$ 3,725,202		
	$ 1,748,666	$ 10,082	0.58 %	$ 1,672,669	$ 531	0.03 %
	242,762	3,721	1.53	259,302	274	0.11
	46,063	747	1.62	44,618	126	0.28
	268,019	3,246	1.21	241,431	257	0.11
	11,208	226	2.02	14,595	83	0.57
	250,080	8,075	3.23	250,378	4,282	1.71
	2,566,798	26,097	1.02	2,482,993	5,553	0.22
	719,249			674,485		
	39,155			36,656		
	57,388			60,318		
	185,989			186,755		
	3,568,579			3,441,207		
	31,893			33,027		
	253,068			250,968		
	284,961 [f]			283,995 [f]		
	$ 3,853,540			$ 3,725,202		
			1.76 %			1.59 %
		$ 67,144	2.00		$ 52,741	1.64

(e) The combined balance of trading liabilities – debt and equity instruments was $153.3 billion, $138.1 billion and $128.2 billion for the years ended December 31, 2023, 2022 and 2021, respectively.

(f) The ratio of average stockholders' equity to average assets was 8.1%, 7.4% and 7.6% for the years ended December 31, 2023, 2022 and 2021, respectively. The return on average stockholders' equity, based on net income, was 16.0%, 13.2% and 17.0% for the years ended December 31, 2023, 2022 and 2021, respectively.

(g) Interest includes the effect of related hedging derivatives. Taxable-equivalent amounts are used where applicable.

(h) Included fees and commissions on loans of $2.2 billion, $1.8 billion and $1.9 billion for the years ended December 31, 2023, 2022 and 2021, respectively

(i) The annualized rate for securities based on amortized cost was 3.09%, 1.75% and 1.33% for the years ended December 31, 2023, 2022 and 2021, respectively, and does not give effect to changes in fair value that are reflected in AOCI.

(j) Negative interest and rates reflect the net impact of interest earned offset by fees paid on client-driven prime brokerage securities borrowed transactions.

Interest rates and interest differential analysis of net interest income – U.S. and non-U.S.

Presented below is a summary of interest and rates segregated between U.S. and non-U.S. operations for the years 2021 through 2023. The segregation of U.S. and non-U.S. components is based on the location of the office recording the transaction.

(Table continued on next page)

(Unaudited) Year ended December 31, (Taxable-equivalent interest and rates; in millions, except rates)	2023 Average balance	2023 Interest	2023 Rate
Interest-earning assets			
Deposits with banks:			
U.S.	$ 296,784	$ 15,348	5.17 %
Non-U.S.	202,612	6,449	3.18
Federal funds sold and securities purchased under resale agreements:			
U.S.	155,304	8,330	5.36
Non-U.S.	161,855	6,749	4.17
Securities borrowed:			
U.S.	133,805	6,239	4.66
Non-U.S.	59,423	1,744	2.93
Trading assets – debt instruments:			
U.S.	248,541	10,721	4.31
Non-U.S.	128,387	5,280	4.11
Investment securities:			
U.S.	568,505	17,469	3.07
Non-U.S.	36,295	1,481	4.08
Loans:			
U.S.	1,137,162	76,884	6.76
Non-U.S.	110,914	6,705	6.05
All other interest-earning assets, predominantly U.S.[(a)]	86,121	7,669	8.90
Total interest-earning assets	3,325,708	171,068	5.14
Interest-bearing liabilities			
Interest-bearing deposits:			
U.S.	1,290,110	26,253	2.03
Non-U.S.	408,419	13,763	3.37
Federal funds purchased and securities loaned or sold under repurchase agreements:			
U.S.	197,049	10,639	5.40
Non-U.S.	59,037	2,620	4.44
Trading liabilities – debt, short-term and all other interest-bearing liabilities:			
U.S.	205,388	7,774	3.79
Non-U.S.	118,685	3,516	2.96
Beneficial interests issued by consolidated VIEs, predominantly U.S.	18,648	953	5.11
Long-term debt:			
U.S.	293,218	15,749	5.37
Non-U.S.	3,215	54	1.68
Total interest-bearing liabilities	2,593,769	81,321	3.14
Noninterest-bearing liabilities[(b)]	731,939		
Total investable funds	$ 3,325,708	$ 81,321	2.45 %
Net interest income and net yield:		$ 89,747	2.70 %
U.S.		77,923	3.01
Non-U.S.		11,824	1.61
Percentage of total assets and liabilities attributable to non-U.S. operations:			
Assets			24.7
Liabilities			20.2

(a) The rates reflect the impact of interest earned on cash collateral where that cash collateral has been netted against certain derivative payables.
(b) Represents the amount of noninterest-bearing liabilities funding interest-earning assets.
(c) Negative interest and rates reflect the net impact of interest earned offset by fees paid on client-driven prime brokerage securities borrowed transactions.

Refer to the “Net interest income” discussion in Consolidated Results of Operations on pages 54–57 for further information.

(Table continued from previous page)

2022			2021		
Average balance	Interest	Rate	Average balance	Interest	Rate
$ 456,366	$ 7,418	1.63 %	$ 527,340	$ 693	0.13 %
214,407	1,621	0.76	192,432	(181)	(0.09)
130,213	2,191	1.68	114,406	299	0.26
176,937	2,441	1.38	154,825	659	0.43
142,736	1,811	1.27	137,752	(319)	(0.23) [c]
62,780	426	0.68	52,903	(66)	(0.12) [c]
170,975	5,414	3.17	158,793	3,530	2.22
112,133	3,683	3.28	125,036	3,326	2.66
623,285	10,994	1.76	563,109	7,399	1.31
30,700	602	1.96	30,868	397	1.29
985,187	48,953	4.97	924,713	39,215	4.24
115,131	3,924	3.41	110,686	2,448	2.21
128,229	3,763	2.93	123,079	894	0.73
3,349,079	93,241	2.78	3,215,942	58,294	1.81
1,358,322	7,026	0.52	1,301,616	901	0.07
390,344	3,056	0.78	371,053	(370)	(0.10)
173,016	3,083	1.78	199,220	222	0.11
69,746	638	0.91	60,082	52	0.09
194,570	2,384	1.23	176,466	(345)	(0.20)
119,512	1,609	1.35	109,583	728	0.66
11,208	226	2.02	14,595	83	0.57
246,670	8,026	3.25	244,850	4,229	1.73
3,410	49	1.44	5,528	53	0.96
2,566,798	26,097	1.02	2,482,993	5,553	0.22
782,281			732,949		
$ 3,349,079	$ 26,097	0.78 %	$ 3,215,942	$ 5,553	0.17 %
	$ 67,144	2.00 %		$ 52,741	1.64 %
	58,950	2.27		46,622	1.86
	8,194	1.09		6,119	0.87
		24.9			24.6
		20.6			20.4

Changes in net interest income, volume and rate analysis

The table below presents an attribution of net interest income between volume and rate. The attribution between volume and rate is calculated using annual average balances for each category of assets and liabilities shown in the table and the corresponding annual rates (refer to pages 310-313 for more information on average balances and rates). In this analysis, when the change cannot be isolated to either volume or rate, it has been allocated to volume. The annual rates include the impact of changes in market rates, as well as the impact of any change in composition of the various products within each category of asset or liability. This analysis is calculated separately for each category without consideration of the relationship between categories (for example, the net spread between the rates earned on assets and the rates paid on liabilities that fund those assets). As a result, changes in the granularity or groupings considered in this analysis would produce a different attribution result, and due to the complexities involved, precise allocation of changes in interest rates between volume and rates is inherently complex and judgmental.

(Unaudited)	2023 versus 2022			2022 versus 2021		
	Increase/(decrease) due to change in:			Increase/(decrease) due to change in:		
Year ended December 31, (On a taxable-equivalent basis; in millions)	Volume	Rate	Net change	Volume	Rate	Net change
Interest-earning assets						
Deposits with banks:						
U.S.	**$ (8,225)**	**$ 16,155**	**$ 7,930**	$ (1,185)	$ 7,910	$ 6,725
Non-U.S.	**(361)**	**5,189**	**4,828**	166	1,636	1,802
Federal funds sold and securities purchased under resale agreements:						
U.S.	**1,347**	**4,792**	**6,139**	267	1,625	1,892
Non-U.S.	**(629)**	**4,937**	**4,308**	311	1,471	1,782
Securities borrowed:						
U.S.	**(411)**	**4,839**	**4,428**	64	2,066	2,130
Non-U.S.	**(95)**	**1,413**	**1,318**	69	423	492
Trading assets - debt instruments:						
U.S.	**3,358**	**1,949**	**5,307**	375	1,509	1,884
Non-U.S.	**666**	**931**	**1,597**	(418)	775	357
Investment securities:						
U.S.	**(1,690)**	**8,165**	**6,475**	1,061	2,534	3,595
Non-U.S.	**228**	**651**	**879**	(2)	207	205
Loans:						
U.S.	**10,296**	**17,635**	**27,931**	2,988	6,750	9,738
Non-U.S.	**(258)**	**3,039**	**2,781**	148	1,328	1,476
All other interest-earning assets, predominantly U.S.	**(3,749)**	**7,655**	**3,906**	161	2,708	2,869
Change in interest income	**477**	**77,350**	**77,827**	4,005	30,942	34,947
Interest-bearing liabilities						
Interest-bearing deposits:						
U.S.	**(1,284)**	**20,511**	**19,227**	268	5,857	6,125
Non-U.S.	**597**	**10,110**	**10,707**	161	3,265	3,426
Federal funds purchased and securities loaned or sold under repurchase agreements:						
U.S.	**1,293**	**6,263**	**7,556**	(466)	3,327	2,861
Non-U.S.	**(480)**	**2,462**	**1,982**	93	493	586
Trading liabilities - debt, short-term and all other interest-bearing liabilities:						
U.S.	**409**	**4,981**	**5,390**	206	2,523	2,729
Non-U.S.	**(17)**	**1,924**	**1,907**	125	756	881
Beneficial interests issued by consolidated VIEs, predominantly U.S.	**381**	**346**	**727**	(69)	212	143
Long-term debt:						
U.S.	**2,494**	**5,229**	**7,723**	75	3,722	3,797
Non-U.S.	**(3)**	**8**	**5**	(31)	27	(4)
Change in interest expense	**3,390**	**51,834**	**55,224**	362	20,182	20,544
Change in net interest income	**$ (2,913)**	**$ 25,516**	**$ 22,603**	$ 3,643	$ 10,760	$ 14,403

2022 Form 10-K: Annual report on Form 10-K for the year ended December 31, 2022, filed with the U.S. Securities and Exchange Commission.

ABS: Asset-backed securities

AFS: Available-for-sale

ALCO: Asset Liability Committee

Amortized cost: Amount at which a financing receivable or investment is originated or acquired, adjusted for accretion or amortization of premium, discount, and net deferred fees or costs, collection of cash, charge-offs, foreign exchange, and fair value hedge accounting adjustments. For AFS securities, amortized cost is also reduced by any impairment losses recognized in earnings. Amortized cost is not reduced by the allowance for credit losses, except where explicitly presented net.

AOCI: Accumulated other comprehensive income/(loss)

ARM: Adjustable rate mortgage(s)

AUC: "Assets under custody": Represents assets held directly or indirectly on behalf of clients under safekeeping, custody and servicing arrangements.

AUM: "Assets under management": Represent assets managed by AWM on behalf of its Private Banking, Institutional and Retail clients. Includes "Committed capital not Called."

Auto loan and lease origination volume: Dollar amount of auto loans and leases originated.

AWM: Asset & Wealth Management

Beneficial interests issued by consolidated VIEs: Represents the interest of third-party holders of debt, equity securities, or other obligations, issued by VIEs that JPMorgan Chase consolidates.

Benefit obligation: Refers to the projected benefit obligation for pension plans and the accumulated postretirement benefit obligation for OPEB plans.

BHC: Bank holding company

BWM: Banking & Wealth Management

Bridge Financing Portfolio: A portfolio of held-for-sale unfunded loan commitments and funded loans. The unfunded commitments include both short-term bridge loan commitments that will ultimately be replaced by longer term financing as well as term loan commitments. The funded loans include term loans and funded revolver facilities.

CB: Commercial Banking

CCAR: Comprehensive Capital Analysis and Review

CCB: Consumer & Community Banking

CCB Consumer customer: A unique individual that has financial ownership or decision-making power with respect to accounts; excludes customers under the age of 18. Where a customer uses the same identifier as both a Consumer and a Small business, the customer is included in both metrics.

CCB Small business customer: A unique business or legal entity that has financial ownership or decision-making power with respect to accounts. Where a customer uses the same identifier as both a Consumer and a Small business, the customer is included in both metrics.

CCO: Chief Compliance Officer

CCP: "Central counterparty" is a clearing house that interposes itself between counterparties to contracts traded in one or more financial markets, becoming the buyer to every seller and the seller to every buyer and thereby ensuring the future performance of open contracts. A CCP becomes a counterparty to trades with market participants through novation, an open offer system, or another legally binding arrangement.

CDS: Credit default swaps

CECL: Current Expected Credit Losses

CEO: Chief Executive Officer

CET1 Capital: Common equity Tier 1 capital

CFO: Chief Financial Officer

CFP: Contingency funding plan

CFTC: Commodity Futures Trading Commission

CIB: Corporate & Investment Bank

CIO: Chief Investment Office

Client assets: Represent assets under management as well as custody, brokerage, administration and deposit accounts.

Client deposits and other third-party liabilities: Deposits, as well as deposits that are swept to on-balance sheet liabilities (e.g., commercial paper, federal funds purchased and securities loaned or sold under repurchase agreements) as part of client cash management programs.

Client investment assets: Represent assets under management as well as custody, brokerage and annuity accounts, and deposits held in investment accounts.

CLO: Collateralized loan obligations

CLTV: Combined loan-to-value

CMT: Constant Maturity Treasury

Collateral-dependent: A loan is considered to be collateral-dependent when repayment of the loan is expected to be provided substantially through the operation or sale of the collateral when the borrower is experiencing financial difficulty, including when foreclosure is deemed probable based on borrower delinquency.

Commercial Card: provides a wide range of payment services to corporate and public sector clients worldwide through the commercial card products. Services include procurement, corporate travel and entertainment, expense management services, and business-to-business payment solutions.

Credit derivatives: Financial instruments whose value is derived from the credit risk associated with the debt of a third-party issuer (the reference entity) which allow one party (the protection purchaser) to transfer that risk to another party (the protection seller). Upon the occurrence of a credit event by the reference entity, which may include, among other events, the bankruptcy or failure to pay its obligations, or certain restructurings of the debt of the reference entity, neither party has recourse to the reference entity. The protection purchaser has recourse to the protection seller for the difference between the face value of the CDS contract and the fair value at the time of settling the credit derivative contract. The determination as to whether a credit event has occurred is generally made by the relevant International Swaps and Derivatives Association ("ISDA") Determinations Committee.

Criticized: Criticized loans, lending-related commitments and derivative receivables that are classified as special mention, substandard and doubtful categories for regulatory purposes and are generally consistent with a rating of CCC+/Caa1 and below, as defined by S&P and Moody's.

CRO: Chief Risk Officer

CRR: Capital Requirements Regulation

CTC: CIO, Treasury and Corporate

Custom lending: Loans to AWM's Global Private Bank clients, including loans to private investment funds and loans that are collateralized by nontraditional asset types, such as art work, aircraft, etc.

CVA: Credit valuation adjustment

Debit and credit card sales volume: Dollar amount of card member purchases, net of returns.

Deposit margin: Represents net interest income expressed as a percentage of average deposits.

Distributed denial-of-service attack: The use of a large number of remote computer systems to electronically send a high volume of traffic to a target website to create a service outage at the target. This is a form of cyberattack.

Dodd-Frank Act: Wall Street Reform and Consumer Protection Act

DVA: Debit valuation adjustment

EC: European Commission

Eligible HQLA: Eligible high-quality liquid assets, for purposes of calculating the LCR, is the amount of unencumbered HQLA that satisfy certain operational considerations as defined in the LCR rule.

Eligible LTD: Long-term debt satisfying certain eligibility criteria

Embedded derivatives: are implicit or explicit terms or features of a financial instrument that affect some or all of the cash flows or the value of the instrument in a manner similar to a derivative. An instrument containing such terms or features is referred to as a "hybrid." The component of the hybrid that is the non-derivative instrument is referred to as the "host." For example, callable debt is a hybrid instrument that contains a plain vanilla debt instrument (i.e., the host) and an embedded option that allows the issuer to redeem the debt issue at a specified date for a specified amount (i.e., the embedded derivative). However, a floating rate instrument is not a hybrid composed of a fixed-rate instrument and an interest rate swap.

EPS: Earnings per share

ERISA: Employee Retirement Income Security Act of 1974

ETD: "Exchange-traded derivatives": Derivative contracts that are executed on an exchange and settled via a central clearing house.

EU: European Union

Expense categories:

- Volume- and/or revenue-related expenses generally correlate with changes in the related business/ transaction volume or revenue. Examples include commissions and incentive compensation within the LOBs, depreciation expense related to operating lease assets, and brokerage expense related to trading transaction volume.
- Investments in the business include expenses associated with supporting medium- to longer-term strategic plans of the Firm. Examples include front office growth, market expansion, initiatives in technology (including related compensation), marketing, and acquisitions.
- Structural expenses are those associated with the day-to-day cost of running the Firm and are expenses not included in the above two categories. Examples include employee salaries and benefits, certain other incentive compensation, and costs related to real estate.

Fannie Mae: Federal National Mortgage Association

FASB: Financial Accounting Standards Board

FCA: Financial Conduct Authority

FCC: Firmwide Control Committee

FDIC: Federal Deposit Insurance Corporation

FDM: "Financial difficulty modification" applies to loan modifications effective January 1, 2023, and is deemed to occur when the Firm modifies specific terms of the original loan agreement. The following types of modifications are considered FDMs: principal forgiveness, interest rate reduction, other-than-insignificant payment delay, term extension or a combination of these modifications.

Federal Reserve: The Board of the Governors of the Federal Reserve System

FFIEC: Federal Financial Institutions Examination Council

FHA: Federal Housing Administration

FHLB: Federal Home Loan Bank

FICC: The Fixed Income Clearing Corporation

FICO score: A measure of consumer credit risk provided by credit bureaus, typically produced from statistical models by Fair Isaac Corporation utilizing data collected by the credit bureaus.

FINRA: Financial Industry Regulatory Authority

Firm: JPMorgan Chase & Co.

Forward points: Represents the interest rate differential between two currencies, which is either added to or subtracted from the current exchange rate (i.e., "spot rate") to determine the forward exchange rate.

FRC: Firmwide Risk Committee

Freddie Mac: Federal Home Loan Mortgage Corporation

Free standing derivatives: a derivative contract entered into either separate and apart from any of the Firm's other financial instruments or equity transactions. Or, in conjunction with some other transaction and is legally detachable and separately exercisable.

FSB: Financial Stability Board

FTE: Fully taxable equivalent

FVA: Funding valuation adjustment

FX: Foreign exchange

G7: Group of Seven nations: Countries in the G7 are Canada, France, Germany, Italy, Japan, the U.K. and the U.S.

G7 government securities: Securities issued by the government of one of the G7 nations.

Ginnie Mae: Government National Mortgage Association

GSIB: Global systemically important banks

HELOC: Home equity line of credit

Home equity – senior lien: Represents loans and commitments where JPMorgan Chase holds the first security interest on the property.

Home equity – junior lien: Represents loans and commitments where JPMorgan Chase holds a security interest that is subordinate in rank to other liens.

Households: A household is a collection of individuals or entities aggregated together by name, address, tax identifier and phone number.

HQLA: "High-quality liquid assets" consist of cash and certain high-quality liquid securities as defined in the LCR rule.

HTM: Held-to-maturity

IBOR: Interbank Offered Rate

ICAAP: Internal capital adequacy assessment process

IDI: Insured depository institutions

IHC: JPMorgan Chase Holdings LLC, an intermediate holding company

Investment-grade: An indication of credit quality based on JPMorgan Chase's internal risk assessment. The Firm considers ratings of BBB-/Baa3 or higher as investment-grade.

IPO: Initial public offering

ISDA: International Swaps and Derivatives Association

JPMorgan Chase: JPMorgan Chase & Co.

JPMorgan Chase Bank, N.A.: JPMorgan Chase Bank, National Association

JPMorgan Chase Foundation or the Firm's Foundation: A not-for-profit organization that makes contributions for charitable and educational purposes.

J.P. Morgan Securities: J.P. Morgan Securities LLC

JPMSE: J.P. Morgan SE

LCR: Liquidity coverage ratio

LDA: Loss Distribution Approach

LGD: Loss given default

LIBOR: London Interbank Offered Rate

LLC: Limited Liability Company

LOB: Line of business

LOB CROs: Line of Business and CTC Chief Risk Officers

LTIP: Long-term incentive plan

LTV: "Loan-to-value": For residential real estate loans, the relationship, expressed as a percentage, between the principal amount of a loan and the appraised value of the collateral (i.e., residential real estate) securing the loan.

Origination date LTV ratio

The LTV ratio at the origination date of the loan. Origination date LTV ratios are calculated based on the actual appraised values of collateral (i.e., loan-level data) at the origination date.

Current estimated LTV ratio

An estimate of the LTV as of a certain date. The current estimated LTV ratios are calculated using estimated collateral values derived from a nationally recognized home price index measured at the metropolitan statistical area ("MSA") level. These MSA-level home price indices consist of actual data to the extent available and forecasted data where actual data is not available. As a result, the estimated collateral values used to calculate these ratios do not represent actual appraised loan-level collateral values; as such, the resulting LTV ratios are necessarily imprecise and should therefore be viewed as estimates.

Combined LTV ratio

The LTV ratio considering all available lien positions, as well as unused lines, related to the property. Combined LTV ratios are used for junior lien home equity products.

Macro businesses: the macro businesses include Rates, Currencies and Emerging Markets, Fixed Income Financing

and Commodities in CIB's Fixed Income Markets.

Managed basis: A non-GAAP presentation of Firmwide financial results that includes reclassifications to present revenue on a fully taxable-equivalent basis. Management also uses this financial measure at the segment level, because it believes this provides information to enable investors to understand the underlying operational performance and trends of the particular business segment and facilitates a comparison of the business segment with the performance of competitors.

Markets: consists of CIB's Fixed Income Markets and Equity Markets businesses.

Master netting agreement: A single agreement with a counterparty that permits multiple transactions governed by that agreement to be terminated or accelerated and settled through a single payment in a single currency in the event of a default (e.g., bankruptcy, failure to make a required payment or securities transfer or deliver collateral or margin when due).

MBS: Mortgage-backed securities

MD&A: Management's discussion and analysis

Measurement alternative: Measures equity securities without readily determinable fair values at cost less impairment (if any), plus or minus observable price changes from an identical or similar investment of the same issuer.

Merchant Services: offers merchants payment processing capabilities, fraud and risk management, data and analytics, and other payments services. Through Merchant Services, merchants of all sizes can accept payments via credit and debit cards and payments in multiple currencies.

MEV: Macroeconomic variable

Moody's: Moody's Investor Services

Mortgage origination channels:

Retail – Borrowers who buy or refinance a home through direct contact with a mortgage banker employed by the Firm using a branch office, the Internet or by phone. Borrowers are frequently referred to a mortgage banker by a banker in a Chase branch, real estate brokers, home builders or other third parties.

Correspondent – Banks, thrifts, other mortgage banks and other financial institutions that sell closed loans to the Firm.

Mortgage product types:

Alt-A

Alt-A loans are generally higher in credit quality than subprime loans but have characteristics that would disqualify the borrower from a traditional prime loan. Alt-A lending characteristics may include one or more of the following: (i) limited documentation; (ii) a high CLTV ratio; (iii) loans secured by non-owner occupied properties; or (iv) a debt-to-income ratio above normal limits. A substantial proportion of the Firm's Alt-A loans are those where a borrower does not provide complete documentation of his or her assets or the amount or source of his or her income.

Option ARMs

The option ARM real estate loan product is an adjustable-rate mortgage loan that provides the borrower with the option each month to make a fully amortizing, interest-only or minimum payment. The minimum payment on an option ARM loan is based on the interest rate charged during the introductory period. This introductory rate is usually significantly below the fully indexed rate. The fully indexed rate is calculated using an index rate plus a margin. Once the introductory period ends, the contractual interest rate charged on the loan increases to the fully indexed rate and adjusts monthly to reflect movements in the index. The minimum payment is typically insufficient to cover interest accrued in the prior month, and any unpaid interest is deferred and added to the principal balance of the loan. Option ARM loans are subject to payment recast, which converts the loan to a variable-rate fully amortizing loan upon meeting specified loan balance and anniversary date triggers.

Prime

Prime mortgage loans are made to borrowers with good credit records who meet specific underwriting requirements, including prescriptive requirements related to income and overall debt levels. New prime mortgage borrowers provide full documentation and generally have reliable payment histories.

Subprime

Subprime loans are loans that, prior to mid-2008, were offered to certain customers with one or more high risk characteristics, including but not limited to: (i) unreliable or poor payment histories; (ii) a high LTV ratio of greater than 80% (without borrower-paid mortgage insurance); (iii) a high debt-to-income ratio; (iv) an occupancy type for the loan is other than the borrower's primary residence; or (v) a history of delinquencies or late payments on the loan.

MREL: Minimum requirements for own funds and eligible liabilities

MSA: Metropolitan statistical areas

MSR: Mortgage servicing rights

Multi-asset: Any fund or account that allocates assets under management to more than one asset class.

NA: Data is not applicable or available for the period presented.

NAV: Net Asset Value

Net Capital Rule: Rule 15c3-1 under the Securities Exchange Act of 1934.

Net charge-off/(recovery) rate: Represents net charge-offs/(recoveries) (annualized) divided by average retained loans for the reporting period.

Net interchange income includes the following components:

- **Interchange income**: Fees earned by credit and debit card issuers on sales transactions.
- **Rewards costs**: The cost to the Firm for points earned by cardholders enrolled in credit card rewards programs generally tied to sales transactions.
- **Partner payments**: Payments to co-brand credit card partners based on the cost of loyalty program rewards earned by cardholders on credit card transactions.

Net mortgage servicing revenue: Includes operating revenue earned from servicing third-party mortgage loans, which is recognized over the period in which the service is provided; changes in the fair value of MSRs; the impact of risk management activities associated with MSRs; and gains and losses on securitization of excess mortgage servicing. Net mortgage servicing revenue also includes gains and losses on sales and lower of cost or fair value adjustments of certain repurchased loans insured by U.S. government agencies.

Net revenue rate: Represents Card Services net revenue (annualized) expressed as a percentage of average loans for the period.

Net yield on interest-earning assets: The average rate for interest-earning assets less the average rate paid for all sources of funds.

NFA: National Futures Association

NM: Not meaningful

NOL: Net operating loss

Nonaccrual loans: Loans for which interest income is not recognized on an accrual basis. Loans (other than credit card loans and certain consumer loans insured by U.S. government agencies) are placed on nonaccrual status when full payment of principal and interest is not expected, regardless of delinquency status, or when principal and interest have been in default for a period of 90 days or more unless the loan is both well-secured and in the process of collection. Collateral-dependent loans are typically maintained on nonaccrual status.

Nonperforming assets: Nonperforming assets include nonaccrual loans, nonperforming derivatives and certain assets acquired in loan satisfactions, predominantly real estate owned and other commercial and personal property.

NSFR: Net Stable Funding Ratio

OAS: Option-adjusted spread

OCC: Office of the Comptroller of the Currency

OCI: Other comprehensive income/(loss)

OPEB: Other postretirement employee benefit

Over-the-counter ("OTC") derivatives: Derivative contracts that are negotiated, executed and settled bilaterally between two derivative counterparties, where one or both counterparties is a derivatives dealer.

Over-the-counter cleared ("OTC-cleared") derivatives: Derivative contracts that are negotiated and executed bilaterally, but subsequently settled via a central clearing house, such that each derivative counterparty is only exposed to the default of that clearing house.

Overhead ratio: Noninterest expense as a percentage of total net revenue.

Parent Company: JPMorgan Chase & Co.

Participating securities: Represents unvested share-based compensation awards containing nonforfeitable rights to dividends or dividend equivalents (collectively, "dividends"), which are included in the earnings per share calculation using the two-class method. JPMorgan Chase grants RSUs to certain employees under its share-based compensation programs, which entitle the recipients to receive nonforfeitable dividends during the vesting period on a basis equivalent to the dividends paid to holders of common stock. These unvested awards meet the definition of participating securities. Under the two-class method, all earnings (distributed and undistributed) are allocated to each class of common stock and participating securities, based on their respective rights to receive dividends.

PCAOB: Public Company Accounting Oversight Board

PCD: **"Purchased credit deteriorated"** assets represent acquired financial assets that as of the date of acquisition have experienced a more-than-insignificant deterioration in credit quality since origination, as determined by the Firm.

PD: Probability of default

Pillar 1: The Basel framework consists of a three "Pillar" approach. Pillar 1 establishes minimum capital requirements, defines eligible capital instruments, and prescribes rules for calculating RWA.

Pillar 3: The Basel framework consists of a three "Pillar" approach. Pillar 3 encourages market discipline through disclosure requirements which allow market participants to assess the risk and capital profiles of banks.

PPP: Paycheck Protection Program under the Small Business Association ("SBA")

PRA: Prudential Regulation Authority

Pre-provision profit/(loss): Represents total net revenue less noninterest expense. The Firm believes that this financial measure is useful in assessing the ability of a lending institution to generate income in excess of its provision for credit losses.

Pre-tax margin: Represents income before income tax expense divided by total net revenue, which is, in management's view, a comprehensive measure of pretax performance derived by measuring earnings after all costs are taken into consideration. It is one basis upon which management evaluates the performance of AWM against the performance of their respective competitors.

Principal transactions revenue: Principal transactions revenue is driven by many factors, including:

- the bid-offer spread, which is the difference between the price at which a market participant is willing and able to sell an instrument to the Firm and the price at which another market participant is willing and able to buy it from the Firm, and vice versa; and
- realized and unrealized gains and losses on financial instruments and commodities transactions, including those accounted for under the fair value option, primarily used in client-driven market-making activities.
  - Realized gains and losses result from the sale of instruments, closing out or termination of transactions, or interim cash payments.
  - Unrealized gains and losses result from changes in valuation.

In connection with its client-driven market-making activities, the Firm transacts in debt and equity instruments, derivatives and commodities, including physical commodities inventories and financial instruments that reference commodities.

Principal transactions revenue also includes realized and unrealized gains and losses related to:

- derivatives designated in qualifying hedge accounting relationships, primarily fair value hedges of commodity and foreign exchange risk;
- derivatives used for specific risk management purposes, primarily to mitigate credit, foreign exchange and interest rate risks.

Production revenue: Includes fees and income recognized as earned on mortgage loans originated with the intent to sell, and the impact of risk management activities associated with the mortgage pipeline and warehouse loans. Production revenue also includes gains and losses on sales and lower of cost or fair value adjustments on mortgage loans held-for-sale (excluding certain repurchased loans insured by U.S. government agencies), and changes in the fair value of financial instruments measured under the fair value option.

PSU(s): Performance share units

Regulatory VaR: Daily aggregated VaR calculated in accordance with regulatory rules.

REO: Real estate owned

Reported basis: Financial statements prepared under U.S. GAAP, which excludes the impact of taxable-equivalent adjustments.

Retained loans: Loans that are held-for-investment (i.e., excludes loans held-for-sale and loans at fair value).

Revenue wallet: Proportion of fee revenue based on estimates of investment banking fees generated across the industry (i.e., the revenue wallet) from investment banking transactions in M&A, equity and debt underwriting, and loan syndications. Source: Dealogic, a third-party provider of investment banking competitive analysis and volume-based league tables for the above noted industry products.

RHS: Rural Housing Service of the U.S. Department of Agriculture

ROA: Return on assets

ROE: Return on equity

ROTCE: Return on tangible common equity

ROU assets: Right-of-use assets

RSU(s): Restricted stock units

RWA: "Risk-weighted assets": Basel III establishes two comprehensive approaches for calculating RWA (a Standardized approach and an Advanced approach) which include capital requirements for credit risk, market risk, and in the case of Basel III Advanced, also operational risk. Key differences in the calculation of credit risk RWA between the Standardized and Advanced approaches are that for Basel III Advanced, credit risk RWA is based on risk-sensitive approaches which largely rely on the use of internal credit models and parameters, whereas for Basel III Standardized, credit risk RWA is generally based on supervisory risk-weightings which vary primarily by counterparty type and asset class. Market risk RWA is calculated on a generally consistent basis between Basel III Standardized and Basel III Advanced.

S&P: Standard and Poor's

SAR as it pertains to Hong Kong: Special Administrative Region

SAR(s) as it pertains to employee stock awards: Stock appreciation rights

SCB: Stress capital buffer

Scored portfolios: Consumer loan portfolios that predominantly include residential real estate loans, credit card loans, auto loans to individuals and certain small business loans.

SEC: U.S. Securities and Exchange Commission

Securities financing agreements: Include resale, repurchase, securities borrowed and securities loaned agreements

Securitized Products Group: Comprised of Securitized Products and tax-oriented investments.

Seed capital: Initial JPMorgan capital invested in products, such as mutual funds, with the intention of ensuring the fund is of sufficient size to represent a viable offering to clients, enabling pricing of its shares, and allowing the manager to develop a track record. After these goals are achieved, the intent is to remove the Firm's capital from the investment.

Shelf securities: Securities registered with the SEC under a shelf registration statement that have not been issued, offered or sold. These securities are not included in league tables until they have actually been issued.

Single-name: Single reference-entities

SLR: Supplementary leverage ratio

SMBS: Stripped mortgage-backed securities

SOFR: Secured Overnight Financing Rate

SPEs: Special purpose entities

Structural interest rate risk: Represents interest rate risk of the non-trading assets and liabilities of the Firm.

Structured notes: Structured notes are financial instruments whose cash flows are linked to the movement in one or more indexes, interest rates, foreign exchange rates, commodities prices, prepayment rates, underlying reference pool of loans or other market variables. The notes typically contain embedded (but not separable or detachable) derivatives. Contractual cash flows for principal, interest, or both can vary in amount and timing throughout the life of the note based on non-traditional indexes or non-traditional uses of traditional interest rates or indexes.

Taxable-equivalent basis: In presenting results on a managed basis, the total net revenue for each of the business segments and the Firm is presented on a tax-equivalent basis. Accordingly, revenue from investments that receive tax credits and tax-exempt securities is presented in managed basis results on a level comparable to taxable investments and securities; the corresponding income tax impact related to tax-exempt items is recorded within income tax expense.

TBVPS: Tangible book value per share

TCE: Tangible common equity

TDR: "Troubled debt restructuring" applies to loan modifications granted prior to January 1, 2023 and is deemed to occur when the Firm modifies the original terms of a loan agreement by granting a concession to a borrower that is experiencing financial difficulty. Loans with short-term and other insignificant modifications that are not considered concessions are not TDRs.

TLAC: Total Loss Absorbing Capacity

U.K.: United Kingdom

Unaudited: Financial statements and/or information that have not been subject to auditing procedures by an independent registered public accounting firm.

U.S.: United States of America

U.S. GAAP: Accounting principles generally accepted in the U.S.

U.S. government agencies: U.S. government agencies include, but are not limited to, agencies such as Ginnie Mae and FHA, and do not include Fannie Mae and Freddie Mac which are U.S. government-sponsored enterprises ("U.S. GSEs"). In general, obligations of U.S. government agencies are fully and explicitly guaranteed as to the timely payment of principal and interest by the full faith and credit of the U.S. government in the event of a default.

U.S. GSE(s): "U.S. government-sponsored enterprises" are quasi-governmental, privately-held entities established or chartered by the U.S. government to serve public purposes as specified by the U.S. Congress to improve the flow of credit to specific sectors of the economy and provide certain essential services to the public. U.S. GSEs include Fannie Mae and Freddie Mac, but do not include Ginnie Mae or FHA. U.S. GSE obligations are not explicitly guaranteed as to the timely payment of principal and interest by the full faith and credit of the U.S. government.

U.S. Treasury: U.S. Department of the Treasury

VA: U.S. Department of Veterans Affairs

VaR: "Value-at-risk" is a measure of the dollar amount of potential loss from adverse market moves in an ordinary market environment.

VCG: Valuation Control Group

VGF: Valuation Governance Forum

VIEs: Variable interest entities

Warehouse loans: Consist of prime mortgages originated with the intent to sell that are accounted for at fair value and classified as loans.

Board of Directors

Linda B. Bammann[2, 4]
Retired Deputy Head of Risk Management
JPMorgan Chase & Co.
(Financial services)

Stephen B. Burke[2, 3]
Retired Chairman and Chief Executive Officer
NBCUniversal, LLC
(Television and entertainment)

Todd A. Combs[2, 3]
Investment Officer
Berkshire Hathaway Inc.;
Chairman, President and Chief Executive Officer
GEICO
(Conglomerate and insurance)

Alicia Boler Davis[4]
Chief Executive Officer
Alto Pharmacy, LLC
(Digital pharmacy)

James Dimon
Chairman and Chief Executive Officer
JPMorgan Chase & Co.
(Financial services)

Timothy P. Flynn[1]
Retired Chairman and Chief Executive Officer
KPMG
(Professional services)

Alex Gorsky[4]
Retired Chairman and Chief Executive Officer
Johnson & Johnson
(Healthcare)

Mellody Hobson[4, 5]
Co-CEO and President
Ariel Investments, LLC
(Investment management)

Michael A. Neal[1, 5]
Retired Vice Chairman
General Electric Company;
Retired Chairman and Chief Executive Officer
GE Capital
(Industrial and financial services)

Phebe N. Novakovic[1, 5]
Chairman and Chief Executive Officer
General Dynamics
(Aerospace and defense)

Virginia M. Rometty[2, 3]
Retired Executive Chairman, President and Chief Executive Officer
International Business Machines Corporation
(Technology)

Mark A. Weinberger[1]
Retired Global Chairman and Chief Executive Officer
Ernst & Young LLP
(Professional services)

Member of:
1 Audit Committee
2 Compensation & Management Development Committee
3 Corporate Governance & Nominating Committee
4 Risk Committee
5 Public Responsibility Committee

Operating Committee

James Dimon
Chairman and Chief Executive Officer

Daniel E. Pinto
President and Chief Operating Officer

Ashley Bacon
Chief Risk Officer

Jeremy Barnum
Chief Financial Officer

Lori A. Beer
Chief Information Officer

Tim Berry
Global Head of Corporate Responsibility; Chairman of the Mid-Atlantic Region

Mary Callahan Erdoes
CEO, Asset & Wealth Management

Stacey Friedman
General Counsel

Takis T. Georgakopoulos
Global Head of Payments

Teresa A. Heitsenrether
Chief Data & Analytics Officer

Marianne Lake
CEO, Consumer & Community Banking

Robin Leopold
Head of Human Resources

Douglas B. Petno
Co-Head of Global Banking

Jennifer A. Piepszak
Co-CEO, Commercial & Investment Bank

Troy L. Rohrbaugh
Co-CEO, Commercial & Investment Bank

Sanoke Viswanathan
Chief Strategy & Growth Officer;
CEO, International Consumer Banking

Other Corporate Officers

Joseph M. Evangelisti
Corporate Communications

Mikael Grubb
Investor Relations

Elena A. Korablina
Firmwide Controller

Lou Rauchenberger
General Auditor

John H. Tribolati
Secretary

Regional Chief Executive Officers

Asia Pacific

Sjoerd Leenart
Regional CEO

Europe/Middle East/Africa

Filippo Gori
Regional CEO;
Co-Head of Global Banking

Latin America/Canada

Alfonso Eyzaguirre
Regional CEO

Senior Country Officers and Location Heads

Asia Pacific

Australia and New Zealand
Robert P. Bedwell

China
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Hong Kong
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Corporate headquarters

383 Madison Avenue
New York, NY 10179-0001
Telephone: 212-270-6000
jpmorganchase.com

Annual Report on Form 10-K

The Annual Report on Form 10-K of JPMorgan Chase & Co. as filed with the U.S. Securities and Exchange Commission will be made available without charge upon request to:

Office of the Secretary
JPMorgan Chase & Co.
383 Madison Avenue, 39th Floor
New York, NY 10179-0001
corporate.secretary@jpmchase.com

Stock listing

New York Stock Exchange

The New York Stock Exchange ticker symbol for the common stock of JPMorgan Chase & Co. is JPM.

Financial information about JPMorgan Chase & Co. can be accessed by visiting our website at jpmorganchase.com and clicking on "Investors." Additional questions should be addressed to:

Investor Relations
JPMorgan Chase & Co.
277 Park Avenue
New York, NY 10172-0001
Telephone: 212-270-2479
JPMCinvestorrelations@jpmchase.com

Directors

To contact any of the Board members or committee chairs, the Lead Independent Director or the non-management directors as a group, please mail correspondence to:

JPMorgan Chase & Co.
Attention (Board member(s))
Office of the Secretary
383 Madison Avenue, 39th Floor
New York, NY 10179-0001
corporate.secretary@jpmchase.com

The Corporate Governance Principles, the charters of the principal standing Board committees, the Code of Conduct, the Code of Ethics for Finance Professionals and other governance information can be accessed by visiting our website at jpmorganchase.com and clicking on "Governance" under the "Who We Are" tab.

Transfer agent and registrar

Computershare
150 Royall Street, Suite 101
Canton, MA 02021-1031
United States
Telephone: 800-982-7089
www.computershare.com/investor

Investor Services Program

JPMorgan Chase & Co.'s Investor Services Program offers a variety of convenient, low-cost services to make it easier to reinvest dividends and buy and sell shares of JPMorgan Chase & Co. common stock. A brochure and enrollment materials may be obtained by contacting the Program Administrator, Computershare, by calling 800-758-4651, by writing to the address indicated above or by visiting its website at www-us.computershare.com/investor.

Direct deposit of dividends

For information about direct deposit of dividends, please contact Computershare.

Stockholder inquiries

Contact Computershare:

By telephone:

Within the United States, Canada and Puerto Rico: 800-982-7089 (toll free)

From all other locations: 201-680-6862 (collect)

TDD service for the hearing impaired within the United States, Canada and Puerto Rico: 800-231-5469 (toll free)

All other locations: 201-680-6610 (collect)

By regular mail:

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By overnight delivery:

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150 Royall Street, Suite 101
Canton, MA 02021-1031
United States

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Independent registered public accounting firm

PricewaterhouseCoopers LLP
300 Madison Avenue
New York, NY 10017

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