JPMORGAN CHASE BANK, N.A. JOHANNESBURG BRANCH

PUBLIC DISCLOSURE: REGULATION 43 OF THE REGULATIONS RELATING TO BANKS PRUDENTIAL AUTHORITY

FOR THE YEAR ENDED 31 DECEMBER 2018

J.P.Morgan

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J.P.Morgan

1. Overview

Aim of the public disclosure report

This report provides information on JPMorgan Chase Bank, N.A. Johannesburg Branch capital structure, capital adequacy, risk exposures, and risk weighted assets ("RWA"). This disclosure fulfils the requirements as set out in The Regulations Relating to Banks, issued by the Prudential Authority.

Ownership and firm-wide disclosure

JPMorgan Chase Bank, N.A. Johannesburg Branch ("JPMCB Jhb" or the "Branch") is a branch of JPMorgan Chase Bank, National Association ("the Bank") and has been registered as an external company in South Africa. The Bank's ultimate parent is JPMorgan Chase & Co. ("the Firm"), a financial holding company incorporated in the United States of America.

Firm-wide disclosure is made under Basel III requirement available at the below link. Reference is made to this Firm-wide disclosure throughout the document:

http://investor.shareholder.com/jpmorganchase/basel.cfm

The above firm-wide report should be read in conjunction with the Annual Report on Form 10-K and the Quarterly Report on Form 10-Q which have been filed with the U.S. Securities and Exchange Commission and are available at the following link:

http://investor.shareholder.com/jpmorganchase/sec.cfm

This document refers to JPMorgan Chase or the "Firm" when referring to frameworks, methodologies, systems and controls that are adopted throughout JPMorgan Chase & Co. and its subsidiaries. Entity names are used to refer to documents, financial resources and other tangible concepts relevant only to that entity.

Business activities

JPMCB Jhb is a leading provider of financial services in South Africa, including trading in foreign exchange, fixed income and interest rate markets, as well as structured products, cash management, liquidity products, loans and advisory services to South African corporate and state-owned enterprises.

JPMCB Jhb holds a banking license in South Africa regulated by the Prudential Authority, is also an Authorised Dealer regulated by the South African Reserve Bank and an Authorised Financial Services Provider regulated by the Financial Sector Conduct Authority.

It holds a Primary Dealer license and is a member of the Johannesburg Stock Exchange IRC's market, and also regulated by the Financial Intelligence Centre.

Governance

As a branch of the Bank, governance is ultimately the responsibility of the Board of Directors of JPMorgan Chase Bank, N.A. who is responsible for the oversight of management of the Bank. The JPMorgan Chase Bank, N.A. Board accomplishes this function acting directly and through the principal standing committees of the Firm's Board of Directors. Risk oversight on behalf of the Bank is primarily the responsibility of the Risk Policy Committee of the Board of Directors and the Audit Committee of the Firm's Board of Directors and, with respect to compensation and other management-related matters, the Compensation & Management Development Committee of the Firm's Board of Directors.

In South Africa, JPMCB Jhb is managed though the Branch Executive Committee, who are also members of the South Africa Local Management Committee ("SA LMC"). The SA LMC is the most senior cross business and support function governance committee in South Africa and responsible for legal entity risk management and governance.

The Senior Country Officer[1] and Senior Country Business Manager own the overall country strategy and are responsible across all businesses for ensuring that the Firm's business is conducted in an appropriate manner in accordance with Firm policies and values.

The SA LMC is both business focused and the escalation forum for all risks and control issues requiring the attention of senior management.

Risk profile

The management of JPMCB Jhb's risks and uncertainties is integrated with that of the Firm and so changes in the Firm's global risk management policies will have an impact on JPMC Jhb.

Both the Firm and JPMCB Jhb operate within a highly regulated industry and JPMCB Jhb's businesses and results may be significantly affected by the laws and regulations to which it is subject.

Significant changes to the way that major financial services institutions are regulated are occurring worldwide. Several of the reforms being discussed contemplate restructuring of the financial services industry. Such measures are leading to stricter regulation of financial institutions generally, and heightened prudential requirements for systematically important firms, in particular. Included in these are reforms of the over-the-counter derivatives markets, such as mandated clearing, position limits, margin, capital and registration requirements. Many of the reforms have already, or will affect the Firm and JPMCB Jhb's business models.

1. There are two Senior Country Officers in South Africa

Risk management framework

Risk is an inherent part of JPMorgan Chase's business activities. When the Firm extends a consumer or wholesale loan, advises customers 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 businesses, and the associated risks, in a manner that balances serving the interests of its clients, customers and investors and protects the safety and soundness of the Firm.

The Firm believes that effective risk management requires:

- Acceptance of responsibility, including identification and escalation of risk issues, by all individuals within the Firm
- Ownership of risk identification, assessment, data and management within each of the lines of business and Corporate functions; and
- Firm-wide structures for risk governance

The Firm follows a disciplined and balanced compensation framework with strong internal governance and independent Board oversight.

Risk Organization

The Firm has an Independent Risk Management (IRM) function, which consists of the Risk Management and Compliance organizations. The CEO appoints, subject to the Board of Directors' Risk Policy Committee ("DRPC") approval, the Firm's CRO to lead the IRM organization and manage the risk governance framework of the Firm. The Firm places reliance on each of its LOBs and other functional areas giving rise to risk. Each LOB and other functional area giving rise to risk is expected to operate within the parameters identified by the IRM function, and within its own management-identified risk and control standards. The LOBs, inclusive of LOB aligned Operations, Technology and Control Management, are the "first line of defence" in identifying and managing the risk in their activities, including but not limited to applicable laws, rules and regulations.

The IRM function is independent of the businesses and forms "the second line of defence". The IRM function sets and oversees various standards for the risk governance framework, including risk policy, identification, measurement, assessment, testing, limit setting, monitoring and reporting, and conducts independent challenge of adherence to such standards.

The Internal Audit function operates independently from other parts of the Firm and performs independent testing and evaluation of firm-wide processes and controls across the entire enterprise as the Firm's 'third line of defence' in managing risk. The Internal Audit Function is headed by the General Auditor, who reports to the Audit Committee.

In addition, there are other functions that contribute to the firm-wide control environment including Finance, Human Resource, Legal and Corporate Oversight & Control.

EMEA Risk Governance

As already discussed, the Firm's risk governance structure is based on the principle that each line of business is responsible for managing the risk inherent in its business, albeit with appropriate corporate oversight. Each LOB risk committee is responsible for decisions regarding the business risk strategy, policies (as appropriate) and controls. Therefore, each LOB within JPMCB Jhb forms part of the Firm-wide risk governance structure. To complement the global line of business structure, there is a regional governance construct as below

- The EMEA Risk Committee (ERC) provides oversight of the risks inherent in the Firm's business conducted in EMEA or booked into EMEA entities and relevant branches as well as

EMEA branches of ex-EMEA firms. Oversight of Tier 2 and 3 entities (including JPMCB JHB, which is a tier 3 entity) is delegated to the EMEA CRO Forum, a sub-forum of the ERC

- The ERC is accountable to the EMEA Management Committee (EMC). In addition, it reports to the Firm-wide Risk Committee (FRC) and the HR Control Forum
- The EMEA CRO leads the Risk Management function in the region and chairs the ERC and EMEA CRO Forum. The EMEA CRO is a member of the EMC
- Effective April 2019, The EMEA Risk Control Forum and the EMEA CRO Forum have been consolidated into the **EMEA Risk Forum**

JPMCB Jhb

JPMCB Jhb is closely aligned to the regional and Firm-wide risk governance structure.

JPMCB Jhb exercises oversight through SA LMC, which comprises the members of the Branch Executive Committee, and delegates certain responsibilities to various committees and sub-committees which are aligned to both the Firm-wide risk management framework and South African regulatory requirements. Additionally, the Legal Entity Risk Manager of JPMCB Jhb is a member of the SA LMC and the EMEA Risk Forum.

2. Statement of Financial Position

Assets (R millions)	2018	2017
Balances with central bank	197	294
Treasury bills	5,191	4,129
Loans and advances, net of credit impairment	13,905	9,524
Investment and trading securities	3,202	1,007
Derivative financial instruments	21,253	19,226
Other assets	1,283	141
Total assets	**45,031**	**34,321**
Equity and liabilities		
Deposits	9,616	5,641
Derivative financial instruments	25,022	22,213
Other trading liabilities	2,768	913
Other liabilities	1,146	519
Total liabilities	**38,552**	**29,285**
Capital from head office	6,436	4,993
Other reserves	43	44
Total equity	**6,479**	**5,037**
Total equity and liabilities	**45,031**	**34,321**

Basis of preparation

The preparation of the numbers within the Statement of Financial Position and the Summarised Statement of Comprehensive Income have been prepared in accordance with the International Financial Reporting Standards ("IFRS") and reported in accordance with SARB's Regulations relating to Banks. These numbers are audited on an annual basis by an independent audit firm.

Offsetting

Financial assets and financial liabilities are offset and the net amount reported in the statement of financial position when the Branch has a legally enforceable right to offset the recognised amounts, and intends to settle on a net basis, or to realise the asset and settle the liability simultaneously.

3. Summarised Statement of Comprehensive Income

(R millions)	2018	2017
Net interest income	696	523
Trading revenue and fee income	251	252
Gross operating income	**946**	**775**
Credit impairment released / (raised)	(1)	5
Operating expenses	(549)	(473)
Net profit before taxation	**397**	**308**
Taxation	(118)	(99)
Net profit after taxation	**279**	**209**

4. Capital

JPMCB Jhb

JPMCB Jhb's regulatory capital base as at 31 December 2018, calculated in accordance with the Regulations, was R6 479 million, R6 436 million of which was as a result of a capital injection from the Bank.

There is no difference between regulatory consolidation and accounting consolidation.

Net profits are remitted or net losses reimbursed on a monthly basis from Head Office which ensures that JPMCB Jhb's capital injection of R6 436 million stays intact.

See below information on the Branch's capital, risk weighted assets and capital ratios.

Regulatory capital base for JPMCB Jhb

(R millions)	2018	2017
Common Equity Tier 1		
Capital		
Endowment capital from parent	*6,436*	*4,993*
Accumulated other comprehensive income	-	-
Regulatory adjustments		
Goodwill	*(13)*	*(13)*
Common equity Tier 1 capital	**6,423**	**4,980**
Additional Tier 1 capital	43	43
Tier 1 Capital	**6,466**	**5022**
Tier 2 capital	0	10
Total capital	**6,466**	**5033**

For more detail, refer

- Annexure A: Composition of Capital Disclosure Template, and
- Annexure B: Main Features Disclosure Template

Capital adequacy requirement

JPMCB Jhb

Risk weighted assets as at 31 December

(R millions)	2018	2017
Credit and counterparty credit risk	17,082	19,731
Market risk	2,563	1,224
Operational risk	1,832	1,464
Total risk weighted assets	**21,477**	**22,419**
CET Tier 1 capital adequacy ratio	30.10%	22.40%
Tier 1 capital adequacy ratio	30.10%	22.40%
Total capital adequacy ratio	**30.10%**	**22.45%**

Leverage ratio

Refer appendix C, leverage ratio.

5. Credit Risk

JPMCB Jhb

Financial risk management

JPMCB Jhb has adopted the Firm's Risk Management Framework which seeks to mitigate risk and loss to the Firm, the Bank and JPMCB Jhb. The Firm has established processes and procedures intended to identify, measure, monitor, report and analyse the types of risk to which the Firm and JPMCB Jhb are subject.

JPMCB Jhb is subject to the Firm-wide risk policy framework. A detailed description of the Firm-wide policies and processes may be found within the Firm annual report.

Credit risk governance

Credit risk refers to the risk of loss arising from a borrower, counterparty or obligor failing to meet its contractual obligations.

Credit risk management is an independent risk management function that monitors, measures and manages credit risk throughout the J.P. Morgan group and defines credit risk policies and procedures. The credit risk function reports to the Firm's CRO. The Firm's credit risk management governance includes the following activities

- Establishing a comprehensive credit risk policy framework
- Monitoring, measuring and managing credit risk across all portfolio segments, including transaction and exposure approval
- Setting industry concentration limits and establishing underwriting guidelines
- Assigning and managing credit authorities in connection with the approval of all credit exposure
- Managing criticised exposures and delinquent loans
- Estimating credit losses and ensuring appropriate credit risk-based capital management

J.P. Morgan has developed policies and practices that are designed to preserve the independence and integrity of decision-making and ensure credit risks are assessed accurately, approved appropriately, monitored regularly and managed actively at both the transaction and portfolio levels. The firm-wide policy framework establishes credit approval authorities, concentration limits, risk-taking methodologies, portfolio review parameters and problem loan management protocols.

Each Line of Business within the Firm has its own independent credit risk management function, reporting to the Firm's Chief Risk Officer.

Credit risk management

Credit risk is the risk associated with the default or change in credit profile of a client, counterparty or customer. In its wholesale businesses, J.P. Morgan 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), securities financing activities, investment securities portfolio, and cash placed with banks.

JPMCB Jhb's credit risk is driven by the following

- Financial services institutions are interrelated as a result of market-making, trading, clearing, counterparty or other relationships. JPMCB Jhb routinely executes transactions with counterparties in the financial services industry, including brokers and dealers, banks, mutual and hedge funds, investment managers and other clients which expose it to credit risk

- JPMCB Jhb is also exposed to risk of non-performance by its clients, which it may seek to mitigate through the maintenance of adequate collateral, a process that is managed centrally. JPMCB Jhb only accepts ZAR deposits as collateral from local corporates in compliance with exchange control regulations. Certain models, assumptions and inputs used in evaluating and monitoring credit risk are validated by support functions that are separate and independent from the businesses

Credit Executives within the Firm who approve extensions of credit for the JPMCB Jhb ultimately report to the Head of Wholesale Credit Risk. Each line of business ("LOB") within the Firm has its own independent credit risk management function, reporting to the Chief Risk Officer. To enable monitoring of credit risk, aggregate credit exposure, concentration levels and risk profile changes are reported to senior credit risk management and to the regional risk committee.

Credit risk methodology

A range of methodologies are adopted for quantifying the impact of a counterparty default. JPMCB Jhb reduces its credit risk exposure through the use of risk mitigants (e.g. netting agreements and collateral).

Methodologies for measuring credit risk vary depending on several factors including type of asset, risk measurement parameters and risk management and collection processes. 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.

Credit loss estimates are based on estimates of the probability of default ("PD") and loss severity given a default. The probability of default is the likelihood that a borrower will default on its obligation; the loss given default ("LGD") is the estimated loss on the loan that would be realized upon the default and takes into consideration collateral and structural support for each credit facility. The estimation process includes assigning risk ratings to each borrower and credit facility to differentiate risk within the portfolio. These risk ratings are reviewed regularly by Credit Risk Management and revised as needed to reflect the borrower's current financial position, risk profile and related collateral. The calculations and assumptions are based on both internal and external historical experience and management judgment and are reviewed regularly. For portfolios that fluctuate based upon an underlying reference asset or index, potential future exposure is measured using probable and unexpected loss calculations based upon estimates of probability of default and loss severity given a default.

Risk rated exposure

All clients are subject to credit analysis and financial review by Credit Risk Management before new business is accepted. All credit exposure must be approved in advance by a Credit Officer(s) with the level of credit authority required by the applicable credit authority grid unless qualifying for rules-based policies, described separately below. The approval is recorded in iCRD. Proposals and credit lines are recorded on the Credit Risk Infrastructure System (CRI).

Risk ratings are assigned to clients depending on their credit worthiness. For each credit facility, a Loss Given Default ("LGD") is calculated and is an estimate of losses, given a default event, and takes into consideration any collateral or structural support.

Risk monitoring and control

The Firm has developed policies and practices that are designed to preserve the independence and integrity of the approval and decision-making process of extending credit to ensure credit risks are assessed accurately, approved properly, monitored regularly and managed actively at both the transaction and portfolio levels. JPMCB Jhb has adopted and applied the policies and practices developed by the Firm.

The Firm-wide policy framework establishes credit approval authorities, risk rating methodologies, portfolio review parameters and guidelines for management of all exposures, including distressed exposures. In addition, certain models, assumptions and inputs used in evaluating and monitoring credit risk are validated by support functions that are separate and independent from the businesses and which are subject to ongoing review.

Credit risk is monitored regularly on an individual counterparty basis with credit limits established that are reviewed and revised, typically on an annual basis.

Risk reporting

To enable monitoring of credit risk and effective decision-making, aggregate credit exposure, credit quality forecasts, concentration levels and risk profile changes, JPMCB Jhb utilises the Firm’s extensive suite of credit risk systems and reports which are available to all levels of credit risk officer and are shared with Risk Committees (i.e. detailed portfolio reporting of industry; clients, counterparties and customers; product and geographic concentrations)

JPMCB Jhb adopted the following approaches for calculating the Credit Risk Capital Requirements

- Credit risk: Standardised Approach
- Counterparty credit risk: Current Exposure Method

Gross credit exposure before credit risk mitigation[1] as at 31 December

(R millions)	On-balance sheet	Off-balance sheet	Repo exposure	Derivative instruments	Total
2018					
Banks	1,052	227	6,859	34,463	42,602
Corporate	4,798	600		7,547	12,945
Public sector entities				11,498	11,498
Securities firms				108	108
Sovereign	5,191			621	5,812
Total	**11,042**	**827**	**6,859**	**54,237**	**72,965**
2017					
Banks	2,150	20	2,795	27,103	32,067
Corporate	4,130	3,710		7,335	15,175
Public sector entities				9,798	9,798
Securities firms				132	132
Sovereign	4,129			1,055	5,184
Total	**10,409**	**3,730**	**2,795**	**45,422**	**62,356**

Average gross credit exposure before credit risk mitigation during the year

(R millions)	On-balance sheet	Off-balance sheet	Repo exposure	Derivative instruments	Total
2018					
Banks	3,470	91	3,844	29,899	37,304
Corporate	3,855	1,165		6,384	11,404

Public sector entities	1,665			11,612	13,279
Security firms				96	96
Sovereign	3,979			877	4,856
Total	**12,968**	**1,256**	**3,845**	**48,867**	**66,937**
2017					
Banks	1,502	11	2,265	27,566	31,344
Corporate	4,705	1,735		5,589	12,030
Public sector entities				7,940	7,940
Security firms				123	123
Sovereign	3,523			763	4,287
Total	**9,731**	**1,746**	**2,265**	**41,982**	**55,723**

[1] No netting, no collateral or margin placed taken into account

Maturity profile of gross credit exposure as at 31 December

(R millions)	**2018**	**2017**
Less than 1 year	27,690	21,082
1 – 5 years	26,002	16,662
More than 5 years	19,273	24,612
Total gross exposure	**72,965**	**62,356**

Reconciliation of general credit impairments during the year

(R millions)	**2018**	**2017**
Balance at beginning of period	10	18
Credit impairment (reversed)/ raised	(10)	(8)
Amounts written off against credit impairments		
Balance at end of period	**0**	**10**

Reconciliation of specific credit impairments during the year

(R millions)	**2018**	**2017**
Balance at beginning of period	0	12
Credit impairment raised		
Amounts written off against credit impairments	0	(12)
Balance at end of period	**0**	**0**

Expected credit loss measurement

Approach to measuring expected credit losses

The Branch estimates credit impairment through an allowance for expected credit losses ("ECLs"). ECLs are recognised for financial assets that are measured at amortised cost or FVOCI and specified lending-related commitments such as loan commitments and financial guarantee contracts. IFRS requires that ECLs be measured in a way that reflects:

- An unbiased and probability weighted amount that is determined by evaluating a range of possible outcomes
- The time value of money; and
- Reasonable and supportable information about past events, current conditions, and forecasts of future economic conditions

The measurement of ECL also reflects how the Branch manages the financial instruments it uses for credit risk purposes such as Traditional Credit Products ("TCP") and non-traditional credit products ("Non-TCP"). TCP are loans and lending-related commitments from extensions of credit to borrowers; whereas Non-TCP are all other debt financial assets measured at amortised cost which include, but are not limited, to reverse repurchase agreements, margin loans, fee receivables, and inter-company receivables or loans.

The following table sets out the balances of the Branch's financial assets that are measured at amortised cost or FVOCI by the respective TCP and Non-TCP categories. Balances are held at amortised cost unless stated otherwise:

	31 December 2018	
Balance sheet categories	**TCP**	**Non-TCP**
Assets		
Cash and cash equivalents		221 628 245
Loans and other balances	645 900 511	3 486 140 942
Loans and other balances – at FVOCI	1 500 994 726	
Government bills – at FVOCI		5 191 372 729
Accounts receivables		1 038 456 973
Total	**2 146 895 237**	**9 937 598 889**

The Branch uses statistical models to estimate ECLs for TCP on a collective basis; however ECL for credit-impaired instruments is estimated on an individual borrower basis. When determining how exposures should be grouped for collective assessment, the Branch considers many factors including, but not limited to, internal credit risk ratings, tenor, borrower geography and industry. The Branch's internal risk ratings generally correspond to the ratings as defined by Standard & Poor's ("S&P") and Moody's Investors Service. For Non-TCPs, the Company utilises a combination of an established provision matrix, as well as quantitative and qualitative considerations to estimate ECLs.

Impact of staging on measuring expected credit losses:

ECLs are measured using a three stage model based on changes in credit quality of the financial instrument since it was initially recognised ("initial recognition")

- Stage 1 - performing financial instruments that have not had a significant increase in credit risk since initial recognition (performing);
- Stage 2 - performing financial instruments that have experienced a significant increase in credit risk (underperforming); and
- Stage 3 - non-performing financial instruments that have been determined to be credit-impaired (non-performing).

Default and credit-impairment (Stage 3)

Financial instruments are included in Stage 3 when there is objective evidence of impairment at the reporting date. For Stage 3 instruments, ECL is calculated considering the probability of default over the remaining life of each instrument ("Lifetime ECL") on an individual asset basis and interest revenue is calculated on the net carrying amount (that is, net of the allowance for credit losses). All financial assets, regardless of their category as TCP, Non-TCP or debt security, are considered to be credit-impaired and included in Stage 3 when one or more of the following events that have a detrimental impact on the estimated future cash flows of that financial asset has occurred

- Significant financial difficulty of the issuer or the borrower

- A default or past due event
- The Branch has granted a concession to the borrower for economic or contractual reasons relating to the borrower’s financial difficulty
- It has become probable the borrower will enter bankruptcy or other financial reorganization
- An active market for that financial asset no longer exists because of the borrower's financial difficulties; or
- A financial asset is purchased or originated at a deep discount that reflects a credit loss has been incurred

The criteria above are consistent with how the Branch defines ‘default’ for internal credit risk management purposes.

A financial asset is considered to no longer be in default (i.e. the default has been cured) when the borrower has made payments for a minimum of six months and there is other objective evidence of credit improvement.

Significant increase in credit risk (Stage 2)

Financial instruments that have experienced a significant increase in credit risk (“SICR”) since initial recognition for which there is no objective evidence of impairment are included in Stage 2. For Stage 2 instruments, ECL is calculated considering the probability of default over the remaining life of the instrument on a collective basis and interest revenue is calculated on the gross carrying amount of the asset (that is, without deduction for the credit loss allowance).

The Branch assesses for evidence of a SICR by considering whether there has been a change in the risk of a default occurring since the financial instrument was initially recognised.

For TCP, the Branch considers a financial instrument to have experienced a SICR when any of the following quantitative or qualitative criteria have been met

- **Quantitative criteria**

The Branch determines whether the probability of a default (“PD”) occurring has changed between a financial instruments initial recognition and the reporting date. If the change in PD exceeds certain relative and absolute thresholds, the instrument has experienced a SICR. The assessment of the PD takes into account reasonable and supportable information, including information about past events, current and future economic conditions.

- **Qualitative criteria**

The Branch monitors borrowers that may become impaired by including them on its watch list. Obligors that are on the watch list are considered to have experienced a SICR. The ranch also monitors changes in internal credit risk ratings (relative to the credit rating on initial recognition) and delinquency triggers to determine if a borrower has experienced a SICR.

The Branch’s TCP portfolio is mostly comprised of large, international, wholesale borrowers. For these borrowers, short-term delinquencies alone are not considered to be a meaningful credit quality indicator as the Branch’s experience has shown that other internal credit quality indicators generally identifies increases in credit risk well before delinquency. As such, the Branch has determined that using the quantitative and qualitative criteria described above are most appropriate for capturing SICR for TCP.

Financial instruments that are in Stage 2 are moved to Stage 1 as described below in the period that the quantitative and qualitative criteria for a SICR no longer exist.

The approach for determining whether there has been a SICR for Non-TCP portfolios depends on the type of instrument. The Branch presumes non-TCP financial assets that are 30 days past due to have experienced a SICR and are included in Stage 2 except for certain fee receivables that are classified in Stage 2 at 90 days past due.

Inter-company loans and receivables to material legal entities covered by the Firm's resolution and recovery plans are presumed to not to have had a SICR given the borrower's level of capitalisation and access to liquidity.

Finally, the remainder of the Branch's Non-TCP are mostly short-term and generally no SICR has arisen prior to the maturity of that instrument.

Unimpaired and without significant increase in credit risk (Stage 1)

Financial instruments that have not had a SICR since initial recognition are included in Stage 1 unless they are purchased or originated credit impaired ("POCI"). For Stage 1 instruments, ECL is calculated by considering the probability of default within 12 months after the reporting date on a collective basis and interest revenue is calculated on the gross carrying amount of the asset (that is, without deduction for the credit loss allowance).

ECL measurement for TCP Portfolios

Key Inputs

In broad terms, ECLs for the Branch's TCP portfolios are generally calculated based on the following key inputs:

Probability of Default ("PD"): The PD model estimates the probability of downgrade and default each quarter. The 12-month and lifetime PDs represent the probability of default occurring over the next 12 months and the remaining maturity of the instrument respectively. The model considers input variables that are region, industry and borrower segment-specific and considers both scenario and borrower-specific information. PDs are determined at a facility-level based on risk ratings and other characteristics.

Exposure at Default ("EAD"): The EAD model predicts gross exposure upon a borrower's default as a percentage of the total commitment at the reporting date under a given macroeconomic environment. The model estimates the probability of a change in the utilisation, and direction and magnitude of the change. Input variables include exposure and utilization at the reporting date, facility purpose, industry and macro-economic variables ("MEVs").

Loss Given Default ("LGD"): The LGD model estimates expected losses under given macroeconomic environments on the EAD given the event of default and, taking into account, among other attributes, the mitigating effect of collateral and the time value of money.

The 12-month ECL is calculated by multiplying the 12-month PD, EAD and LGD. Lifetime ECL is calculated using the lifetime PD instead.

Forward-looking information (IFRS 7, par 35G (b))

ECL estimates are derived from the Branch's historical experience and future forecasted economic conditions. To incorporate forward-looking information into the ECL calculation, the Branch develops three forecasted economic scenarios (base, upside and downside cases). Each of these scenarios contain a set of MEVs that reflect forward-looking economic and financial conditions. MEVs include, but are not limited to FX rates, inflation and GDP per country or country block. MEVs for each scenario are projected over a reasonable and supportable forecast period of two years. After the forecast period, the losses revert to historical averages over a one-year transition period.

On a quarterly basis, the three economic scenarios are updated and probability weighted. The Branch uses judgement to develop the scenarios and assign probability weightings. The most likely economic scenario in management's view is the base case which would generally be expected to be weighted more heavily than the other two scenarios.

The PD, LGD and EAD models are designed to forecast the credit quality and performance of a TCP portfolio based on industry, geography, rating and size of obligors, among other attributes of the portfolio. PD, LGD and EAD models are calibrated based on historical MEVs and use forecasted macroeconomic scenarios for projecting PD, LGD and EAD values.

ECL calculation

The Branch uses the forward-looking PD, LGD, and EAD values for each of the scenarios to produce the scenario credit losses ("SCLs"). The modelled ECL estimate is a probability-weighted calculation of the three SCLs discounted using the original effective interest rate or an approximation thereof.

The modelled ECL results are reviewed by local management and adjustments ('management overlays') are considered to ensure final results reflect the Branch's best estimate of ECLs on its exposures. Management overlays are only applied if necessary to account for significant idiosyncratic risks which are not yet reflected in underlying risk ratings, LGD, exposure profile or scenario weights used and which are expected to have a high probability of occurrence.

The final ECL estimate and assumptions require significant management judgement and certain assumptions are highly subjective. The Branch has a robust review, challenge and approval process of the ECL estimates as part of credit risk governance forums.

No management overlays were applied in determining the ECL of the Branch for the financial year ending 31 December 2018.

Stage 3 portfolio estimation techniques

The Branch also uses three scenarios to estimate ECL for Stage 3 loans. However, these scenarios focus on the microeconomic conditions applicable to a specific borrower as those considered the most relevant in predicting losses for that borrower are applied. The borrower may be experiencing a variety of specific difficulties, and no one macroeconomic theme can be applied to the total impaired loan portfolio.

ECL measurement for Non-TCP portfolios

The Branch's approach to measuring ECLs for Non-TCP portfolios depends on the type of instrument. See detail below for ECL analysis per balance sheet line item.

a) Cash and cash equivalents

Cash and cash equivalents are held with investment-grade institutions.

In evaluating the lifetime ECL related to receivables from a bank, the Branch determined the expected probability of default was extremely remote, and the magnitude of lifetime ECL related to exposures would be negligible as these are regulated investment-grade institutions that have significant capital, loss absorbing capacity and liquidity. The majority of the deposits held are short term in nature and can be withdrawn at short notice (typically overnight).

The Branch includes cash and balances at central banks in Stage 1 as they are short-term and investment-grade and banking institutions are considered to have high quality credit with low risk of default and therefore the Company has concluded there is no SICR.

b) Loans and other balances

Loans and other balances primarily comprise of interest-earning deposits, cash collateral paid to counterparties in respect of derivative financial instruments and accrued interest income.

The branch places substantially all of its deposits with banks which are of investment grade. Similar to cash and cash equivalents, the branch includes loans and advances to banks in Stage 1 as investment-grade institutions are considered to have high quality credit with low risk of default and therefore the Company has concluded there is no SICR.

Margin posted in cash is reflected as a receivable from the counterparty and is carried at amortised cost which approximates the fair value.

c) Securities purchased under agreements to resell and securities borrowed

The Branch generally bears credit risk related to resale agreements and securities borrowed where cash advanced to the counterparty exceeds the expected value of the collateral received on default. The Branch's credit exposure on these transactions is significantly lower than the amounts recorded on balance sheet as the substantial majority represent contractual value before consideration of any collateral received.

Where a fully collateralised arrangement exists (for example a reverse repurchase agreement), the estimate of the allowance is immaterial due to the following credit mitigants:

- Continuous margining requirements: The contractual terms of these agreements are designed to ensure that they are fully collateralised based on continuous margining requirements, even when the credit risk of the borrower increases significantly. The contractual terms provide the Branch (as lender) with the legal right to receive additional margin from the borrower each day a margin deficit exists. The contractual terms also allow the Branch to increase margin requirements, and to revoke or reduce [lending] commitments to the borrower at any time
- Inter-company arrangements may be repayable on demand: The vast majority of the Branch's collateralised inter-company lending arrangements are executed under master contracts that provide additional protections for the Firm, such as stipulating that extensions of credit are repayable on demand
- High quality collateral: If, in the extremely rare circumstance that the borrower were to default, because the collateral is generally of high quality (government obligations) or is otherwise considered highly liquid, the Company has the legal right and operational ability, as well as the intent, to immediately seize the collateral and liquidate it in a timely and price-efficient manner to minimize any loss
- The majority of securities purchased under agreements to resell are held at fair value. The fair value of the security collateral in respect of securities financing transactions is, in aggregate, greater than the net amounts reported on balance sheet
- Securities financing arrangements tend to be short-term in nature. These arrangements are included in Stage 1 as the Branch has determined there is no SICR during the short tenor of the instrument

d) Accounts receivable

Accounts receivable consist of trade and other debtors, fee receivables and intercompany loans. Trade debtors mainly consist of unsettled trades, receivables related to sales of securities which have not yet settled. These receivables generally have minimal credit risk due to the low probability of default of a clearing organisation default and failure to deliver, the short-term nature of receivables related to securities settlements which are predominately on a delivery versus payment basis.

Other debtors primarily comprise of fee receivables that arise out of revenue from contracts with customers, such as corporate and investing banking fees and attributions.

Staging and write off policies depend on the nature of the asset.

Fee receivables for institutional clients are included in Stage 1 if they are less than 90 days past due (dpd), and instruments less than 180 dpd are included in Stage 2. A fee receivable from an institutional client is deemed to be credit-impaired and 100% reserved when it is 180 dpd.

The branch has not had significant losses on its fee receivable portfolios and based on the immateriality of these losses, the provision matrix and staging approach described is applied.

The Firm continues to monitor the fee receivable population to ensure the described framework is appropriate and ECLs on this portfolio are adequately reflected.

e) Intercompany loans and receivables

For intercompany transactions where the borrower is a JPM Material Legal Entity (MLE), the branch has decided that no allowance should be recognized for the following reasons:

- The MLE borrower has been prepositioned with funding in an extremely efficient manner from both a liquidity and a capital perspective
- JPMorgan Chase Bank, N.A. ("JPMCB") is obligated to provide financial support to their direct and indirect subsidiaries in connection with the Support Agreement that is put in place as part of the Firm's resolution planning process, which effectively functions as a guarantee/backstop for intercompany lending arrangements with an MLE borrower

As MLEs are more than adequately capitalized to ensure the MLE can fulfill all of its debt obligations even in the event of an orderly liquidation of the Firm, intercompany receivables with MLEs are always to be included in Stage 1 as there is no increase in credit risk that would result in expected credit losses. Receivables from MLE's are only included in Stage 2 if the obligor is no longer considered an MLE and there is evidence of credit deterioration of the obligor, or if certain support triggers defined in the Firm's Resolution Plan occur. Receivables from MLE's will never be credit-impaired as the Firm ensures MLE's are more than adequately capitalized as required by the Firm's Resolution Plan

Receivables from non MLEs that are not collateralized or short term are immaterial.

Exposure to counterparty credit risk

(R millions)	Gross positive fair value	Potential future exposure	Netting benefit	Net amount	Collateral held	Credit Exposure Amount after collateral
2018						
Credit derivatives						
FX contracts	15,957	12,459	21,727	6,689	390	6,299
Interest rate contracts	9,857	7,038	10,244	6,651	292	6,358
Equity derivatives	1,826	7,100	5,800	3,126	1,420	1,706
Total	**27,640**	**26,597**	**37,771**	**16,466**	**2,102**	**14,364**
2017						
Credit derivatives	11	15	5	22	13	9
FX contracts	10,507	8,284	11,170	7,621	514	7,108
Interest rate contracts	10,995	7,056	13,174	4,877	215	4,662
Equity derivatives	2,169	6,385	5,066	3,487	2,211	1,277
Total	**23,683**	**21,740**	**29,415**	**16,007**	**2,952**	**13,055**

Credit derivatives are held in the trading book and are fully hedged resulting in no net market risk. Credit derivatives are netted with other derivative exposures with the same counterparty under ISDA agreements.

6. Market Risk

The following sections detail the market risk management framework at both the Firm-wide and JPMorgan Chase Bank, N.A. Johannesburg Branch ('JPMCB Jhb') level.

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 monitors market risks throughout the Firm and defines market risk policies and procedures. The Market Risk Management function reports to the Firms CRO, and seeks to manage risk, facilitate efficient risk/return decisions, reduce volatility in operating performance and provide transparency into the firm's market risk profile.

The Firm-wide Risk Executive ("FRE") Market Risk and Line of Business Chief Risk Officers ("LOB CROs") are responsible for establishing an effective market risk organization that measures, monitors and controls market risk.

Risk Governance & Policy Framework

JPMCB Jhb's approach to market risk governance mirrors the Firm-wide approach and additional oversight is provided by JPMCB Jhb's LERM.

Risk measurement

There is no single measure to capture market risk and therefore the Firm and JPMCB Jhb use various metrics both statistical and non-statistical to assess risk. As the appropriate set of risk measures utilised for a given business activity depends on business mandate, risk horizon, materiality, market volatility and other factors, not all measures are used in all cases.

VaR

The Firm utilises 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.

Risk Management VaR is calculated assuming a one-day holding period and an expected tail-loss methodology which approximates a 95% confidence level. These VaR results are reported to senior management, the Firm Board of Directors and regulators.

Separately Regulatory VaR, also applied across the Firm 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, which may be different than the positions included in the Firm's Risk Management VaR.

JPMCB Jhb applies the Firm-wide approach for Risk Management VaR as described above, for internal risk management purposes only. JPMCB Jhb does not calculate Regulatory VaR for capital purposes since it uses the standardised approach to calculate market risk capital requirement.

Stress Testing

Along with VaR, stress testing is an important tool in measuring and controlling risk. The Firm-wide Stress Infrastructure ("FSI") is intended to capture the Firm's (including JPMCB Jhb's) exposure to unlikely but plausible events in abnormal markets. The Firm and JPMCB Jhb run weekly stress tests on market-related risks across the lines of business using multiple scenarios that assume significant changes in risk factors such as credit spreads, equity prices, interest rates, currency rates or commodity prices.

The Firm and JPMCB Jhb use a number of standard scenarios that capture different risk factors across asset classes including geographical factors, specific idiosyncratic factors and extreme tail events. The stress testing framework calculates multiple magnitudes of potential stress for both market rallies and market sell-offs for each risk factor and combines them in multiple ways to capture different market scenarios. The flexibility of the stress testing framework allows risk managers to construct new, specific scenarios that can be used to form decisions about future possible stress events.

Stress testing complements VaR by allowing risk managers to shock current market prices to more extreme levels relative to those historically realised, and to stress test the relationships between market prices under extreme scenarios.

Stress-test results, trends and qualitative explanations based on current market risk positions are reported to the respective LOB, Firm and Company senior management as appropriate, to allow them to better understand the sensitivity of positions to certain defined events and to enable them to manage their risks with more transparency.

Stress scenarios are defined and reviewed by Market Risk, and significant changes are reviewed by the relevant LOB Risk Committees and may be redefined on a periodic basis to reflect current market conditions.

Other Non-Statistical

Aside from VaR and stress testing, other specific risk measures, such as, but not limited to, credit spread sensitivities, net open positions, basis point values, option sensitivities, are also utilised within specific market context and aggregated across businesses.

JPMCB Jhb utilises non-statistical risk measures to measure and monitor risk e.g. FX Delta, IR BPV, etc.

Limits

Market risk limits are employed as the primary control to align the Firm's market risk with certain quantitative parameters within the firm's Risk Appetite framework.

Senior management, including the Firm's CEO, CRO and Market Risk Management are responsible for reviewing and approving limits on an ongoing basis. Limits that have not been reviewed within a specified time period by Market Risk Management are escalated to senior management.

Limit breaches are required to be reported in a timely manner to limit signatories. Market Risk Management and senior management as appropriate to determine the course of action required to return to compliance, such as a reduction in risk or the granting a temporary increase in limits. Aged or significant breaches are escalated to senior management, the LOB Risk Committee, and/or the Firm-wide Risk Committee.

Additional controls beyond market risk limits - including but not limited to Authorised Instruments, Pre-Trade Governance and E-Trading Control - are also employed as a means to control market risk.

JPMCB Jhb's limits include VaR and non-statistical limits established for the legal entity, in aggregate:

- Appropriate Business area representatives and Market Risk representatives are signatories to these limits

Market Risk reviews all of the JPMCB Jhb's market risk limits at least semi-annually. Limit reviews appropriately consider the underlying trading, investing and hedging strategies of the business, along with the limit utilisation.

Market Risk limits are set in accordance to JPMCB Jhb’s Risk Appetite Framework. JPMCB Jhb’s Risk Appetite Framework leverages the Firm's Risk Appetite Framework, with differences in quantitative parameters and factors and/or governance structure defined in the JPMCB Jhb’s Risk Appetite Framework.

Risk Reporting

Limit utilisations and notifications of market risk limit breaches are documented and sent to appropriate limit signatories daily. Aged and significant limit breaches are escalated to the ERC.

JPMCB Jhb

JPMCB Jhb adopted the standardised approach for calculating the regulatory market risk capital requirements for the Prudential Authority.

Market risk capital requirements weighted exposure as at 31 December

(R millions)	2018	2017
Interest rate risk	996	1,150
Foreign exchange net open position	1,567	74
Total	**2,563**	**1,224**

7. Operational Risk

Operational risk definition

Operational risk is the risk associated with inadequate or failed internal processes, people and systems, or from external events and includes compliance risk, conduct risk, legal risk, 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 interruptions, inappropriate employee behaviour, failure to comply with applicable laws and regulations or failure of vendors to perform in accordance with their arrangements. These events could result in financial losses, litigation and regulatory fines, as well as other damages to the Firm. The goal is to keep 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

To monitor and control operational risk, the Firm has an Operational Risk Management Framework ("ORMF") which is designed to enable the Firm to maintain a sound and well-controlled operational environment. The ORMF has four main components: Governance, Operational Risk Identification and Assessment, Operational Risk Measurement, and Operational Risk Monitoring and Reporting.

Governance

The lines of business and Corporate are responsible for owning and managing their operational risks. The Control Management organization, which consists of control managers within each line of business and Corporate, is responsible for the day-to-day execution of the ORMF.

Line of business and corporate control committees are responsible for reviewing data that indicates the quality and stability of processes, addressing key operational risk issues, focusing on processes with control concerns, and overseeing control remediation.These committees escalate operational risk issues to the Firm-wide Control Committee ("FCC"), as appropriate.

The Firm-wide Risk Executive for Operational Risk Management ("ORM"), a direct report to the Chief Risk Officer ("CRO"), is responsible for defining the ORMF and establishing minimum standards for its execution. Operational Risk Officers report to both the line of business CROs and to the Firm-wide Risk Executive for ORM, and are independent of the respective businesses or corporate functions they oversee.

The Firm's Operational Risk Governance Policy is approved by the Directors' Risk Policy Committee ("DRPC"). This policy establishes the Operational Risk Management Framework for the Firm.

Operational Risk identification and assessment

The Firm utilizes a structured risk and control self-assessment process which is executed by the lines of business and Corporate in accordance with the minimum standards established by ORM, to identify, assess, mitigate and manage its operational risk. As part of this process, lines of business and Corporate identify key operational risks inherent in their activities, address gaps or deficiencies identified, and define actions to reduce residual risk. Action plans are developed for identified control issues and businesses and corporate functions are held accountable for tracking and resolving issues in a timely manner. Operational Risk Managers independently challenge the execution of the self-assessment and evaluate the appropriateness of the residual risk results.

In addition to the self-assessment process, the Firm tracks and monitors events that have or could lead to actual operational risk losses, including litigation-related events. Responsible lines of businesses and Corporate analyse their losses to evaluate the effectiveness of their control environment to assess where controls have failed, and to determine where targeted remediation efforts may be required. ORM provides oversight of these activities and may also perform independent assessments of significant operational risk events and areas of concentrated or emerging risk.

Operational Risk Measurement

In addition to the level of actual operational risk losses, operational risk measurement includes operational risk based capital and operational risk loss projections under both baseline and stressed conditions. The primary component of the operational risk capital estimate is the Loss Distribution Approach ("LDA") statistical model, which simulates the frequency and severity of future operational risk loss projections 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-based 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 Comprehensive Capital Analysis and Review ("CCAR") framework and Internal Capital Adequacy Assessment Processes ("ICAAP").

Operational Risk Monitoring and reporting

ORM has established standards for consistent operational risk monitoring and reporting. Operational risk reports are produced on a Firm-wide basis as well as by line of business and Corporate. Reporting includes the evaluation of key risk indicators against established thresholds as well as the assessment of different types of operational risk against stated risk appetite. The standards also reinforce escalation protocols to senior management and to the Board of Directors.

JPMCB Jhb operational risk overview

JPMCB Jhb adheres to the firm-wide Operational Risk Management Framework.

The Branch has one dedicated Location Control Manager ("LCM"). The LCM forms part of the business reporting into the Control Management organization, and supports the business in the execution of the operational risk management framework at the location level in the region.

A Location Operational Risk and Control Committee is in place as a forum where Senior Managers discuss operational risks and supervise the control environment of each line of business operating in South Africa. Committee members review metrics that indicate soundness of their operational risk processes The Location Operational Risk and Control Committee meets periodically to revise and discuss these metrics, in addition to emerging or existing risks and losses, analysing the root causes and proposing solutions, with support from the LCM.

JPMCB Jhb operational risk capital measurement

JPMCB Jhb calculates the Operational Risk Capital Requirement (ORCR) for Pillar 1 using the Basic Indicator Approach ("BIA"). The Pillar 1 assessment of Operational risk is calculated in accordance with the BIA under Basel 3. This approach calculates operational risk capital using a single indicator as a proxy for an institution's overall operational risk exposure – referred to as the "relevant indicator".

The relevant indicator is the sum of JPMCB Jhb's net interest income and its net non-interest income before the deduction of any provisions and operating expenses. The Operational Risk Capital Requirement under the BIA is equal to 15% of the average over the previous 3 years of the relevant indicator. If the relevant indicator for a given year is negative, it is excluded from both the numerator and denominator when calculating the average.

On instructions from the SARB, Bank Supervision Department, a risk weight of 18% is used by JPMCB Jhb, instead of the 15% as required by the BIA.

Operational risk weighted exposure as at 31 December

(R millions)	2018	2017
Operational risk	1,832	1,464

8. Liquidity risk

Liquidity risk is the risk that the Firm will be unable to meet its contractual and contingent financial obligations 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 oversight

The Firm has a liquidity risk oversight function whose primary objective is to provide assessment, measurement, monitoring, and control of liquidity risk across the Firm. Liquidity risk oversight is managed through a dedicated firm-wide Liquidity Risk Oversight Group. The Chief Investment Office (“CIO”), Treasury and Corporate (“CTC”) Chief Risk Officer (“CRO”), who reports to the Firm CRO is responsible for firm-wide Liquidity Risk Oversight. Liquidity Risk Oversight’s responsibilities include

- Establishing and monitoring limits, indicators, and thresholds including liquidity risk appetite tolerances
- Monitoring and reporting internal firm-wide and legal entity liquidity stress tests as well as regulatory defined liquidity stress testing
- Approving or escalating for review new or updated liquidity stress assumptions
- Monitoring liquidity positions, balance sheet variances and funding activities
- Conducting ad hoc analysis to identify potential emerging liquidity risks; and
- Performing independent review of liquidity risk management processes

Liquidity management

Treasury and CIO are responsible for liquidity management. The primary objectives of effective 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

As part of the Firm overall liquidity management strategy, the Firm manages liquidity and funding using a centralised, global approach in order to

- Optimise 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 firm-wide and legal entity level, where relevant

In the context of the Firm’s liquidity management, Treasury and CIO are responsible for:

- Analysing and understanding the liquidity characteristics of the assets and liabilities of the Firm, lines of business and legal entities, taking into account legal, regulatory, and operational restrictions
- Developing internal liquidity stress testing assumptions
- Defining and monitoring firm-wide and legal entity-specific liquidity strategies, policies, guidelines, 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 transfer pricing in accordance with underlying liquidity characteristics of balance sheet assets and liabilities as well as certain off-balance sheet items

Risk governance and measurement

Specific committees responsible for liquidity governance include the firm-wide Asset and Liability Committee ("ALCO") as well as line of business and regional ALCOs, and the CTC Risk Committee. In addition, the DRPC reviews and recommends to the Board of Directors, for formal approval, the Firm's liquidity risk tolerances, liquidity strategy, and liquidity policy at least annually.

Internal stress testing

Liquidity stress tests are intended to ensure that the Firm has sufficient liquidity under a variety of adverse scenario, including scenarios analysed as part of the Firm's resolution and recovery planning. Stress scenarios are produced for JPMorgan Chase & Co. ("Parent Company") and the Firm's material legal entities on a regular basis, and ad hoc stress tests are performed, as needed, 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, and
- Potential impediments to the availability and transferability of liquidity between jurisdictions and material legal entities such as regulatory, legal or other restrictions.

Liquidity outflow assumptions are modelled across a range of time horizons and currency dimensions and contemplate both market and idiosyncratic stresses.

Liquidity risk stress testing is established at the Firm and material legal entity level. JPMCB Jhb's liquidity stress testing is incorporated within the JPMorgan Chase legal entity liquidity risk framework and follows firm-wide liquidity assumptions.

Results of stress tests are considered in the formulation of the funding plan of the Branch and assessment of its liquidity position.

Contingency funding plan

The Firm's Contingency Funding Plan ("CFP") is approved by firm-wide ALCO and the DRPC, and is a compilation of procedures and action plans for managing liquidity through stress events. JPMCB Jhb's addendum to the CFP is reviewed and approved by the SA ALCO and by JPMCB Jhb Branch Executive Committee. The CFP incorporates the limits and indicators set by the Liquidity Risk Oversight group. These limits and indicators are reviewed regularly to identify the emergence of risks or vulnerabilities in the Firm's liquidity position. The CFP identifies the alternative contingent funding and liquidity resources available to the Firm and its legal entities in a period of stress.

JPMCB Jhb

JPMCB Jhb has a South African Asset and Liability Committee ("SA ALCO") which is responsible for reviewing the liquidity risk profile of the Branch.

JPMCB Jhb is subject to the PA's liquidity regulations.

The liquidity coverage ratio ("LCR") recommendations from the Basel Committee on Banking Supervision were finalised in early 2014. Per the directives issued by the SARB, the LCR became a prudential requirement on 1 January 2015 with a minimum requirement of 90% for

2018; JPMCB Jhb commenced disclosure under Pillar 3 of its LCR requirements on a quarterly basis from 31 March 2015.

The LCR is intended to measure the amount of “high quality liquid assets” (“HQLA”) held by the Branch in relation to estimated net cash outflows within a 30-day period during an acute stress event.

Net stable funding ratio

NSFR aims to promote resilience over a longer time horizon by creating incentives for banks to fund their activities with more stable sources of funding on an ongoing basis.

Per SARB Directive 8 of 2017 the NSFR became a minimum applicable liquidity requirement from 1 January 2018, reportable on a monthly basis within 20 business days immediately following the reportable month end.

The NSFR is expressed as a ratio that must equal or exceed 100%. The ratio relates the bank's available stable funding to its required stable funding, as summarised in the following formula:

$$\frac{\text{Total Available Stable Funding (ASF)}}{\text{Total Required Stable Funding (RSF)}} \geq 100\%$$

To determine total ASF and RSF amounts, factors reflecting supervisory assumptions are assigned to the bank's sources of funding and to its exposures, with these factors reflecting the liquidity characteristics of each category of instruments.

Liquid asset requirement

Under the SARB liquidity requirements, JPMCB Jhb holds certain unencumbered high quality, liquid assets that are available to raise liquidity if required.

9. Interest Rate Risk in the Banking Book ("IRRBB")

Firm-wide

Interest rate risk in the banking book

This is the risk resulting from the Firm's traditional banking activities (accrual accounting on and off balance sheet positions) arising from the extension of loans and credit facilities, taking deposits and issuing debt (collectively referred to as "non-trading activities").

Governance

Governance for Firm-wide IRR is defined in the IRR Management Policy which is approved by DRPC. The CIO, Treasury and Other Corporate Risk Committee ("CTC RC") is the governing committee with respect to IRRBB.

- Reviews the IRR Management policy;
- Reviews the IRR profile of the Firm and compliance with IRR limits;
- Provides governance on legal entity related exposures;
- Reviews significant changes to IRR models and/or model assumptions, and.
- Reviews significant models and/or assumptions including the changes related to IRR management

IRR exposures, significant models and/or assumptions including the changes are reviewed by ALCO. The ALCO provides a framework for overseeing the IRR of LOBs, foreign jurisdictions and key legal entities to appropriate LOB ALCOs, Country ALCOs and other local governance bodies.

In addition, oversight of structural interest rate risk is managed through IRR Management, a dedicated risk function reporting to the CTC CRO.

IRR Management is responsible for, but not limited to:

- Measuring and monitoring IRR and establishing limits
- Creating and maintaining governance over IRR assumptions

Earnings-at-risk

Primary metric used to gauge the Firm's shorter term IRR exposure is Earnings at Risk (EaR), or the sensitivity of pre-tax income to changes in interest rates over a rolling 12 months compared to a base scenario.

JPMCB Jhb

JPMCB Jhb banking book's interest rate risk is managed by the Branch Treasurer supported by Corporate Treasury which manages to the Firm wide policies on interest rate risk management as described in JPMorgan Chase's Annual Report.

Impact of a 2% parallel rate shock on Net interest Income (NII) as at 31 December

(R millions)	2018	2017
Interest Rate Increase	189	161
Interest Rate Decrease	(189)	(161)

10. Remuneration Disclosures

Background

This section sets out the remuneration disclosures required in relation to JPMCB Jhb and in respect of the remuneration period (“Performance Year”) ending 31 December 2018.

This disclosure sets out general principles. Details of specific remuneration programmes are set forth in the relevant plan terms and conditions as in force from time to time.

Qualitative Disclosures

As part of the Firm, JPMCB Jhb applies J.P. Morgan’s global compensation practices and principles. The qualitative remuneration disclosures required under the Basel Pillar 3 standards in respect of all employees of the Firm’s businesses operating in EMEA, including staff of JPMCB Jhb, is available in the most recent EMEA Remuneration Policy Disclosure at: http://investor.shareholder.com/jpmorganchase/basel.cfm.

Additional qualitative disclosures specific to JPMCB Jhb

The South African regulations do not include guidance on, or a definition of, “material risk taker” (“MRTs”) or “Senior Management”. For the purposes of this disclosure, JPMCB Jhb has identified:

- Eleven employees of the Branch as “Senior Management” being those employees that comprise its Branch Executive Committee.
- Two further employees of the Branch as “Other Material Risk Takers” on the basis of their role (in particular their regulatory designation) and total compensation level.

Quantitative Disclosures

The prescribed disclosures in relation to these two groups are set out below. In preparation of these disclosures, JPMCB Jhb has taken into account its size, in particular the number of individuals identified as “Senior Management” and “Other Material Risk Takers” for the purposes of this disclosure. In light of these considerations, JPMCB Jhb concluded that it was appropriate to aggregate the compensation information for these groups.

Where compensation was denominated in currencies other than ZAR, the annual average FX rate has been used for the purposes of these disclosures (13.13 USD: ZAR). Note that 2017 figures have not been restated.

Breakdown of Total Remuneration

Total amount of remuneration for the Performance Year (ZAR '000)		2017	2018
Fixed remuneration	Number of employees	11	13
	Total fixed remuneration	**41,917**	**51,825**
	Of which: cash-based	41,917	51,825
	Of which: deferred		
	Of which: shares or other share-linked instruments		
	Of which deferred		
	Of which: other forms		
	Of which deferred		
Variable remuneration	Number of employees	10	12
	Total variable remuneration	**65,777**	**63,354**
	Of which: cash-based	40,741	43,077
	Of which: deferred		
	Of which: shares or other share-linked instruments	25,036	20,276
	Of which deferred	25,036	20,276
	Of which: other forms		
	Of which deferred		
Total remuneration		**107,694**	**115,179**

Guarantees, Sign-ons and Severance Payments

No guaranteed bonuses or sign-on awards were paid to either group during 2018 (2017: 0). One severance payment was made to these groups during 2018, the total of which is withheld on the basis of data privacy (2017: 0).

Analysis of Deferred Remuneration

Deferred and retained remuneration (ZAR '000)	Total amount of outstanding deferred remuneration as at 31 December 2018	Of which: exposed to ex post explicit and/or implicit adjustment¹	Adjusted ex post during 2018: due to explicit adjustments	Adjusted ex post during 2018: due to implicit adjustments²	Total amount of deferred remuneration paid out in 2018
Cash					
Shares	64,151	64,151		(5,404)	(34,065)
Cash-linked instruments					
Other					
Total	**64,151**	**64,151**		**(5,404)**	**(34,065)**

2. All awards of deferred variable compensation are subject to malus and clawback provisions as set out in the most recent EMEA Remuneration Policy Disclosure, as referenced above

3. All awards of deferred variable compensation have been made in Restricted Stock Units and so their value fluctuates with the value of the Firm's stock.

A. Appendix: Composition of Capital Disclosure Template

Name of bank/Controlling Company: JPMorgan Chase Bank, N.A. Johannesburg Branch

Year ended: 2018-12-31

Template CC1		a	b
		Amounts	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation
1	Directly issued qualifying common share (and equivalent for non-joint stock companies) capital plus related stock surplus	6,436	
2	Retained earnings		
3	Accumulated other comprehensive income (and other reserves)	43	
4	*Directly issues capital subject to phase out from CET1 (only applicable to non-joint stock companies)*		
5	Common share capital issued by subsidiaries and held by third parties (amount allowed in group CET1)		
6	**Common Equity Tier 1 capital before regulatory adjustments**	6,479	
7	Prudential valuation adjustments		
8	Goodwill (net of related tax liability)	13	(a) minus (d)
9	Other intangibles other than mortgage-servicing rights (net of related tax liability)		(b) minus (e)
10	Deferred tax assets that rely on future profitability excluding those arising from temporary differences (net of related tax liability)		
11	Cash-flow hedge reserve		
12	Shortfall of provisions to expected losses		
13	Securitisation gain on sale (as set out in paragraph 36 of Basel III securitisation framework [25])		
14	Gains and losses due to changes in own credit risk on fair valued liabilities		
15	Defined-benefit pension fund net assets		
16	Investments in own shares (if not already netted off paid-in capital on reported balance sheet)		
17	Reciprocal cross-holdings in common equity		
18	Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, where the bank does not own more than 10% of the issued share capital (amount above 10% threshold)		
19	Significant investments in the common stock of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions, (amount above 10% threshold)		
20	Mortgage servicing rights (amount above 10% threshold)		(c) minus (f) minus 10% threshold
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability)		
22	Amount exceeding the 15% threshold		
23	Of which: significant investments in the common stock of financials		

24	Of which: mortgage servicing rights	
25	Of which: deferred tax assets arising from temporary differences	
26	National specific regulatory adjustments	
27	Regulatory adjustments applied to Common Equity Tier 1 due to insufficient Additional Tier 1 and Tier 2 to over deductions	
28	**Total regulatory adjustments to Common equity Tier 1**	13
29	**Common equity Tier 1 capital (CET1)**	6,466
30	Directly issued qualifying Additional Tier 1 instruments plus related stock surplus	(i)
31	Of which: classified as equity under applicable Financial Reporting Standards	
32	Of which: classified as liabilities under applicable Financial Reporting Standards	
33	*Directly issued capital instruments subject to phase out from Additional Tier 1*	
34	Additional Tier 1 instruments (and CET1 instruments not included in row 5) issued by subsidiaries and held by third parties (amount allowed in group AT 1)	
35	*Of which: instruments issued by subsidiaries subject to phase out*	
36	**Additional Tier 1 capital before regulatory adjustments**	
37	Investments in own Additional Tier 1 instruments	
38	Reciprocal cross-holdings in Additional Tier 1 instruments	
39	Investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, where the bank does not own more than 10% of the issued common share capital of the entity (amount above 10% threshold)	
40	Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation	
41	National specific regulatory adjustments	
42	Regulatory adjustments applied to Additional Tier 1 due to insufficient Tier 2 to cover deductions	
43	**Total regulatory adjustments to Additional Tier 1 capital**	
44	**Additional Tier 1 capital (AT1)**	
45	**Tier 1 capital (T1=CET1 + AT1)**	6,466
46	Directly issued qualifying Tier 2 instruments plus related stock surplus	
47	*Directly issued capital instruments subject to phase out from Tier 2*	
48	Tier 2 instruments (and CET1 and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties (amount allowed in group Tier 2)	
49	*Of which: instruments issued by subsidiaries subject to* phase out	
50	Provisions	
51	**Tier 2 capital before regulatory adjustments**	
52	Investments in own Tier 2 instruments	
53	Reciprocal cross-holdings in Tier 2 instruments and other TLAC liabilities	
54	Investments in the capital and other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation, where the bank does not own more than 10% of the issued common share capital of the entity (amount above 10% threshold)	

54a	Investments in other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation and where the bank does not own more than 10% of the issued common share capital of the entity: amount previously designated for the 5% threshold but that no longer meets the conditions (for G-SIBs only)	
55	Significant investments in the capital and other TLAC liabilities of banking, financial and insurance entities that are outside the scope of regulatory consolidation (net of eligible short positions)	
56	National specific regulatory adjustments	
57	**Total regulatory adjustments to Tier 2 capital**	
58	**Tier 2 capital (T2)**	
59	**Total regulatory capital (TC=T1+T2)**	6,466
60	**Total risk weighted assets**	21,477
61	**Common Equity Tier 1 (as a percentage of risk weighted assets)**	30.10%
62	**Tier 1 (as a percentage of risk weighted assets)**	30.10%
63	**Total capital (as a percentage of risk weighted assets)**	30.10%
64	**Institution specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss absorbency requirement, expressed as a percentage of risk weighted assets)**	1.875%
65	of which: capital conservation buffer requirement	1.875%
66	of which: banks specific countercyclical buffer requirement	
67	of which: higher loss absorbency requirement	
68	**Common Equity Tier 1 (as a percentage of risk weighted assets) available after meeting the bank's minimum capital requirements**	
69	National Common Equity Tier 1 minimum ratio (if different from Base III minimum)	8.625%
70	National Tier 1 minimum ratio (if different from Base III minimum)	10.125%
71	National total capital minimum ratio (if different from Base III minimum)	12.375%
72	Non-significant investments in the capital and other TLAC liabilities of other financial entities	NA
73	Significant investments in common stock of financial entities	NA
74	Mortgage servicing rights (net of related tax liability)	NA
75	Deferred tax assets arising from temporary differences (net of related tax liability)	NA
76	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to standardised approach (prior to application of cap)	
77	Cap on inclusion of provisions in Tier 2 under standardised approach	
78	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)	NA
79	Cap on inclusion of provisions in Tier 2 under internal ratings-based approach	NA
80	*Current cap on CET1 instruments subject to phase out arrangements*	NA

81	*Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)*	NA
82	*Current cap on AT1 instruments subject to phase out arrangements*	NA
83	*Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)*	NA
84	*Current cap on T2 instruments subject to phase out arrangements*	NA
85	*Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)*	NA

B. Main features of regulatory capital instruments and of other TLAC-eligible instruments

	Table CCA	a
		Quantitative / qualitative information
1	Issuer	N/a
2	Unique indentifier (e.g. CUSIP, ISIN or Bloomberg indentifier for private placement)	N/a
3	Governing law(s) of instrument	N/a
3a	Means by which enforceability requirement of Section 13 of TLAC Term Sheet is achieved (for other TLAC-eligible instruments governed by foreign law)	N/a
4	Transitional Basel III rules	N/a
5	Post-transitional Basel III rules	N/a
6	Eligible at solo/group/group and solo	N/a
7	Instrument type (types to be specified by each jurisdiction)	N/a
8	Amount recognised in regulatory capital (currency in millions, as of most recent reporting date)	N/a
9	Par value of instrument	N/a
10	Accounting classification	N/a
11	Original date of issuance	N/a
12	Perpetual or dated	N/a
13	Original maturity date	N/a
14	Issuer call subject to prior supervisory approval	N/a
15	Optional call date, contingent call dates and redemption amount	N/a
16	Subsequent call duties, if applicable	N/a
	Coupons / dividends	
17	Fixed or floating dividend / coupon	N/a
18	Coupon rate and any related index	N/a
19	Existence of dividend stopper	N/a
20	Fully discretionary, partially discretionary or mandatory	N/a
21	Existence of step-up or other incentive to redeem	N/a
22	Non-cumulative or cumulative	N/a
23	Convertible or non-convertible	
24	If convertible, conversion trigger(s)	N/a
25	If convertible, fully or partially	N/a
26	If convertible, conversion rate	N/a
27	If convertible, mandatory or optional conversion	N/a
28	If convertible, specify instrument type convertible into	N/a
29	If convertible, specify issuer of instrument type convertible into	N/a
30	Write down features	
31	If write down, write down triggers	N/a
32	If write down,	N/a
33	If write down,	N/a
34	If temporary write-own, description of write-up mechanism	N/a

34a	Type of subordination	N/a
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned)	N/a
36	Non-compliant transitioned features	N/a
37	If yes, specify non-compliant features	N/a

C. Appendix: Main Features Disclosure Template

Name of Bank/Controlling Company: JPMorgan Chase Bank, N.A Johannesburg Branch

Year ended: 2018-12-31

Main features of regulatory capital instruments

1	Issuer	NA
2	Unique identifier (e.g. CUSIP, ISIN or Bloomberg identifier for private placement	NA
3	Governing law(s) of the instrument	
	Regulatory Treatment	
4	Transitional Basel III rules	NA
5	Post-transitional Basel III rules	NA
6	Eligible at solo/group/group and solo	NA
7	Instrument type	NA
8	Amount recognised in regulatory capital (R 'million, as of most recent reporting date)	6,466
9	Par value of instrument	NA
10	Accounting classification	Shareholders' Equity
11	Original date of issuance	NA
12	Perpetual or dated	Perpetual
13	Original maturity date	NA
14	Issuer call subject to prior supervisory approval	NA
15	Optional call date, contingent call dates and redemption amount	NA
16	Subsequent call dates, if applicable	NA
	Coupons / dividends	
17	Fixed or floating dividend / coupon	NA
18	Coupon rate and any related index	NA
19	Existence of a dividend stopper	NA
20	Fully discretionary, partially discretionary or mandatory	NA
21	Existence of step up or other incentive to redeem	NA
22	Noncumulative or cumulative	NA
23	Convertible or non-convertible	NA
24	If convertible, conversion trigger	NA
25	If convertible, fully or partially	NA
26	If convertible, conversion rate	NA
27	If convertible, mandatory or optional conversion	NA
28	If convertible, specify instrument type convertible into	NA
29	If convertible, specify issuer of instrument it converts into	NA
30	Write-down feature	NA
31	If write-down, write-down trigger(s)	NA
32	If write-down, full or partial	NA
33	If write-down, permanent or temporary	NA
34	If temporary write-down, description of write-up mechanism	NA
35	Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument)	NA
36	Non-compliant transitioned features	NA
37	If yes, specify non-compliant features	NA

D. Appendix: Leverage ratio common disclosure template

Leverage ratio common disclosure template	Line item	Total R' million
On-balance sheet exposures[1]		
On-balance sheet items, excluding derivatives and SFT's but including collateral	1	18,426
Asset amounts deducted in determining tier 1 capital[7]	2	13
Total on-balance sheet exposures, excluding derivatives and SFT's (total of items 1 and 2)	3	18,413
Derivative exposures[2]		
Replacement cost associated with all derivatives transactions, net of eligible cash variation margin	4	4,733
Add-on amounts for PFE associated with all derivative transactions	5	11,732
Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	6	
Deductions of receivables assets for cash variation margin provided in derivatives transactions[7]	7	
Exempted CCP leg of client-cleared trade exposures[7]	8	
Adjusted effective notional amount of written credit derivatives	9	
Adjusted effective notional offsets and add-on deductions for written credit derivatives[7]	10	
Total derivative exposures (total of items 4 to 10)	11	16,466
Securities financing transactions exposures[3]		
Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	12	6,859
Netted amounts of cash payables and cash receivables of gross SFT assets[7]	13	(6,458)
CCR exposure for SFT assets	14	
Agent transaction exposures	15	
Total securities financing transaction exposures (total of items 12 to 15)	16	401
Other off-balance sheet exposures		
Off-balance sheet exposure at gross notional amount	17	827
Adjustments for conversion to credit equivalent amounts 7	18	(535)
Off-balance sheet items (total of items 17 and 18)	19	291
Capital and total exposure		
Tier 1 capital[5]	20	6,466
Total exposures (total of items 3,11,16 and 19)	21	3,570
Leverage ratio[6]		
Leverage ratio (expressed as a percentage)	22	18.18

1. Refer to regulation 38(15) (e) (iv) (A).
2. Refer to regulation 38(15)(e)(iv)(B).
3. Refer to regulation 38(15)(e)(iv)(C).
4. Refer to regulation 38(15)(e)(iv)(D).
5. Refer to regulation 38(15)(d).
6. Refer to regulation 38(15)(c).
7. Report as negative amounts or reductions.

E. Appendix: Acronyms

Acronyms	Description
PA	Prudential Authority
Regulations	Regulations to Banks, South African Reserve Bank
JPMCB Jhb or Branch	JPMorgan Chase Bank, N.A. Johannesburg branch
LMC	Local Management Committee
CTC	CIO, Treasury and Corporate Risk Committee
CIO	Chief investment office
DRPC	Risk Policy Committee of the Board of Directors
ALCO	Asset and Liability Committee
the Bank	JPMorgan Chase Bank, National Association
The Firm	JPMorgan Chase & Co
IFRS	International Financial Reporting Standards
RCSA	Risk and control self-assessment
LERM	Legal entity risk manager
JSE IRC	Johannesburg Stock Exchange Interest rate and Currency Derivatives