Pillar 3 Disclosure Report

Quarter ended December 2018

Maybank Singapore Limited

Incorporated in Singapore

Company Registration Number: 201804195C

TABLE OF CONTENTS

1 INTRODUCTION

The Monetary Authority of Singapore ("MAS") has designated Maybank Singapore Limited ("MSL") as a Domestic Systemically Important Bank ("D-SIB") in Singapore since 2015. As such, Maybank Singapore Limited ("MSL") is subject to the reporting of MAS Notice 637 Risk Based Capital Adequacy Requirements for Banks Incorporated in Singapore.

The following disclosures are made pursuant to Notice 637 "Notice on Risk Based Capital Adequacy Requirements for Banks Incorporated in Singapore" ("MAS Notice 637") issued by MAS.

MSL recognises the importance of MAS Notice 637 in promoting market discipline by requiring disclosures of key information relating to regulatory capital and risk exposures on a consistent and comparable basis that will enable stakeholders to better understand and assess a reporting bank's business and risk profile vis-à-vis other banks.

For the purpose of calculating its risk-weighted assets, MSL applies the Internal Ratings-Based Approach ("IRBA") and Standardised Approach ("SA") to relevant credit exposures to ascertain its credit risk-weighted assets. For market risk and operational risk, MSL applies the Standardised Approach and Basic Indicator Approach to compute the market risk-weighted assets and operational risk-weighted assets respectively.

The numbers in this document are presented in Singapore dollars and rounded to the nearest million, unless otherwise stated.

Maybank

2 ATTESTATION STATEMENT PURSUANT TO MAS NOTICE 637 - DISCLOSURE REQUIREMENTS (PILLAR 3)

The Pillar 3 disclosures as at 31 December 2018 have been prepared in accordance with the internal controls processes approved by MSL Board of Directors.

Dr John Lee
Chief Executive Officer
23 September 2019

3 CAPITAL ADEQUACY

MSL's approach to capital management is driven by its strategic objectives and takes into account all relevant regulatory, economic and commercial environments in which MSL and the Maybank Group operate. MSL regards having a strong capital position as essential to the bank's business strategy and competitive position. As such, implications on the bank's capital position are taken into account by the Board and senior management prior to implementing any major business decision in order to preserve the bank's overall capital strength.

The quality and composition of capital are key factors in the Board and senior management's evaluation of the bank's capital adequacy position. MSL places strong emphasis on the quality of its capital and accordingly holds a higher amount of its capital in the form of common equity which is permanent and has the highest loss absorption capability on a going concern basis.

The Board maintains oversight of the regulatory capital of MSL in line with regulatory requirements under the MAS Notice 637 and expectations of various stakeholders such as regulators. To-date, MSL has complied with all externally-imposed regulatory capital requirements throughout the financial period.

4 LINKAGES BETWEEN FINANCIAL STATEMENTS AND REGULATORY EXPOSURES

4.1 Differences between Accounting and Regulatory Scopes of Consolidation and Mapping of Financial Statement Categories with Regulatory Risk Categories

The following table shows the breakdown of the amount reported in the financial statements by regulatory risk categories.

SGD million	(a)	(b)	(c)	(d)	(e)	(f)
	Carrying amounts as reported in balance sheet of published financial statements	Carrying amounts of items -				
		subject to credit risk requirements	subject to CCR requirements	subject to securitisation framework	subject to market risk requirements	not subject to capital requirements or subject to deduction from regulatory capital
Assets						
Cash and balance with a central bank	1,317	1,317	-	-	-	-
Singapore Government securities and treasury bills	3,059	3,059	-	-	-	-
Other government treasury bills and securities	126	126	-	-	-	-
Balances and placements with and loans to banks	2,642	180	2,462	-	-	-
Bills receivable	35	35	-	-	-	-
Loans and advances to non-bank customers	22,377	22,377	-	-	-	-
Amount due from related corporations	4,041	4,041	-	-	-	-
Other assets	257	237	20	-	19	-
Intangible Assets	88	88	-	-	-	-
Property, plant and equipment	20	20	-	-	-	-
Total Assets	33,962	31,480	2,482	-	19	-
Liabilities						
Deposits of non-bank customers	31,183	-	-	-	-	31,183

SGD million	(a)	(b)	(c)	(d)	(e)	(f)
		Carrying amounts of items -				
	Carrying amounts as reported in balance sheet of published financial statements	subject to credit risk requirements	subject to CCR requirements	subject to securitisation framework	subject to market risk requirements	not subject to capital requirements or subject to deduction from regulatory capital
Bills payable	73	-	-	-	-	73
Amount due to related corporations	4	-	-	-	-	4
Current tax payable	5	-	-	-	-	5
Other liabilities	270	-	20	-	20	250
Deferred tax liabilities	8	-	-	-	-	8
Total Liabilities	31,543	-	20	-	20	31,523

The sum of amounts disclosed under columns (b) to (f) for the above table can exceed the amounts disclosed under column (a) as some of the assets and liabilities can be subject to regulatory capital charges for credit risk, counterparty risk and market risk.

4.2 Main Sources of Differences between Regulatory Exposure Amounts and Carrying Amounts in Financial Statements

The following table provides information on the main sources of differences between regulatory exposure amounts and carrying amounts in the financial statements. Items subject to market risk requirements have not been included in the table below as they are computed based on notional positions in the relevant underlying instruments.

SGD million		(a)	(b)	(c)
			Items subject to -	
		Total	credit risk requirements	CCR requirements
1	Asset carrying amount under regulatory scope of consolidation[1]	33,962	31,480	2,482
2	Liabilities carrying amount under regulatory scope of consolidation[1]	20	-	20
3	Total net amount under regulatory scope of consolidation	33,942	31,480	2,462
4	Off-balance sheet amounts		4,093	-
5	Differences due to derivatives and securities financing transaction		-	-2,204
6	Differences due to consideration of provision		148	1
7	Other differences		-174	1
8	**Exposure amounts considered for regulatory purposes**	35,807	35,547	260

[1] The total column excludes amounts subject to deduction from capital or not subject to regulatory capital requirements.

4.3 Qualitative Disclosure of Differences between Carrying Amounts in Financial Statements and Regulatory Exposure Amounts

MSL's regulatory scope of consolidation is identical to its accounting scope of consolidation. However, the key differences between the carrying amounts in the financial statements and regulatory exposure amounts under each framework are:

a) Off-balance sheet amounts include contingent liabilities and undrawn portions of committed facilities after application of credit conversion factors.

b) Derivative regulatory exposures include potential future exposures.

c) In the financial statements, the carrying value of assets are net of allowances. However, for regulatory reporting, the carrying value of assets are gross of allowances under IRBA and net of specific allowances under SA.

d) Other differences could include differences arising from the recognition of credit risk mitigation, inclusion of repurchase agreement for counterparty credit risk and etc.

4.4 Prudent Valuation Adjustments

The following table provides a breakdown of the constituent elements of prudent valuation adjustment ("PVA"). Valuation adjustments relating to Mid-market value and Unearned credit spreads, have been taken in financial reporting.

SGD million		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
		Equity	Interest Rate	FX	Credit	Commodities	Total	of which: in the trading book	of which: in the banking book
1	Closeout uncertainty	-	-	-	-	-	-	-	-
2	of which: Mid-market value	-	*	*	-	-	*	-	*
3	of which: Closeout cost	-	-	-	-	-	-	-	-
4	of which: Concentration	-	-	-	-	-	-	-	-
5	Early termination	-	-	-	-	-	-	-	-
6	Model risk	-	-	-	-	-	-	-	-
7	Operational risk	-	-	-	-	-	-	-	-
8	Investing and funding costs	-	-	-	-	-	-	-	-
9	Unearned credit spreads	-	*	*	-	-	*	-	*
10	Future administrative costs	-	-	-	-	-	-	-	-
11	Other	-	-	-	-	-	-	-	-
12	**Total adjustment**	-	*	*	-	-	*	-	*

*represents amounts less than S$0.5 million.

5 COMPOSITION OF CAPITAL

5.1 Reconciliation of Regulatory Capital to Balance Sheet

The table below provides the link between MSL's balance sheet in the financial statement and the composition of capital disclosure template.

SGD million	Amount	Cross Reference to Section 5.2
Assets		
Cash and balance with a central bank	1,317	
Singapore Government securities and treasury bills	3,059	
Other government treasury bills and securities	126	
Balances and placements with and loans to banks	2,642	
Bills receivable	35	
Loans and advances to non-bank customers	22,377	
of which: Total allowances admitted as eligible T2 capital	37	a
Amount due from related corporations	4,041	
Other assets	257	
Intangible Assets	88	
Property, plant and equipment	20	
Total Assets	**33,962**	
Liabilities		
Deposits of non-bank customers	31,183	
Bills payable	73	
Amount due to related corporations	4	
Current tax payable	5	
Other liabilities	270	
Deferred tax liabilities	8	
Total Liabilities	**31,543**	
Net Asset	**2,419**	
Equity		
Share capital and other capital	2,400	
of which: Amount eligible as CET1 Capital	2,400	b
Total Reserve	19	
of which: Retained earnings	19	c
of which: Fair Value Reserve	*	d
Total Equity	**2,419**	

* represents amounts of less than S$0.5 million

5.2 Composition of Regulatory Capital

The following table provides a breakdown of the constituent components of regulatory capital and the corresponding regulatory adjustments.

SGD million		Amount	Cross Reference to Section 5.1
Common Equity Tier 1 capital: instruments and reserves			
1	Paid-up ordinary shares and share premium (if applicable)	2,400	b
2	Retained earnings	19	c
3#	Accumulated other comprehensive income and other disclosed reserves	*	d
4	Directly issued capital subject to phase out from CET1 (only applicable to non-joint stock companies)		
5	Minority interest that meets criteria for inclusion	-	
6	**Common Equity Tier 1 capital before regulatory adjustments**	**2,419**	
Common Equity Tier 1 capital: regulatory adjustments			
7	Valuation adjustment pursuant to Part VIII of MAS Notice 637	-	
8	Goodwill, net of associated deferred tax liability	-	
9#	Intangible assets, net of associated deferred tax liability	-	
10#	Deferred tax assets that rely on future profitability	-	
11	Cash flow hedge reserve	-	
12	Shortfall of TEP relative to EL under IRBA	14	
13	Increase in equity capital resulting from securitisation transactions	-	
14	Unrealised fair value gains/losses on financial liabilities and derivative liabilities arising from changes in own credit risk	-	
15	Defined benefit pension fund assets, net of associated deferred tax liability	-	
16	Investments in own shares	-	
17	Reciprocal cross-holdings in ordinary shares of financial institutions	-	
18	Investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake	-	
19	Investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries) (amount above 10% threshold)	-	
20#	Mortgage servicing rights (amount above 10% threshold)		
21#	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of associated deferred tax liability)		
22	Amount exceeding the 15% threshold	-	
23	of which: investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)	-	
24#	of which: mortgage servicing rights		
25#	of which: deferred tax assets arising from temporary differences		
26	National specific regulatory adjustments	-	

SGD million		Amount	Cross Reference to Section 5.1
26A	PE/VC investments held beyond the relevant holding periods set out in MAS Notice 630	-	
26B	Capital deficits in subsidiaries and associates that are regulated financial institutions	-	
26C	Any other items which the Authority may specify	-	
27	Regulatory adjustments applied in calculation of CET1 Capital due to insufficient AT1 Capital to satisfy required deductions	-	
28	**Total regulatory adjustments to CET1 Capital**	**14**	
29	**Common Equity Tier 1 capital (CET1)**	**2,405**	
Additional Tier 1 capital: instruments			
30	AT1 capital instruments and share premium (if applicable)	-	
31	of which: classified as equity under the Accounting Standards	-	
32	of which: classified as liabilities under the Accounting Standards	-	
33	Transitional: Ineligible capital instruments (pursuant to paragraphs 6.5.3 and 6.5.4)	-	
34	AT1 capital instruments issued by fully-consolidated subsidiaries that meet criteria for inclusion	-	
35	of which: instruments issued by subsidiaries subject to phase out	-	
36	**Additional Tier 1 capital before regulatory adjustments**	-	
Additional Tier 1 capital: regulatory adjustments			
37	Investments in own AT1 capital instruments	-	
38	Reciprocal cross-holdings in AT1 capital instruments of financial institutions	-	
39	Investments in AT1 capital instruments of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake	-	
40	Investments in AT1 capital instruments of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)	-	
41	National specific regulatory adjustments which the Authority may specify	-	
42	Regulatory adjustments applied in calculation of AT1 Capital due to insufficient Tier 2 Capital to satisfy required deductions	-	
43	**Total regulatory adjustments to Additional Tier 1 capital**	-	
44	**Additional Tier 1 capital (AT1)**	-	
45	**Tier 1 capital (T1 = CET1 + AT1)**	**2,405**	
Tier 2 capital: instruments and provisions			
46	Tier 2 capital instruments and share premium (if applicable)	-	
47	Transitional: Ineligible capital instruments (pursuant to paragraphs 6.5.3 and 6.5.4)	-	
48	Tier 2 capital instruments issued by fully-consolidated subsidiaries that meet criteria for inclusion	-	
49	of which: instruments issued by subsidiaries subject to phase out	-	
50	Provisions	37	a
51	**Tier 2 capital before regulatory adjustments**	**37**	
Tier 2 capital: regulatory adjustments			

SGD million		Amount	Cross Reference to Section 5.1
52	Investments in own Tier 2 instruments	-	
53	Reciprocal cross-holdings in Tier 2 capital instruments of financial institutions	-	
54	Investments in Tier 2 capital instruments and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake	-	
54a#	Investments in other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake: amount previously designated for the 5% threshold but that no longer meets the conditions	-	
55	Investments in Tier 2 capital instruments and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)	-	
56	National specific regulatory adjustments which the Authority may specify	-	
57	**Total regulatory adjustments to Tier 2 capital**	-	
58	**Tier 2 capital (T2)**	**37**	
59	**Total capital (TC = T1 + T2)**	**2,442**	
60	**Floor-adjusted total risk weighted assets**	**14,233**	
Capital ratios (as a percentage of floor-adjusted risk weighted assets)			
61	**Common Equity Tier 1 CAR**	**16.9%**	
62	**Tier 1 CAR**	**16.9%**	
63	**Total CAR**	**17.2%**	
64	Bank-specific buffer requirement	8.4%	
65	of which: capital conservation buffer requirement	1.9%	
66	of which: bank specific countercyclical buffer requirement	0.0%	
67	of which: G-SIB and/or D-SIB buffer requirement (if applicable)	-	
68	Common Equity Tier 1 available after meeting the Reporting Bank's minimum capital requirements	7.2%	
National minima			
69	Minimum CET1 CAR	6.5%	
70	Minimum Tier 1 CAR	8.0%	
71	Minimum Total CAR	10.0%	
Amounts below the thresholds for deduction (before risk weighting)			
72	Investments in ordinary shares, AT1 capital, Tier 2 capital and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake	-	
73	Investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)	-	
74	Mortgage servicing rights (net of associated deferred tax liability)		
75	Deferred tax assets arising from temporary differences (net of associated deferred tax liability)		
Applicable caps on the inclusion of provisions in Tier 2			

SGD million		Amount	Cross Reference to Section 5.1
76	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to standardised approach (prior to application of cap)	37	
77	Cap on inclusion of provisions in Tier 2 under standardised approach	74	
78	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)	-	
79	Cap for inclusion of provisions in Tier 2 under internal ratings-based approach	40	
Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022)			
80	Current cap on CET1 instruments subject to phase out arrangements		
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)		
82	Current cap on AT1 instruments subject to phase out arrangements	-	
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	-	
84	Current cap on T2 instruments subject to phase out arrangements	-	
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-	
Items marked with a hash [#] are elements where a more conservative definition has been applied relative to those set out under the Basel III capital standards.			

* represents amounts of less than S$0.5 million

6 LEVERAGE RATIO

The Leverage Ratio has been introduced under the Basel III framework as a non-risk based backstop limit to supplement the risk-based capital requirements. Its primary aim is to constrain the build-up of excess leverage in the banking sector, with additional safeguard against model risk and measurement errors.

6.1 Leverage Ratio

As at 31 December 2018, MSL's leverage ratio of 6.4% is well above the regulatory minimum requirement of 3%.

SGD million	31 Dec 2018
Capital and Total exposures	
Tier 1 Capital	2,405
Total Exposures	37,414
Leverage ratio (%)	
Leverage ratio	6.4

6.2 Leverage Ratio Summary Comparison Table

SGD million		Amount
	Item	
1	Total consolidated assets as per published financial statements	33,962
2	Adjustment for investments in entities that are consolidated for accounting purposes but are outside the regulatory scope of consolidation	-
3	Adjustment for fiduciary assets recognised on the balance sheet in accordance with the Accounting Standards but excluded from the calculation of the exposure measure	-
4	Adjustment for derivative transactions	121
5	Adjustment for SFTs	-
6	Adjustment for off-balance sheet items	3,345
7	Other adjustments	-14
8	**Exposure measure**	**37,414**

7 RISK MANAGEMENT APPROACH

Risk management is a core discipline of MSL to ensure overall soundness of the bank. The management of risk in MSL broadly takes place at different hierarchical levels and is emphasised through various levels of committees, business lines, control and reporting functions.

Under the Bank's risk governance structure, the Board of Directors has overall responsibility for the oversight of the risk management of MSL. The Board approves risk appetite, risk management frameworks, policies, credit underwriting standards to steer MSL in risk taking activities.

In additional to Board oversight, there are several Executive Level Risk Management Committees - Singapore Management Committee ("SMC"), Executive Risk Management Committee ("ERC"), Credit Committee Singapore ("CCS") and Asset and Liability Management Committee ("ALCO"), to assist and support the Board in its risk oversight.

Functions	Key Responsibilities
Board of Directors ("Board")	Ultimate governing body responsible for understanding the major risks faced by the bank, setting acceptable levels of risk taking and ensuring that Senior Management takes the steps necessary to identify, measure, control and monitor these risks.
Executive Level Risk Management Committees	Assist and support Board / Board Level Committees in its operations.
Senior Management & Working / Operating Level Committees	Ensure the management of risk is in line with the approved risk appetite, risk strategy, risk frameworks, policies, procedures and risk management practices and processes established.

The bank adopts the Group's Risk Framework and Policies with further customisation to suit local regulatory and business environments. For more details on Maybank's Risk Management Approach, please refer to Maybank Group's Pillar 3 disclosure and Annual Report.

8 GENERAL QUALITATIVE DISCLOSURES ON CREDIT RISK

Credit risk is the risk of loss of principal or income arising from the failure of a borrower or counterparty to perform their contractual obligations in accordance with agreed terms.

The bank's credit risk management is supported by policies which cover credit risk management process in accordance with the standards established by the Maybank Group in order to manage credit risk in a structured, systematic and consistent manner. Credit policies are supplemented by operational procedures and guidelines to ensure consistency in identifying, assessing, underwriting, measuring, reporting and controlling credit risk.

Monitoring of credit exposures, portfolio performance and external environment factors potentially affecting the bank is part of the bank's efforts in managing credit risk. Relevant reports on exposures, performance and external credit trends are submitted to the relevant risk committees periodically.

The Credit Authority Limits ("AL") Policy governs the administration of the authority limits for various areas including credit extension, renewals and NPL management. The AL Policy adopts a risk-based approach taking into consideration the risk rating and total credit exposures of the borrower.

The bank engages in various types of credit stress testing typically driven by regulators or internal requirements. The Board / Executive Risk Committee ("ERC") and Senior Management exercise effective oversight on the stress test process and results to ensure that the requirements set out within the relevant policies are met.

9 ADDITIONAL DISCLOSURES RELATED TO THE CREDIT QUALITY OF ASSETS

The bank's Core Credit Classification and Impairment Policy sets out the bank's standards on classification and impairment provisions for financing in accordance with the Group policy and MAS Notice 612 – Credit Files, Grading and Provisioning. Where country requirements differ from the Group, the more stringent policy shall apply.

Credit exposures are categorised as "Performing Loans" and "Non-Performing Impaired Loans ("NPIL")". Classification of accounts leads to the required action on distressed accounts / borrowers where the bank can allocate the right amount of focus for early, preventive and remedial actions.

Loans / financing are classified as follows:

Classification	Description
Performing Loans	
Pass	This indicates that timely repayment of the outstanding credit facility is not in doubt. Repayment is prompt and the credit facility does not exhibit any potential weakness in repayment capability, business, cash flow or financial position of the borrower. The credit facilities may be further sub-categorised to Early Warning Signal ("EWS") and Watch List ("WL") for early care and account management purposes.
Special Mention Account ("SMA")	Accounts exhibiting potential weaknesses that, if not corrected in a timely manner, may adversely affect repayment by the borrower at a future date, and warrant close attention by a bank.
Non-Performing Impaired Loans ("NPIL")	
Substandard	Accounts exhibiting definable weaknesses, in respect of either the business, cash flow or financial position of the borrower that may jeopardise repayment on existing terms.
Doubtful	Accounts with more severe weakness than those in a substandard credit facility such that the prospects of full recovery are questionable and the prospects of a loss are high, but the exact amount remains undeterminable yet.
Bad (Loss)	Accounts where the outstanding credit facility is not collectable and little or nothing can be done to recover the outstanding amount from any collateral or from the borrower's assets generally.

Accounts are classified as NPIL under the following circumstances:

- Time Trigger – Borrowers that are past due for more than 90 days on their obligations to the bank.

- Judgemental Trigger – Borrowers that exhibit definable or more severe weakness and are unlikely to pay their obligations to the bank.

The following tables show the breakdown of credit risk exposures by geographical areas, industry and residual maturity.

9.1 Breakdown of Major Types of Credit Risk Exposures by Geographical Areas

SGD million	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Singapore government securities & treasury bills	Other government treasury bills and securities	Balances and placements with and loans to banks	Bills Receivable & Loans and advances to non-bank customers	Credit commitments	Contingent liabilities	Total
Singapore	3,059	-	6,509	21,956	7,247	218	38,989
India	-	-	-	15	1	28	44
Malaysia	-	-	-	184	210	6	400
China	-	-	-	165	27	18	209
Hong Kong	-	-	6	48	7	17	78
Others	-	126	168	212	111	161	778
Total	**3,059**	**126**	**6,683**	**22,580**	**7,603**	**448**	**40,499**

Maybank

9.2 Breakdown of Major Types of Credit Risk Exposures by Industry Sector

SGD million	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Singapore government securities & treasury bills	Other government treasury bills and securities	Balances and placements with and loans to banks	Bills Receivable & Loans and advances to non-bank customers	Credit commitments	Contingent liabilities	Total
Building and Construction	-	-	-	801	419	77	1,297
Financial institutions	-	-	6,683	1,999	496	7	9,185
Manufacturing	-	-	-	805	323	29	1,157
Transport, storage & communication	-	-	-	592	99	20	711
Government & public sector	3,059	126	-	-	-	-	3,185
General commerce	-	-	-	1,788	1,137	274	3,199
Professional and private individuals	-	-	-	16,365	4,862	11	21,237
Others	-	-	-	231	267	30	528
Total	**3,059**	**126**	**6,683**	**22,580**	**7,603**	**448**	**40,499**

9.3 Breakdown of Major Types of Credit Risk Exposures by Residual Maturity

SGD million	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Up to 7 days	More than 7 days to 1 month	More than 1 to 3 months	More than 3 to 12 months	More than 1 to 3 years	More than 3 years	Total
Singapore Government treasury bills and securities	300	999	1,611	149	-	-	3,059
Other government treasury bills and securities	*	82	43	-	-	-	126
Balances and placements with and loans to banks	1,973	710	-	2,000	2,000	-	6,683
Bills Receivable & Loans and advances to non-bank customers	1,078	666	429	766	1,337	18,303	22,580
Total	**3,351**	**2,457**	**2,084**	**2,915**	**3,337**	**18,303**	**32,448**

*Number is less than 0.5

The bank’s off-balance sheet credit exposures are largely short term commitments with maturity of less than 1 year.

The following tables show the breakdown of impaired exposures and related allowances and write-offs by geographical areas and industry.

9.4 Breakdown by Geographical Areas

SGD million	(a)	(b)	(c)
	Impaired loans, advances and financing	Specific Allowance	Write-Offs
Singapore	185	87	13
Malaysia	9	*	-
Others	*	*	-
Total	**194**	**87**	**13**

*Number is less than 0.5

9.5 Breakdown by Industry

SGD million	(a)	(b)	(c)
	Impaired loans, advances and financing	Specific Allowance	Write-Offs
Building and Construction	23	7	4
Financial institutions	9	1	-
Manufacturing	40	31	1
Transport, storage & communication	2	1	*
General commerce	39	29	3
Professional and private individuals	74	14	4
Others	6	3	1
Total	**194**	**87**	**13**

*Number is less than 0.5

The following table shows the ageing analysis of past due exposures.

9.6 Ageing Analysis of Past Due Loan Exposures

SGD million	(a)
	31 Dec 2018
Within 30 days	502
More than 30 to 90 days	96
More than 90 days	194
Total	**792**

9.7 Restructured Exposures

A restructured facility is one whose principal terms and conditions have been modified due to an increase in the credit risk / deterioration in creditworthiness of the customer and / or to assist the borrower to overcome / alleviate financial difficulties. Restructured accounts are classified as impaired i.e. minimum "substandard" grade, depending on the financial condition of the borrower and the ability of the borrower to repay based on the restructured terms.

SGD million	(a)
	31 Dec 2018
Impaired	12
Non-impaired	28
Total	**39**

10 QUALITATIVE DISCLOSURES RELATED TO CRM TECHNIQUES

The bank uses various risk mitigation methods such as collateral, netting arrangements, credit insurance, credit derivatives and guarantees to mitigate potential credit losses. When assessing whether a collateral is acceptable, the bank sets criteria including legal certainty and enforceability, marketability and valuations of the collateral.

The bank's Collateral Policy prescribes the list of acceptable collaterals, valuation method and frequency, loan-to-value ("LTV") in order to be recognised as secured, insurance requirements etc.

Derivatives, repurchase agreements ("REPO") etc. are typically governed and documented under market-standard documentation, such as International Swaps & Derivatives Association ("ISDA") Agreements and Master Repurchase Agreements. The master agreement provides general terms and conditions that are applied to all transactions which it governs.

Regular valuation of collateral is performed and the bank performs regular analysis of its collateral concentration. Collateral values are also adjusted during stress testing to ascertain its impact on recovery and loss.

Where necessary, recovery processes are in place to assist with the disposal of collateral. A panel of service providers (valuers, auctioneers, agents, brokers and solicitors) is maintained to assist the bank with the disposal of foreclosed properties / assets under impaired loans.

11 QUALITATIVE DISCLOSURES ON THE USE OF EXTERNAL CREDIT RATINGS UNDER THE SA(CR)

Credit exposures to sovereigns and banks under the Standardised Approach are risk-weighted using external ratings, subject to the regulatory prescribed risk weights by asset classes set out in MAS637. The approved External Credit Assessment Institutions ("ECAI") are Fitch Ratings, Moody's Investor Service, and Standard & Poor's ("S&P").

12 QUALITATIVE DISCLOSURES FOR IRBA MODELS

The bank has obtained approval from MAS to use internal credit models for evaluating the majority of its credit risk exposures. For the RWA computation of corporate portfolios, the bank adopts the Foundation Internal Ratings-Based ("FIRB") Approach (for approved scorecards), which relies on its own internal Probability of Default ("PD") estimates and applies supervisory estimates of Loss Given Default ("LGD") and Exposure At Default ("EAD"), while the retail portfolios mainly adopt the Advanced Internal Ratings-Based ("AIRB") Approach relying on internal estimates of PD, LGD, and EAD.

In line with Basel II requirements for capital adequacy purposes, the parameters are calibrated to a full economic cycle experience to reflect the long-run, cycle-neutral estimations.

- **Probability of Default ("PD")**

PD represents the probability of a borrower defaulting within the next 12 months. The first level estimation is based on the portfolio's Observed Default Rate of the more recent years' data. The average long-run default experience covering crisis periods (e.g. 2001-2002) is reflected through Central Tendency calibration for the Basel estimated PD.

- **Loss Given Default ("LGD")**

LGD measures the economic loss the bank would incur in the event of a borrower defaulting. Among others, it takes into account post default pathways, cure probability, direct and indirect costs associated with the workout, recoveries from borrower and collateral liquidation.

For Basel II purpose, LGD is calibrated to loss experiences during a period of economic crisis whereby for most portfolios, the estimated loss during crisis years is expected to be higher than that during a normal economic period. The crisis period LGD, known as Downturn LGD, is used as an input for RWA calculation.

- **Exposure At Default ("EAD")**

EAD is linked to facility risk, namely the expected gross exposure of a facility should a borrower default. The "race-to-default" is captured by Credit Conversion Factor ("CCF"), which should reflect the expected increase in exposure amount due to additional drawdown by a borrower facing financial difficulties leading to default.

12.1 Application of Internal Ratings

Internal ratings are used in the following areas:

- **Credit Approval**
  The bank adopts a risk-based approval approach where the approval level of a loan application is determined based on the internal rating of the borrower, Expected Loss (“EL”) and the quantum of exposure being requested.

- **Risk Management & Setting of Risk Tolerances For Credit Portfolios**
  Internal ratings are used extensively in the bank’s policies to ensure consistent application of the rating system, estimates, and processes among the various units in the bank. For example, borrowers with higher risk grades are subjected to more frequent reviews to ensure close monitoring and tracking of these borrowers.

  Regular reporting on the risk rating portfolio distribution and sectoral outlook vs. borrower risk profile within each sector are being produced and monitored by the bank.

- **Internal Capital Allocation and Pricing**
  The bank has emplaced risk-based capital management, Internal Capital Adequacy Assessment Process (“ICAAP”) programme and uses regulatory capital charge for decision making and budgeting process. Internal ratings are being used as a basis for pricing credit facilities.

- **Provisioning**
  The bank adopts the internal ratings generated to derive Expected Credit Loss (“ECL”) for provisioning purposes.

- **Corporate Governance**
  Internal ratings, default and loss estimates are used in reports to provide meaningful analysis on areas relating to credit and profitability at all levels within the bank, especially to senior management.

12.2 Non-Retail Portfolio

Non-retail exposures comprise mainly the bank's commercial banking borrowers. The general approach adopted by the bank can be categorised into the following two categories:

- **Default History Based ("Good-Bad" Analysis)**
  This approach is adopted when the bank has sufficient default data. Under this approach, a statistical method is employed to determine the likelihood of default on existing exposures. Scorecards under the bank's Credit Risk Rating System ("CRRS") models were developed using this approach.

- **Expert Judgement Approach**
  The default experience for some exposures, for example, in real estate, is insufficient for the bank to perform the required analysis to develop a robust statistical model. Hence, another approach known as experts' judgement approach is opted to develop the scorecard. Under this approach, the qualitative, quantitative and factor weights are determined by the Group's credit experts.

12.3 Credit Risk Models and Tools

- **Credit Risk Rating System ("CRRS")**
  The Borrower Risk Rating ("BRR"), which is a component of CRRS, is a borrower-specific rating element that provides an estimate on the likelihood of the borrower going into default over the next twelve months. The BRR estimates the borrower risk and is independent of the type / nature of facilities and collaterals offered.

  For reference, each grade can be mapped to external agency ratings, such as S&P. This is illustrated in Table 1 below which contains mapping of internal rating grades of corporate borrowers with S&P's rating grades.

Table 1: Rating Grades

Risk Category	Rating Grade	S&P equivalent
Very Low	1-5	AAA to BBB+
Low	6-10	BBB+ to BB+
Medium	11-15	BB+ to B+
High	16-21	B+ to C

12.4 Retail Portfolio

The bank has adopted the AIRB Approach for our retail exposures, which consists of residential mortgages, qualifying revolving retail exposures and other retail exposures. These exposures are managed on a portfolio basis premised on homogenous risk characteristics.

This approach calls for a more extensive reliance on the bank's own internal experience (based on historical data) by estimating all three main components of RWA calculation namely PD, EAD and LGD which are based on its own historical data.

Maybank

13 IRBA – BACKTESTING OF PD PER PORTFOLIO

The following table provides backtesting data to validate the reliability of PD calculations, and compares the PD used in F-IRBA capital calculations with the effective default rates of the bank's obligors.

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
PD Range	S&P	Fitch's Rating	Moody's Rating	Weighted Average PD by obligors	Arithmetic average PD by obligors	Number of obligors		Defaulted obligors in the annual reporting period	of which: raw defaulted obligors in the annual reporting period	Average historical annual default rate
						End of previous annual reporting period	End of the annual reporting period			
Corporate asset sub-class and Corporate small business asset sub-class										
0.00 to < 0.15	AAA to A	AAA to A	Aaa to A2	0.11%	0.12%	159	137	2		0.13%
0.15 to < 0.25	A-	A-	A3	0.20%	0.20%	115	90	1		0.68%
0.25 to < 0.50	BBB+ to BBB	BBB+ to BBB	Baa1 to Baa2	0.35%	0.35%	372	332	1		0.67%
0.50 to < 0.75	BBB-	BBB-	Baa3	0.55%	0.55%	208	219	4		0.59%
0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.41%	1.37%	700	671	8	2	1.10%
2.50 to < 10.00	B to CCC	B to CCC	B2 to Caa2	3.92%	4.17%	219	251	18	2	2.99%
10.00 to < 100.00	CCC- to C	CCC- to C	Caa3 to Ca	14.47%	13.80%	679	835	8		5.88%

The following table provides backtesting data to validate the reliability of PD calculations, and compares the PD used in A-IRBA capital calculations with the effective default rates of the bank's obligors.

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
						Number of obligors				
PD Range	S&P	Fitch's Rating	Moody's Rating	Weighted Average PD by obligors	Arithmetic average PD by obligors	End of previous annual reporting period	End of the annual reporting period	Defaulted obligors in the annual reporting period	of which: raw defaulted obligors in the annual reporting period	Average historical annual default rate
Residential mortgage asset sub-class										
0.00 to < 0.15				0.13%	0.13%	152	154			0.00%
0.15 to < 0.25				0.21%	0.21%	6,798	6,671			0.05%
0.25 to < 0.50				0.37%	0.36%	8,935	8,696			0.08%
0.50 to < 0.75				0.59%	0.59%	4,512	4,827	3		0.13%
0.75 to < 2.50				1.31%	1.36%	1,962	1,563	1		0.49%
2.50 to < 10.00				3.83%	4.00%	732	779	3		2.22%
10.00 to < 100.00				12.58%	12.86%	171	162	34		16.47%
QRRE asset sub-class										
0.00 to < 0.15				0.15%	0.15%	1	1			0.09%
0.15 to < 0.25				0.21%	0.21%	681	977			0.11%
0.25 to < 0.50				0.37%	0.37%	120,509	104,766	30		0.09%
0.50 to < 0.75				0.61%	0.61%	43,397	42,116	288		0.60%
0.75 to < 2.50				1.15%	1.14%	58,989	73,258	100	9	0.91%
2.50 to < 10.00				4.88%	4.82%	12,323	13,312	82	1	3.5%
10.00 to < 100.00				19.71%	19.54%	2,927	3,093	1,145	26	13.66%
Other retail exposures asset sub-class										
0.00 to < 0.15				0.09%	0.09%	26,853	31,097	2		0.02%
0.15 to < 0.25				0.19%	0.19%	9,149	9,459	3	1	0.05%
0.25 to < 0.50				0.36%	0.36%	8,892	8,538	4	1	0.10%
0.50 to < 0.75				0.60%	0.60%	2,664	2,622	6	1	0.90%

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
PD Range	S&P	Fitch's Rating	Moody's Rating	Weighted Average PD by obligors	Arithmetic average PD by obligors	Number of obligors		Defaulted obligors in the annual reporting period	of which: raw defaulted obligors in the annual reporting period	Average historical annual default rate
						End of previous annual reporting period	End of the annual reporting period			
0.75 to < 2.50				1.38%	1.39%	4,091	3,861	3		1.22%
2.50 to < 10.00				4.29%	4.33%	1,077	985	15		1.83%
10.00 to < 100.00				21.14%	20.04%	372	207	55		15.41%

14 QUALITATIVE DISCLOSURES RELATED TO CCR

Counterparty Credit Risk ("CCR") (i.e. Pre-Settlement Risk ("PSR")) is the risk that the counterparty in a trade will default before the settlement date, thereby prematurely ending the contract.

Replacement-cost (i.e. the potential cost of replacing a transaction in conditions that are less favourable than those achieved in the original transaction) arises from fluctuations in the market price and when there is a need to complete the exchange and enter into a new contract with a different counterparty. Such risk is applicable to treasury related products.

The bank's Non-Bank Institutional Counterparty Policy for Treasury ("NBIC") sets out the requirements for treasury products, namely Foreign Exchange, Derivatives, Bond Trading and Repurchase Agreement ("REPO") / Reverse REPO.

The extension of credit limits and exposures to counterparties are subject to the bank's prevailing underwriting standards and credit policies. Similar to other credit applications, counterparties are assigned the appropriate risk ratings in accordance to the bank's Credit Rating Policy and the applications are subject to independent credit assessments by Credit Management Singapore ("CMS"). The setting of limits and tenor are also subject to additional criteria as set out within the NBIC policy.

The bank actively monitors and manages the limits to ensure compliance to internal and regulatory requirements on single largest counterparty. The bank also takes the necessary action and reporting on counterparties experiencing issues with excess management and settlement failure.

15 QUALITATIVE DISCLOSURES RELATED TO MARKET RISK

The bank does not have a trading book as of 31 December 2018.

16 OPERATIONAL RISK

Operational Risk is the risk of losses attributable from failed or inadequate internal processes, human or people-related factors, systems or from external events. This is inclusive of the risk of the failure to comply with applicable regulations, laws, ethics or policies internal to Maybank.

The Operational Risk Management is embedded within the three lines of defence to support the identification, assessment, mitigation and recovery of operational risks. The three lines of defence comprises the Business Risk Owners (First Line), Independent Risk Stewards including Risk Management, Legal, Compliance, IT Risk (Second Line), and Internal Audit (Third Line).

The management of operational risk in the bank is also guided by the MSL Operational Risk Policy and its associated tools within the framework, such as the Risk Control Self-Assessment ("RCSA"), Key Risk Indicators ("KRI") and Incident Management Data Collection ("IMDC"). Operational Risk Management also governs the bank's mitigation of risks through the Business Continuity Management program to ensure the bank's resilience in the event of a disaster.

MSL uses the Basic Indicator Approach for the calculation of its Operational Risk capital, as part of the computation method spelt out in MAS Notice 637, Part IX, Division 2.

17 INTEREST RATE RISK IN THE BANKING BOOK (“IRRBB”)

IRRBB is defined as the risk of loss in earnings or economic value on banking book exposures arising from movements in interest rates. Primary sources of IRRBB include gap (repricing) risk, basis risk and option risk.

The ALCO oversees IRRBB in MSL. Banking book policies and limits are established to measure and manage the risk. Repricing gap analysis remains one of the building blocks for IRRBB assessment of the bank. Earnings-at-Risk (“EaR”) and Impact on Economic Value (“IEV”) are derived to gauge the maximum tolerance level of the adverse impact of market interest rate towards earnings and capital.

Singapore Dollar interest rate positions are the key interest rate risk drivers in the banking book portfolio. The impact on economic value based on the worse of an upward or downward parallel shift of 100 basis points in the yield curve was approximately negative SGD131 million.

18 QUALITATIVE DISCLOSURES RELATED TO SECURITISATION EXPOSURES

The bank does not have securitisation exposures as at 31 December 2018.

19 REMUNERATION

The key objectives of MSL's rewards policy are to ensure that the bank is able to attract, retain and motivate a highly skilled and committed workforce, and to drive behaviours which are aligned to the bank's strategic vision and T.I.G.E.R core values which are critical to sustain employee engagement levels, productivity and business growth.

To achieve these objectives, the bank leverages on a holistic total rewards proposition encompassing both monetary and non-monetary components. The bank monitors, reviews and does benchmarking against the industry using information from market surveys by management consultants to determine whether its total rewards remain competitive.

19.1 Key Features of Total Rewards Framework

Key Elements	Purpose
Fixed Pay	Attract and retain talent by providing competitive pay that is externally benchmarked against relevant peers and location, and internally aligned with consideration of differences in individual performance and achievements, skillsets, job scope as well as competency level.
Variable Bonus	Variable Bonus a) Reinforce a pay-for-performance culture and adherence to the Maybank Group's T.I.G.E.R. core values b) As part of the bank's overall corporate governance framework, variable cash awards are designed with deferral and claw-back policies to align with the long-term performance goals of the Group and adherence with the risk management principles and standards set out by the Financial Stability Board c) Based on overall Group Performance, Business / Corporate Function and individual performance d) Performance is measured via the Balanced Scorecard approach e) Deferral Policy: Any variable cash awards in excess of a certain threshold are subject to a tiered deferral rate over a period of time Long-term Incentive Award The long-term incentive award is offered within the suite of total rewards for eligible talents and senior management who have a direct line of sight in driving, leading and executing the Maybank Group's business strategies and objectives.

Key Elements	Purpose
	Clawback Provision The Maybank Board, based on risk management issues, financial misstatement, fraud and gross negligence or wilful misconduct, has the discretion to make potential adjustment or clawback on variable bonus and long-term incentive awards.
Benefits	Provides employees with financial protection, access to health care, paid time-off, staff loans at preferential rates and programmes to support work-life balance. The benefit programmes which blend all elements including cost optimisation and employee / job needs, are reviewed regularly with proactive actions taken to remain competitive in the increasingly dynamic business landscape and continuously enrich our employees, as part of our total rewards strategy.
Development and Career Opportunities	Continue to invest in the personal and professional growth of employees. Opportunities provided to employees to chart their careers across different businesses and geographies.

The remuneration of control units is measured and assessed independently from the business units that they are supporting to avoid any conflict of interests. The bank's remuneration policy is submitted to the Board for approval.

19.2 Senior Management and Other Material Risk Takers

Senior Management by virtue of their roles and responsibilities would naturally be classified as material risk takers. These are individual employees or a group of employees collectively involved in strategic decision making and are accountable for the bank's performance and risk profile.

Other material risk takers are individual employees or a group of employees who can collectively commit significant amount of material resources that have significant impact on the bank's performance and risk profile.

The remuneration package of the Senior Management and other material risk takers are reviewed annually and submitted to the Board for approval.

19.3 Remuneration Awarded During the Financial Year

Category		(a) Senior Management	(b) Other Material Risk-takers
	Fixed remuneration		
1	Number of employees	11	7
2	Total fixed remuneration (row 3 + row 5 + row 7)	59.7%	65.2%
3	of which: cash-based	58.6%	64.0%
4	of which: deferred	-	-
5	of which: shares and other share-linked instruments	-	-
6	of which: deferred	-	-
7	of which: other forms of remuneration	1.1%	1.2%
8	of which: deferred	-	-
	Variable remuneration		
9	Number of employees	10	7
10	Total variable remuneration (row 11 + row 13 + row 15)	40.3%	34.8%
11	of which: cash-based	34.4%	26.5%
12	of which: deferred	0.2%	-
13	of which: shares and other share-linked instruments	5.7%	8.3%
14	of which: deferred	-	-
15	of which: other forms of remuneration	0.2%	-
16	of which: deferred	-	-
17	**Total remuneration (Row 2 + Row 10)**	**100.0%**	**100.0%**

19.4 Special Payments

Category		Guaranteed bonuses		Sign-on awards		Severance payments	
		Number of employees	Total amount	Number of employees	Total amount	Number of employees	Total amount
1	Senior Management	-	-	-	-	-	-
2	Other Material Risk-takers	-	-	-	-	-	-

19.5 Deferred Remuneration

		(a)	(b)	(c)	(d)	(e)
	Deferred and retained remuneration	Total outstanding deferred remuneration	of which: total outstanding deferred and retained remuneration exposed to ex post explicit and/or implicit adjustments	Total amendments during the year due to ex post explicit adjustments	Total amendments during the year due to ex post implicit adjustments	Total deferred remuneration paid out in the financial year
	Senior Management					
1	Cash	100%	100%	-	-	100%
2	Shares	-	-	-	-	-
3	Share-linked instruments	-	-	-	-	-
4	Other	-	-	-	-	-
	Other material risk-takers					
5	Cash	-	-	-	-	-
6	Shares	-	-	-	-	-
7	Share-linked instruments	-	-	-	-	-
8	Other	-	-	-	-	-