

Oversea-Chinese Banking Corporation Limited

**Pillar 3 Disclosures
(OCBC Group – As at 31 December 2019)**



Incorporated in Singapore
Company Registration Number: 193200032W

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**Attestation Statement Pursuant to Monetary Authority of Singapore (MAS) Notice 637
on Risk Based Capital Adequacy Requirements – Disclosure Requirements (Pillar 3)**

On behalf of the Board of Directors (Board), we are satisfied that the disclosures in this report have been prepared in accordance with the internal control processes approved by the Board for public disclosures.



Darren Tan
Chief Financial Officer
21 February 2020

2. INTRODUCTION

This document presents the information in accordance with Pillar 3 (P3) disclosure requirements under Monetary Authority of Singapore (MAS) Notice 637 on Risk Based Capital Adequacy Requirements for Banks incorporated in Singapore. The P3 requirements specify reporting templates for most of the quantitative disclosures to enable market participants to better compare the capital adequacy and risk profile across banks via improved consistency in public disclosure.

For purpose of the year-end disclosure for OCBC Group (Group) as at 31 December 2019, explanations of the drivers behind significant differences between reporting periods for the respective sections are provided where appropriate. The disclosure on the RWA flow statements for the following are omitted as there is no exposure treated under these approaches:

- Counterparty Credit Risk (CCR) under the Internal Models Method (IMM)
- Market Risk exposures under the Internal Models Approach (IMA)

As part of enhanced public disclosures on risk profile and capital adequacy driven by changes in Part XI of MAS Notice 637, a risk disclosure policy which includes establishing and maintaining internal control processes over the disclosure - among other requirements - has been approved by the Board. The Board has also appointed the Group Chief Financial Officer to attest that the Pillar 3 report has been prepared in accordance with the approved internal control processes.

3. ACCOUNTING AND REGULATORY CONSOLIDATION

The consolidation basis used for regulatory capital computation is similar to that used for financial reporting except for the following:

- Great Eastern Holdings Limited and its insurance subsidiaries are excluded from regulatory consolidation and are treated as investments in unconsolidated major stake companies that are financial institutions in accordance with MAS Notice 637's definition of insurance subsidiary. The regulatory adjustments applied to these investments are in accordance with MAS Notice 637 paragraphs 6.1.3(p), 6.2.3(e) and 6.3.3(e).
- As at 31 December 2019, the total equity of these insurance subsidiaries was S\$9 billion and total assets were S\$96 billion.

Disclosures on the Group's reconciliation of regulatory capital and regulatory capital position can be found in Section 6 of this document.

4. KEY METRICS

The table below provides an overview of the Group's prudential regulatory metrics, as stipulated by MAS Notice 637.

	(a)	(b)	(c)	(d)	(e)	
	Dec-19	Sep-19	Jun-19	Mar-19	Dec-18	
Available Capital (S\$ million)						
1	CET1 Capital	31,800	30,759	30,176	29,024	28,068
2	Tier 1 Capital	33,331	32,290	31,706	30,585	29,640
3	Total Capital	35,992	36,214	35,341	34,155	32,986
Risk Weighted Assets (S\$ million)						
4	Total RWA	213,356	212,839	209,203	204,357	200,248
Risk-based Capital Ratios as a percentage of RWA (%)						
5	CET1 Ratio	14.9	14.4	14.4	14.2	14.0
6	Tier 1 Ratio	15.6	15.1	15.1	14.9	14.8
7	Total Capital Ratio	16.8	17.0	16.8	16.7	16.4
Additional CET1 buffer requirements as a percentage of RWA (%)						
8	Capital conservation buffer requirement	2.5	2.5	2.5	2.5	1.875
9	Countercyclical buffer requirement	0.3	0.4	0.4	0.4	0.3
10	Bank G-SIB and/or D-SIB additional requirements	-	-	-	-	-
11	Total of Bank CET1 specific requirements ^{1/}	2.8	2.9	2.9	2.9	2.2
12	CET1 available after meeting the Reporting Bank's minimum capital requirements	6.8	7.0	6.8	6.7	6.4
Leverage Ratio (S\$ million)						
13	Total Leverage Ratio exposure measure	431,314	424,551	417,885	408,788	409,993
14	Leverage Ratio (%) ^{2/}	7.7	7.6	7.5	7.4	7.2
Liquidity Coverage Ratio (S\$ million) ^{3/}						
15	Total High Quality Liquid Assets	49,769	48,677	46,894	48,930	49,751
16	Total net cash outflow	30,710	32,008	31,028	32,942	32,124
17	Liquidity Coverage Ratio (%)	163	154	151	150	156
Net Stable Funding Ratio (S\$ million)						
18	Total available stable funding	245,245	243,501	239,480	236,498	231,631
19	Total required stable funding	221,410	221,422	219,417	214,338	213,274
20	Net Stable Funding Ratio (%)	111	110	109	110	109

^{1/} Sum of rows 8, 9 and 10

^{2/} Computed by row 2 / row 13

^{3/} Reported as simple averages of daily observations for the respective quarter

5. G-SIB INDICATORS AND COUNTERCYCLICAL CAPITAL BUFFER

5.1 G-SIB Assessment Indicators

The Basel Committee on Banking Supervision (BCBS) has published 12 indicators it uses to classify a Bank as a Global Systemically Important Bank (G-SIB). While OCBC is not a G-SIB, it is required under MAS Notice 637 to disclose the 12 G-SIB indicators. The G-SIB indicators disclosed in the table below are unaudited and have been prepared in accordance with the instructions issued by BCBS and, may not be directly comparable with other disclosed information.

12 G-SIB indicators of OCBC Group as at 31 December 2019 and 31 December 2018

31 Dec 2019			Amount
Category	Indicators used for assessing G-SIB		S\$ million
1	Cross-jurisdictional activity	Cross-jurisdictional claims	239,663
2		Cross-jurisdictional liabilities	187,967
3	Size	Total exposures as defined for use in the Basel III leverage ratio ^{1/}	438,222
4	Interconnectedness	Intra-financial system assets	76,092
5		Intra-financial system liabilities	42,525
6		Securities outstanding	101,179
7	Substitutability / financial institution infrastructure	Assets under custody	133,933
8		Payments activity	5,946,676
9		Underwritten transactions in debt and equity markets	8,725
10	Complexity	Notional amount of OTC derivatives	962,966
11		Level 3 assets	1,266
12		Trading and available-for-sale securities	34,299

31 Dec 2018			Amount
Category	Indicators used for assessing G-SIB		S\$ million
1	Cross-jurisdictional activity	Cross-jurisdictional claims	235,361
2		Cross-jurisdictional liabilities	177,511
3	Size	Total exposures as defined for use in the Basel III leverage ratio ^{1/}	416,877
4	Interconnectedness	Intra-financial system assets	71,427
5		Intra-financial system liabilities	40,483
6		Securities outstanding	102,944
7	Substitutability / financial institution infrastructure	Assets under custody	125,206
8		Payments activity	5,735,185
9		Underwritten transactions in debt and equity markets	7,202
10	Complexity	Notional amount of OTC derivatives	1,011,819
11		Level 3 assets	1,226
12		Trading and available-for-sale securities	36,043

^{1/} Total exposures differ from the total exposures disclosed under Leverage Ratio as the computation as required by the Basel Committee for the purposes of the G-SIB assessment disclosures excludes regulatory adjustments.

5.2 Geographical Distribution of Credit Exposures Used in the Countercyclical Capital Buffer

The following table provides an overview of the Group's geographical distribution of private sector credit exposures for the calculation of countercyclical buffer.

The geographical distribution is based on the country where the physical collateral resides in, residence of the guarantor, or in the absence of such mitigant, the country of obligor (i.e. the country where the majority of the obligor's operating assets is situated) in accordance with MAS Notice 637 requirements.

31 Dec 2019				
	(a)	(b)	(c)	(d)
	Country-Specific countercyclical buffer requirement %	RWA for private sector credit exposures S\$ million	Bank-Specific countercyclical buffer requirement ^{1/} %	Countercyclical buffer amount S\$ million
Geographical breakdown				
Sweden	2.50%	1		
Hong Kong	2.00%	20,924		
United Kingdom	1.00%	6,599		
France	0.25%	27		
Sub-total		27,551		
Total		156,192	0.3%	661

30 Jun 2019				
	(a)	(b)	(c)	(d)
	Country-Specific countercyclical buffer requirement %	RWA for private sector credit exposures S\$ million	Bank-Specific countercyclical buffer requirement ^{1/} %	Countercyclical buffer amount S\$ million
Geographical breakdown				
Hong Kong	2.50%	20,544		
Sweden	2.00%	236		
United Kingdom	1.00%	5,716		
Sub-total		26,496		
Total		151,588	0.4%	795

^{1/} The Bank-Specific countercyclical buffer is the additional capital which needs to be maintained above the Regulatory minimum and Capital Conservation buffer requirement

6. COMPOSITION OF CAPITAL

6.1 Reconciliation of Regulatory Capital

The reporting position of the table in this section is as at 31 December 2019.

	Balance sheet as per published financial statements	Under regulatory scope of consolidation	Cross Reference to Section 6.2
S\$'m			
EQUITY			
Share capital	17,261	17,261	A
Other equity instruments	1,497	1,497	B
Reserves:			
Capital reserves	1,253		
Fair value reserves	919		
Revenue reserves	26,232		
Total reserves	28,404		
of which: Retained earnings		19,807	C1
of which: Accumulated other comprehensive income and other disclosed reserves		1,432	C2
of which: Cash flow hedge reserve		(1)	C3
of which: Unrealised fair value gains/losses on financial liabilities and derivative liabilities arising from changes in own credit risk		5	C4
Non-controlling interests	1,441		
of which: Minority interest that meets criteria for inclusion in CET1 Capital		213	D1
of which: Minority interest that meets criteria for inclusion in AT1 Capital		34	D2
of which: Minority interest that meets criteria for inclusion in Tier 2 Capital		19	D3
Valuation adjustment		41	E
Total equity	48,603		
LIABILITIES			
Deposits of non-bank customers	302,851		
Deposits and balances of banks	8,250		
Due to associates	347		
Trading portfolio liabilities	92		
Derivative payables	7,687		
Other liabilities	6,945		
Current tax payables	1,189		
Deferred tax liabilities	1,893		
of which: Associated with intangible assets		43	F
Debt issued	29,388		
of which: Tier 2 capital instruments		1,397	G1
Life assurance fund liabilities	84,446		
Total liabilities	443,088		
Total equity and liabilities	491,691		
ASSETS			
Cash and placements with central banks	23,201		
Singapore government treasury bills and securities	11,042		
Other government treasury bills and securities	17,620		
Placements with and loans to banks	35,813		
Loans and bills receivable	262,045		
of which: Eligible provision for inclusion in Tier 2 Capital subject to cap in respect of exposures under SA and IRBA		1,244	H
Debt and equity securities	28,533		
of which: Investments in unconsolidated major stake financial institutions		337	I1
of which: Investments in unconsolidated non major stake financial institutions		1,352	I2
of which: PE/VC investments held beyond the relevant holding periods set out in MAS Notice 630		0	I3
Investments in insurance subsidiaries		1,953	J
Derivative and forward securities in unconsolidated non major stake financial institutions		(30)	K
Assets pledged	1,166		
Assets held for sale	3		
Derivative receivables	7,349		
Other assets	4,409		
Deferred tax assets	87		
of which: Deferred tax assets before netting		209	L
Associates	3,638		
of which: Investments in unconsolidated major stake financial institutions		3,537	M
Property, plant and equipment	3,628		
Investment property	839		
Goodwill and intangible assets	4,980		
of which: Goodwill		4,007	N1
of which: Intangible assets		288	N2
Life assurance fund investment assets	87,338		
Total assets	491,691		

6.2 Regulatory Capital Position

The reporting position of the tables in this section is as at 31 December 2019.

		S\$m	
		Amount	Cross Reference to Section 6.1
	Common Equity Tier 1 capital: instruments and reserves		-
1	Paid-up ordinary shares and share premium (if applicable)	17,261	A
2	Retained earnings	19,807	C1
3	Accumulated other comprehensive income and other disclosed reserves	1,432	C2
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	213	D1
6	Common Equity Tier 1 capital before regulatory adjustments	38,714	
	Common Equity Tier 1 capital: regulatory adjustments		
7	Valuation adjustment pursuant to Part VIII of MAS Notice 637	41	E
8	Goodwill, net of associated deferred tax liability	4,007	N1
9	Intangible assets, net of associated deferred tax liability	245	N2 - F
10	Deferred tax assets that rely on future profitability	209	L
11	Cash flow hedge reserve	(1)	C3
12	Shortfall of TEP relative to EL under IRBA	-	
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	5	C4
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)	2,407	(I1 + M + J) - 3,421 ¹
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	0	
26A	PE/VC investments held beyond the relevant holding periods set out in MAS Notice 630	0	I3
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	6,914	
29	Common Equity Tier 1 capital (CET1)	31,800	
	Additional Tier 1 capital: instruments		
30	AT1 capital instruments and share premium (if applicable)	1,497	B
31	of which: classified as equity under the Accounting Standards	1,497	
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	34	D2
35	of which: instruments issued by subsidiaries subject to phase out	-	
36	Additional Tier 1 capital before regulatory adjustments	1,531	
	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)	1,531	
45	Tier 1 capital (T1 = CET1 + AT1)	33,331	

6.2 Regulatory Capital Position (continued)

		Amount	Cross Reference to Section 6.1
	Tier 2 capital: instruments and provisions		
46	Tier 2 capital instruments and share premium (if applicable)	1,397	G1
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	19	D3
49	of which: instruments issued by subsidiaries subject to phase out	-	
50	Provisions	1,244	H
51	Tier 2 capital before regulatory adjustments	2,661	
	Tier 2 capital: regulatory adjustments		
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)	2,661	
59	Total capital (TC = T1 + T2)	35,992	
60	Floor-adjusted total risk weighted assets	213,356	
	Capital ratios (as a percentage of floor-adjusted risk weighted assets)		
61	Common Equity Tier 1 CAR	14.9%	
62	Tier 1 CAR	15.6%	
63	Total CAR	16.8%	
64	Bank-specific buffer requirement	9.3%	
65	of which: capital conservation buffer requirement	2.5%	
66	of which: bank specific countercyclical buffer requirement	0.3%	
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	6.8%	
	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 and Tier 2 capital and other TLAC liabilities of unconsolidated financial institutions in which the Reporting Bank does not hold a major stake	1,322	I2 + K
73	Investments in ordinary shares of unconsolidated financial institutions in which the Reporting Bank holds a major stake (including insurance subsidiaries)	3,421	Refer to note ¹
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		
76	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to standardised approach (prior to application of cap)	555	
77	Cap on inclusion of provisions in Tier 2 under standardised approach	621	
78	Provisions eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)	771	
79	Cap for inclusion of provisions in Tier 2 under internal ratings-based approach	689	
	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)	-	

^{1/} The investments in the ordinary shares of unconsolidated major stake companies that are financial institutions which are within the prescribed threshold amount in accordance with MAS Notice 637 paragraph 6.1.3 (p)(iii)

6.3 Main Features of Capital Instruments

The following disclosures are made pursuant to the requirements of MAS Notice 637 Annex 11D. They are not a summary of the terms, do not purport to be complete, and should be read in conjunction with, and are qualified in their entirety by, the relevant Terms and Conditions available on the Bank's Investor Relations website (http://www.ocbc.com/group/investors/Cap_and_Reg_Disclosures.html). The reporting position of all tables in this section is as at 31 December 2019.

	OCBC Ordinary Shares	OCBC 3.8% Non-cumulative Non-convertible Perpetual Capital Securities
1. Issuer	Oversea-Chinese Banking Corporation Limited	Oversea-Chinese Banking Corporation Limited
2. Unique identifier (ISIN)	SG1S04926220	SG6YJ3000003
3. Governing law(s) of instrument	Singapore	Singapore
<i>Regulatory treatment</i>		
4. Transitional Basel III rules	Common Equity Tier 1	Additional Tier 1
5. Post-transitional Basel III rules	Common Equity Tier 1	Additional Tier 1
6. Eligible at Solo / Group / Solo and Group	Solo and Group	Solo and Group
7. Instrument type	Ordinary shares	Perpetual Capital Securities
8. Amount recognised in regulatory capital	S\$17,261 million	S\$499 million
9. Par value of instrument	NA	S\$500 million
10. Accounting classification	Shareholders' equity	Shareholders' equity
11. Original date of issuance	NA	25 Aug 2015
12. Perpetual or dated	Perpetual	Perpetual
13. Original maturity date	No maturity	No maturity
14. Issuer call subject to prior supervisory approval	No	Yes
15. Optional call date, contingent call dates and redemption amount	NA	On or after the First Reset Date of 25 Aug 2020 (at par)
		Tax call (at par)
		Regulatory call (at par)
16. Subsequent call dates, if applicable	NA	Optional call dates - any date after the First Reset Date
<i>Coupons / dividends</i>		
17. Fixed or floating dividend / coupon	NA	Fixed to fixed
18. Coupon rate and any related index	NA	3.8% p.a. up to (but excluding) 25 Aug 2020; if not redeemed, the distribution rate will be reset every 5 years thereafter to a fixed rate equal to the then prevailing 5-year SGD SOR plus 1.51% p.a.
19. Existence of a dividend stopper	NA	Yes
20. Fully discretionary, partially discretionary or mandatory	NA	Fully discretionary
21. Existence of step up or other incentive to redeem	NA	No
22. Noncumulative or cumulative	NA	Noncumulative
23. Convertible or non-convertible	NA	Nonconvertible
24. If convertible, conversion trigger(s)	NA	NA
25. If convertible, fully or partially	NA	NA
26. If convertible, conversion rate	NA	NA
27. If convertible, mandatory or optional conversion	NA	NA
28. If convertible, specify instrument type convertible into	NA	NA
29. If convertible, specify issuer of instrument it converts into	NA	NA
30. Write-down feature	No	Yes
31. If write-down, write-down trigger(s)	NA	The earlier of: i) the MAS notifying the Issuer in writing that it is of the opinion that a Write-off is necessary, without which the Issuer would become non-viable; and ii) a decision by the MAS to make a public sector injection of capital, or equivalent support, without which the Issuer would have become non-viable, as determined by the MAS.
32. If write-down, full or partial	NA	Fully or partially
33. If write-down, permanent or temporary	NA	Permanent
34. If temporary write-down, description of write-up mechanism	NA	NA
35. Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned)	Additional Tier 1 capital instruments of OCBC Bank	Upon the occurrence of any winding-up proceeding (other than pursuant to a Permitted Reorganisation), Capital Securities are expressly subordinated and subject in right of payment to the prior payment in full of all claims of (i) Senior Creditors and (ii) holders of Tier II Capital Securities, and will rank senior to all Junior Obligations.
36. Non-compliant transitioned features	No	No
37. If yes, specify non-compliant features	NA	NA

6.3 Main Features of Capital Instruments (continued)

	OCBC 4.0% Non-cumulative Non-convertible Perpetual Capital Securities	OCBC 4.25% Subordinated Notes due 2024
1. Issuer	Oversea-Chinese Banking Corporation Limited	Oversea-Chinese Banking Corporation Limited
2. Unique identifier (ISIN)	SGXF81199428	US69033DAC11 (Reg S)
3. Governing law(s) of instrument	Singapore	US69033CAC38 (144A) England (Save for the subordination provisions) Singapore (In respect of the subordination provisions)
<i>Regulatory treatment</i>		
4. Transitional Basel III rules	Additional Tier 1	Tier 2
5. Post-transitional Basel III rules	Additional Tier 1	Tier 2
6. Eligible at Solo / Group / Solo and Group	Solo and Group	Solo and Group
7. Instrument type	Perpetual Capital Securities	Subordinated debt
8. Amount recognised in regulatory capital	S\$998 million	S\$1,397 million
9. Par value of instrument	S\$1,000 million	US\$1,000 million
10. Accounting classification	Shareholders' equity	Liabilities - amortised cost
11. Original date of issuance	24 Aug 2018	19 Jun 2014
12. Perpetual or dated	Perpetual	Dated
13. Original maturity date	No maturity	19 Jun 2024
14. Issuer call subject to prior supervisory approval	Yes	Yes
15. Optional call date, contingent call dates and redemption amount	On the First Reset Date of 24 Aug 2023 and each Distribution Payment Date thereafter (at par) Tax call (at par) Regulatory call (at par)	Tax call (at par) Regulatory call (at par)
16. Subsequent call dates, if applicable	Optional call dates - any Distribution Payment Date after the First Reset Date	NA
<i>Coupons / dividends</i>		
17. Fixed or floating dividend / coupon	Fixed to fixed	Fixed
18. Coupon rate and any related index	4.0% p.a. up to (but excluding) 24 Aug 2023; if not redeemed, the distribution rate will be reset on the First Reset Date and every 5 years thereafter to a fixed rate equal to the then prevailing 5-year SGD SOR plus 1.811% p.a.	4.25% p.a.
19. Existence of a dividend stopper	Yes	NA
20. Fully discretionary, partially discretionary or mandatory	Fully discretionary	Mandatory
21. Existence of step up or other incentive to redeem	No	No
22. Noncumulative or cumulative	Noncumulative	NA
23. Convertible or non-convertible	Nonconvertible	Nonconvertible
24. If convertible, conversion trigger(s)	NA	NA
25. If convertible, fully or partially	NA	NA
26. If convertible, conversion rate	NA	NA
27. If convertible, mandatory or optional conversion	NA	NA
28. If convertible, specify instrument type convertible into	NA	NA
29. If convertible, specify issuer of instrument it converts into	NA	NA
30. Write-down feature	Yes	Yes
31. If write-down, write-down trigger(s)	The earlier of: i) the MAS notifying the Issuer in writing that it is of the opinion that a Write-off is necessary, without which the Issuer would become non-viable; and ii) a decision by the MAS to make a public sector injection of capital, or equivalent support, without which the Issuer would have become non-viable, as determined by the MAS.	Contractual approach The earlier of (i) MAS determining that a write-down is necessary; and (ii) a decision by MAS to make a public sector injection of capital, or equivalent support, without which the issuer would become non-viable in both (i) and (ii)
32. If write-down, full or partial	Fully or partially	May be written down fully or partially
33. If write-down, permanent or temporary	Permanent	Permanent
34. If temporary write-down, description of write-up mechanism	NA	NA
35. Position in subordination hierarchy in liquidation (specify instrument type immediately senior to instrument in the insolvency creditor hierarchy of the legal entity concerned)	Upon the occurrence of any winding-up proceeding (other than pursuant to a Permitted Reorganisation), Capital Securities are expressly subordinated and subject in right of payment to the prior payment in full of all claims of (i) Senior Creditors which includes holders of Tier II Capital Securities, and will rank senior to all Junior Obligations.	Unsubordinated and unsecured obligations of OCBC Bank
36. Non-compliant transitioned features	No	No
37. If yes, specify non-compliant features	NA	NA

7. LINKAGES BETWEEN FINANCIAL STATEMENTS AND REGULATORY EXPOSURES

7.1 Differences between Accounting and Regulatory Scopes of Consolidation

The purpose of this table is to identify the differences between the accounting and regulatory scopes of consolidation by the respective regulatory risk categories. The key reason for the differences between the accounting and regulatory scope of consolidation can be found in Section 3 of this document.

31 Dec 2019							
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	Carrying amounts of items:						
S\$ million	Carrying amounts as reported in balance sheet of published financial statements	Carrying amounts under regulatory scope of consolidation	Subject to credit risk requirements ^{1/}	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 placements with central banks	23,201	23,201	21,828	1,373	-	11,031	-
Singapore government treasury bills and securities	11,042	9,892	8,148	-	-	1,744	-
Other government treasury bills and securities	17,620	17,458	14,563	-	-	17,458	-
Placements with and loans to banks	35,813	34,291	32,084	224	-	33,947	-
Loans and bills receivable	262,045	262,038	262,104	964	-	169,291	-
Debt and equity securities	28,533	23,801	18,964	-	-	23,367	139
Assets pledged	1,166	1,166	1,166	-	-	1,166	-
Assets held for sale	3	3	3	-	-	-	-
Derivative receivables	7,349	7,337	-	7,283	-	7,050	-
Other assets	4,409	4,098	4,097	-	-	2,680	-
Deferred tax assets	87	75	-	-	-	95	209
Associates	3,638	3,638	2,177	-	-	1,542	1,461
Subsidiaries	-	1,953	1,146	-	-	2	807
Property, plant and equipment	3,628	2,921	2,921	-	-	800	-
Investment property	839	839	839	-	-	85	-
Goodwill and intangible assets	4,980	4,295	-	-	-	-	4,295
Life insurance fund investment assets	87,338	-	-	-	-	-	-
Total Assets	491,691	397,006	370,040	9,844	-	270,258	6,911
Liabilities							
Deposits of non-bank customers	302,851	302,957	-	980	-	197,813	105,142
Deposits and balances of banks	8,250	8,250	-	647	-	7,449	801
Due to associates	347	347	-	-	-	207	140
Trading portfolio liabilities	92	92	-	-	-	92	#
Derivative payables	7,687	7,687	-	7,607	-	7,452	81
Other liabilities	6,945	6,356	-	-	-	3,164	3,192
Current tax payables	1,189	640	-	-	-	221	419
Deferred tax liabilities	1,893	337	-	-	-	57	280
Debt issued	29,388	28,992	-	-	-	28,991	43
Life insurance fund liabilities	84,446	-	-	-	-	-	-
Total Liabilities	443,088	355,658	-	9,234	-	245,446	110,098

7.1 Differences between Accounting and Regulatory Scopes of Consolidation (continued)

S\$ million	31 Dec 2018							
	(a)	(b)	(c)	(d)	(e)		(f)	(g)
	Carrying amounts as reported in balance sheet of published financial statements	Carrying amounts under regulatory scope of consolidation	Subject to credit risk requirements ^{1/}	Subject to CCR requirements	Carrying amounts of items:		Subject to market risk requirements	Not subject to capital requirements or subject to deduction from regulatory capital
					Subject to securitisation framework			
Assets								
Cash and placements with central banks	18,748	18,748	16,535	2,216	-		10,131	-
Singapore government treasury bills and securities	9,611	9,286	7,670	-	-		2,446	-
Other government treasury bills and securities	18,165	18,065	15,664	-	-		17,236	-
Placements with and loans to banks	39,035	37,301	33,912	589	-		37,198	-
Loans and bills receivable	255,193	255,186	253,963	1,873	-		164,252	-
Debt and equity securities	25,542	20,909	17,299	-	-		20,584	148
Assets pledged	1,105	1,105	1,105	-	-		785	-
Assets held for sale	2	2	2	-	-		-	-
Derivative receivables	7,201	7,195	-	6,989	-		7,009	-
Other assets	3,475	3,194	3,194	-	-		2,203	-
Deferred tax assets	106	70	-	-	-		69	209
Associates	3,183	3,183	1,846	-	-		1,462	1,337
Subsidiaries	-	1,952	1,105	-	-		5	848
Property, plant and equipment	3,337	2,748	2,748	-	-		678	-
Investment property	880	880	880	-	-		75	-
Goodwill and intangible assets	5,093	4,367	-	-	-		-	4,367
Life insurance fund investment assets	76,867	-	-	-	-		-	-
Total Assets	467,543	384,191	355,923	11,667	-		264,133	6,909
Liabilities								
Deposits of non-bank customers	295,412	295,517	-	1,037	-		194,239	101,278
Deposits and balances of banks	7,576	7,576	-	430	-		7,013	563
Due to associates	366	366	-	-	-		222	144
Trading portfolio liabilities	214	214	-	-	-		214	#
Derivative payables	7,105	7,101	-	7,078	-		7,035	22
Other liabilities	5,813	5,523	-	-	-		1,336	4,187
Current tax payables	1,014	515	-	-	-		143	372
Deferred tax liabilities	1,451	282	-	-	-		103	179
Debt issued	30,272	29,876	-	-	-		29,871	5
Life insurance fund liabilities	74,928	-	-	-	-		-	-
Total Liabilities	424,151	346,970	-	8,545	-		240,176	106,750

^{1/} Refers to non CCR exposures and exclude trading book assets such as bonds and equities

Represents amounts of less than \$0.5 million

7.2 Main Sources of Differences between Financial Statements and Regulatory Exposures

This table provides information on the main sources of differences, other than due to the difference in scope of consolidation, between regulatory exposure amounts and carrying amounts under regulatory scope of consolidation. These differences are mainly due to off-balance sheet amounts, repos, derivatives and provisions.

Amounts subject to Market Risk Requirements are omitted from this table since they are not meaningful for this disclosure.

31 Dec 2019				
S\$ million	(a)	(b)	(c)	(d)
	Items subject to:			
	Credit risk requirements	CCR requirements	Securitisation framework	Total
1 Assets carrying amount under regulatory scope of consolidation ^{1/}	370,040	9,844	-	390,095
2 Liabilities carrying amount under regulatory scope of consolidation ^{1/}	-	9,234	-	245,560
3 Total net amount under regulatory scope of consolidation	370,040	610	-	144,535
4 Differences due to off-balance sheet amounts	41,052	9,356	-	
5 Differences due to valuations	-	-	-	
6 Differences due to repos	-	3,747	-	
7 Differences due to derivatives netting ^{2/}	-	2,116	-	
8 Differences due to consideration of provisions	2,460	-	-	
9 Differences due to prudential filters	-	-	-	
10 Others ^{3/}	(220)	-	-	
11 Exposure amounts considered for regulatory purposes ^{4/}	413,332	15,829	-	429,161

31 Dec 2018				
S\$ million	(a)	(b)	(c)	(d)
	Items subject to:			
	Credit risk requirements	CCR requirements	Securitisation framework	Total
1 Assets carrying amount under regulatory scope of consolidation ^{1/}	355,923	11,667	-	377,282
2 Liabilities carrying amount under regulatory scope of consolidation ^{1/}	-	8,545	-	240,220
3 Total net amount under regulatory scope of consolidation	355,923	3,122	-	137,062
4 Differences due to off-balance sheet amounts	37,848	9,412	-	
5 Differences due to valuations	-	-	-	
6 Differences due to repos	-	3,089	-	
7 Differences due to derivatives netting ^{2/}	-	1,732	-	
8 Differences due to consideration of provisions	2,057	-	-	
9 Differences due to prudential filters	-	-	-	
10 Others ^{3/}	55	-	-	
11 Exposure amounts considered for regulatory purposes ^{4/}	395,883	17,355	-	413,238

^{1/} Refers to assets and liabilities carrying amounts as per the table in section 7.1

^{2/} Refers to gross-up of the net exposure value as the derivatives netting in row 2 is broader than the netting considered for regulatory purpose

^{3/} Includes amounts not reported in the other categories

^{4/} Refers to Regulatory Exposures at Default gross of impairment allowances before taking into account the effect of Credit Risk Mitigation

7.3 Prudent Valuation Adjustments

This table is to provide the breakdown of the constituent elements of the Group's prudent valuation adjustments. Valuation adjustments relating to Mid-market value, Closeout cost, Model risk and Unearned credit spreads, have been taken in financial reporting and not shown in this table.

		31 Dec 2019							
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
S\$ million		Equity	Interest rates	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 ^{1/}	-	-	-	-	-	-	-	-
6	Model risk	-	-	-	-	-	-	-	-
7	Operational risk ^{2/}	-	-	-	-	-	-	-	-
8	Investing and funding costs	-	31	10	-	-	41	41	#
9	Unearned credit spreads	-	-	-	-	-	-	-	-
10	Future administrative costs ^{3/}	-	-	-	-	-	-	-	-
11	Other ^{4/}	-	-	-	-	-	-	-	-
12	Total adjustment	-	31	10	#	-	41	41	#

		31 Dec 2018							
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
S\$ million		Equity	Interest rates	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 ^{1/}	-	-	-	-	-	-	-	-
6	Model risk	-	-	-	-	-	-	-	-
7	Operational risk ^{2/}	-	-	-	-	-	-	-	-
8	Investing and funding costs	-	14	12	-	-	26	26	#
9	Unearned credit spreads	-	-	-	-	-	-	-	-
10	Future administrative costs ^{3/}	-	-	-	-	-	-	-	-
11	Other ^{4/}	-	-	-	-	-	-	-	-
12	Total adjustment	-	14	12	#	-	26	26	#

^{1/} Included in unwinding cost

^{2/} Valuation processes are mostly automated with minimal manual intervention

^{3/} No significant change in future administrative costs is expected

^{4/} Not applicable

Represents amounts less than \$0.5 million

8. LEVERAGE RATIO

8.1 Leverage Ratio Summary Comparison Table

Item	Amount (S\$m)	
	31 Dec 2019	30 Sep 2019
1 Total consolidated assets as per published financial statements	491,691	483,500
2 Adjustment for investments in entities that are consolidated for accounting purposes but are outside the regulatory scope of consolidation	(94,684)	(92,154)
3 Adjustment for fiduciary assets recognised on the balance sheet in accordance with the Accounting Standards but excluded from the calculation of exposure measure	0	0
4 Adjustment for derivative transactions	4,143	4,279
5 Adjustment for SFTs	82	13
6 Adjustment for off-balance sheet items	36,991	35,879
7 Other adjustments	(6,909)	(6,966)
8 Exposure measure	431,314	424,551

8.2 Leverage Ratio Common Disclosure Table

Item	Amount (S\$m)	
	31 Dec 2019	30 Sep 2019
Exposure measures of on-balance sheet items		
1 On-balance sheet items (excluding derivative transactions and SFTs, but including on-balance sheet collateral for derivative transactions or SFTs)	387,105	380,407
2 Asset amounts deducted in determining Tier 1 capital	(6,909)	(6,966)
3 Total exposures measures of on-balance sheet items (excluding derivative transactions and SFTs)	380,196	373,441
Derivative exposure measures		
4 Replacement cost associated with all derivative transactions (net of the eligible cash portion of variation margins)	4,910	6,217
5 Potential future exposure associated with all derivative transactions	6,225	6,617
6 Gross-up for derivative collaterals provided where deducted from the balance sheet assets in accordance with the Accounting Standards	-	-
7 Deductions of receivables for the cash portion of variation margins provided in derivative transactions	(10)	(10)
8 CCP leg of trade exposures excluded	-	-
9 Adjusted effective notional amount of written credit derivatives	355	390
10 Further adjustments in effective notional amounts and deductions from potential future exposures of written credit derivatives	-	-
11 Total derivative exposure measures	11,480	13,214
SFT exposure measures		
12 Gross SFT assets (with no recognition of accounting netting), after adjusting for sales accounting	2,565	2,004
13 Eligible netting of cash payables and cash receivables	-	-
14 SFT counterparty exposures	82	13
15 SFT exposure measures where a Reporting Bank acts as an agent in the SFTs	-	-
16 Total SFT exposure measures	2,647	2,017
Exposure measures of off-balance sheet items		
17 Off-balance sheet items at notional amount	192,087	193,387
18 Adjustments for calculation of exposure measures of off-balance sheet items	(155,096)	(157,508)
19 Total exposure measures of off-balance sheet items	36,991	35,879
Capital and Total exposures		
20 Tier 1 capital	33,331	32,290
21 Total exposures	431,314	424,551
Leverage Ratio		
22 Leverage ratio	7.7%	7.6%

SFT: Securities Financing Transactions

CCP: Central Counterparty

9. CREDIT QUALITY

9.1 Overview of Credit Quality of Assets

The table below provides an overview of the credit quality of the on and off-balance sheet assets of the Group.

A borrower is recognised to be in default when the borrower is unlikely to repay in full its credit obligations to the Group, or the borrower is past due for more than 90 days on its credit obligations to the Group.

		31 Dec 2019						
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
		Gross carrying amount of ^{1/}		of which: Allowances for Standardised Approach exposures				
S\$ million		Defaulted exposures	Non-defaulted exposures	Allowances and Impairments	of which: Specific Allowances	of which: General Allowances	of which: Allowances for IRBA exposures	Net Values ^{2/} (a + b - c)
1	Loans and bills receivable	3,838	260,935	(2,144)	(259)	(214)	(1,671)	262,629
2	Debt securities	2	25,032	(11)	(2)	(4)	(5)	25,023
3	Off-balance sheet exposures	43	13,901	(281)	#	(34)	(247)	13,663
4	Total	3,883	299,868	(2,436)	(261)	(252)	(1,923)	301,315

		30 Jun 2019						
		(a)	(b)	(c)	(d)	(e)	(f)	(g)
		Gross carrying amount of ^{1/}		of which: Allowances for Standardised Approach exposures				
S\$ million		Defaulted exposures	Non-defaulted exposures	Allowances and Impairments	of which: Specific Allowances	of which: General Allowances	of which: Allowances for IRBA exposures	Net Values ^{2/} (a + b - c)
1	Loans and bills receivable	3,860	258,848	(2,083)	(189)	(216)	(1,678)	260,625
2	Debt securities	2	24,861	(13)	(3)	(4)	(6)	24,850
3	Off-balance sheet exposures	52	11,477	(262)	#	(28)	(234)	11,267
4	Total	3,914	295,186	(2,358)	(192)	(248)	(1,918)	296,742

^{1/} Refers to the accounting value of the assets before any impairment allowances but after write-offs

^{2/} Refers to total gross carrying amount less impairment allowances

Represents amounts of less than \$0.5 million

9.2 Changes in Stock of Defaulted Loans and Bills Receivable, and Debt Securities

The table below identifies the changes in defaulted loans and bills receivable as well as debt securities from the previous semi-annual reporting period, including the flows between non-defaulted and defaulted categories and reductions due to write-offs.

Defaulted loans and bills receivable, and debt securities remained relatively stable in the second half of 2019 with new defaulted loans and bills receivable largely offset by write-offs and upgrades.

S\$ million	(a) Amount outstanding
1	
Defaulted loans and bills receivable, and debt securities as at 30 June 2019	3,862
2	
Loans and bills receivable, and debt securities that have defaulted in the second half of 2019	1,302
3	
Return to non-defaulted status	(498)
4	
Amounts written-off	(493)
5	
Other changes ^{1/}	(333)
6	
Defaulted loans and bills receivable, and debt securities as at 31 December 2019	3,840
(1 + 2 - 3 - 4 ± 5)	

^{1/} Other changes comprise foreign exchange, increase in existing defaulted loans and bills receivable, and recoveries

9.3 Additional Disclosures related to the Credit Quality of Assets

The following tables show the breakdown of credit risk exposures by geographic areas, industry and residual maturity. The reporting position of all tables in this section is as at 31 December 2019.

Gross Loans and Bills Receivable ^{1/}

Analysed by Geography

	S\$ million
Singapore	108,981
Malaysia	28,585
Indonesia	19,680
Greater China	65,358
Other Asia Pacific	15,674
Rest of the World	26,495
Total	264,773

Distribution by geography is determined based on where the credit risk resides.

^{1/} Include assets pledged of S\$303 million

9.3 Additional Disclosures related to the Credit Quality of Assets (continued)

Gross Loans and Bills Receivable ^{1/} (continued)

Analysed by Industry

	S\$ million
Agriculture, mining and quarrying	8,963
Manufacturing	17,074
Building and construction	64,686
Housing	62,069
General commerce	31,823
Transport, storage and communication	13,311
Financial institutions, investment and holding companies	24,542
Professionals and individuals	30,322
Others	11,983
Total	264,773

^{1/} Include assets pledged of S\$303 million

Gross Placements with and Loans to Banks ^{2/}

Analysed by Geography

	S\$ million
Singapore	730
Malaysia	4,292
Indonesia	905
Greater China	24,017
Other Asia Pacific	1,065
Rest of the World	3,607
Balances with banks	34,616
Bank balances of life insurance fund	1,257
Total	35,873

Distribution by geography is determined based on where the credit risk resides.

^{2/} Include assets pledged of S\$51 million

Government Treasury Bills and Securities ^{3/}

Analysed by Geography

	S\$ million
Singapore	11,043
Malaysia	3,841
Indonesia	2,831
Greater China	4,086
Other Asia Pacific	4,234
Rest of the World	2,720
Total	28,755

Distribution by geography is determined based on country of the issuer.

^{3/} Include assets pledged of S\$92 million

9.3 Additional Disclosures related to the Credit Quality of Assets (continued)

Debt Securities ^{4/}

Analysed by Geography

	S\$ million
Singapore	2,688
Malaysia	1,270
Indonesia	1,473
Greater China	7,748
Other Asia Pacific	4,434
Rest of the World	7,410
Total	25,023

Distribution by geography is determined based on where the borrowers are incorporated.

Analysed by Industry

	S\$ million
Agriculture, mining and quarrying	516
Manufacturing	847
Building and construction	1,304
General commerce	511
Transport, storage and communication	1,566
Financial institutions, investment and holding companies	16,948
Others	3,331
Total	25,023

^{4/} Include assets pledged of S\$720 million

Residual Contractual Maturity of On-Balance Sheet Assets

S\$ million	Within 1 week	1 week to 1 month	1 to 3 months	3 to 12 months	1 to 3 years	Over 3 years	Total
Net loans and bills receivable	19,689	33,501	24,789	26,535	42,735	115,099	262,348 ^{1/}
Net placements with and loans to banks	5,688	2,314	6,472	17,596	2,537	#	34,607 ^{2/}
Government treasury bills and securities	649	1,915	3,543	6,066	8,102	8,480	28,755 ^{3/}
Debt securities	104	447	994	3,745	10,354	9,379	25,023 ^{4/}

^{1/} Include assets pledged of S\$303 million

^{2/} Include assets pledged of S\$51 million and exclude bank balances of life insurance fund

^{3/} Include assets pledged of S\$92 million

^{4/} Include assets pledged of S\$720 million

Represents amounts less than S\$0.5 million

9.3 Additional Disclosures related to the Credit Quality of Assets (continued)

Credit Commitments

Analysed by Geography

	S\$ million
Singapore	113,241
Malaysia	7,848
Indonesia	5,025
Greater China	21,924
Other Asia Pacific	2,197
Rest of the World	3,564
Total	153,799

Distribution by geography is determined based on where the transactions are recorded.

Analysed by Industry

	S\$ million
Agriculture, mining and quarrying	1,260
Manufacturing	9,435
Building and construction	15,685
General commerce	23,394
Transport, storage and communication	4,099
Financial institutions, investment and holding companies	42,605
Professionals and individuals	49,544
Others	7,777
Total	153,799

Analysed by Residual Maturity

	S\$ million
Undrawn credit facilities:	
Term to maturity of one year or less	131,993
Term to maturity of more than one year	21,806
Total	153,799

Contingent Liabilities

Analysed by Geography

	S\$ million
Singapore	9,706
Malaysia	1,193
Indonesia	1,002
Greater China	1,615
Other Asia Pacific	220
Rest of the World	208
Total	13,944

Distribution by geography is determined based on where the transactions are recorded.

9.3 Additional Disclosures related to the Credit Quality of Assets (continued)

Contingent Liabilities (continued)

Analysed by Industry

	S\$ million
Agriculture, mining and quarrying	229
Manufacturing	1,127
Building and construction	2,197
General commerce	7,532
Transport, storage and communication	513
Financial institutions, investment and holding companies	788
Professionals and individuals	302
Others	1,256
Total	13,944

Analysed by Residual Maturity

	S\$ million
Guarantees and standby letters of credit:	
Term to maturity of one year or less	4,610
Term to maturity of more than one year	2,691
	7,301
Acceptances and endorsements	1,448
Documentary credits and other short term trade-related transactions	5,195
Total	13,944

9.4 Overview of Past Due Exposure and Impairment Allowances

The following tables provide breakdown of defaulted loans and bills receivable (Non-performing Loans) by geography, credit grade under MAS Notice 612 and industry. Loans and bills receivable that are past due and not impaired are separately identified and disclosed. Past due loans refer to loans that are overdue by one day or more, while impaired loans are classified loans with specific allowances made.

For credit impaired portfolio, specific allowance is assessed individually and measured based on lifetime ECL. The amount of specific allowance for an individual credit exposure is determined by ascertaining the net present value of future cash flows that is recoverable from the borrower.

For non-credit impaired portfolio, the portfolio allowance is assessed and measured based on 12-month ECL if the credit risk of a credit exposure has not increased significantly since initial recognition. However, where there is significant increase in credit risk, the loss allowance is based on lifetime ECL.

The reporting position of all tables in this section is as at 31 December 2019.

9.4 Overview of Past Due Exposure and Impairment Allowances (continued)

Total Loans and Bills Receivable – Credit Quality

	S\$ million
Neither past due nor impaired	259,662
Non-impaired	1,818
Impaired	2,550
Past due loans	4,368
Impaired but not past due	743
Gross loans	264,773
Allowances	
Impaired loans	(1,395)
Non-impaired loans	(1,030)
Net loans	262,348

Non-performing Loans

Analysed by Geography

S\$ million	Singapore	Malaysia	Indonesia	Greater China	Rest of the World	Total
Substandard	1,292	370	289	54	305	2,310
Doubtful	222	311	222	133	206	1,094
Loss	171	45	166	43	9	434
Total	1,685	726	677	230	520	3,838

Distribution by geography is determined based on where the credit risk resides.

Analysed by Industry

	S\$ million
Agriculture, mining and quarrying	468
Manufacturing	468
Building and construction	155
Housing	435
General commerce	555
Transport, storage and communication	1,563
Financial institutions, investment and holding companies	25
Professionals and individuals	123
Others	46
Total	3,838

9.4 Overview of Past Due Exposure and Impairment Allowances (continued)

Non-performing Loans (continued)

Analysed by Period Overdue

	S\$ million
Over 180 days	1,740
Over 90 days to 180 days	173
30 days to 90 days	531
Less than 30 days	474
Past due	2,918
No overdue	920
Total	3,838

Past Due Loans

Analysed by Industry

	S\$ million
Agriculture, mining and quarrying	243
Manufacturing	520
Building and construction	160
General commerce	646
Transport, storage and communication	1,149
Financial institutions, investment and holding companies	136
Professionals and individuals (include housing)	1,444
Others	70
Total	4,368

Analysed by Geography

	S\$ million
Singapore	1,846
Malaysia	863
Indonesia	848
Greater China	652
Rest of the World	159
Total	4,368

Distribution by geography is determined based on where the credit risk resides.

9.4 Overview of Past Due Exposure and Impairment Allowances (continued)

Impairment Allowances for Loans and Bills Receivable, and Debt Securities

Analysed by Geography

S\$ million	Allowances for Impaired Assets			Allowances for Non-impaired Assets
	Debt Securities	Loans and Bills Receivable	Total	
Singapore	2	677	679	797
Malaysia	-	308	308	289
Indonesia	-	237	237	334
Greater China	-	47	47	335
Other Asia Pacific	-	32	32	62
Rest of the World	-	94	94	107
Total	2	1,395	1,397	1,924

Distribution by geography is determined based on where the credit risk resides.

Analysed by Industry

S\$ million	Allowances for Impaired Assets		
	Debt Securities	Loans and Bills Receivable	Total
Agriculture, mining and quarrying	-	159	159
Manufacturing	-	132	132
Building and construction	-	36	36
Housing	-	47	47
General commerce	-	174	174
Transport, storage and communication	-	726	726
Financial institutions, investment and holding companies	2	46	48
Professionals and individuals	-	63	63
Others	-	12	12
Total	2	1,395	1,397

9.4 Overview of Past Due Exposure and Impairment Allowances (continued)

Impairment Allowances for Loans and Bills Receivable, and Debt Securities (continued)

Analysed by Industry

S\$ million	Net Allowances for Impaired Assets Charged to Income Statement		Total
	Debt Securities	Loans and Bills Receivable	
Agriculture, mining and quarrying	-	20	20
Manufacturing	-	107	107
Building and construction	-	19	19
Housing	-	69	69
General commerce	-	90	90
Transport, storage and communication	-	366	366
Financial institutions, investment and holding companies	-	134	134
Professionals and individuals	-	37	37
Others	-	14	14
Total	-	856	856

Past Due Loans Not Impaired

These are loans and bills receivable that are past due but not impaired as the collateral values of these loans are in excess of the principal and interest outstanding. Allowances for these loans may have been set aside.

The following table provides the ageing analysis of non-impaired past due exposures.

Analysed by Period Overdue

	S\$ million
Past due	
Less than 30 days	1,017
30 to 90 days	444
Over 90 days	357
Past due but not impaired	1,818

9.5 Restructured Exposures

Restructured exposures refer to exposures where the Bank has granted concessions or restructured repayment terms to borrowers who are facing difficulties in meeting original repayment schedules. They are classified in the appropriate non-performing grades and not restored to performing loan status until the borrowers have demonstrated sustained ability to meet all future obligations under the restructured terms.

The following table provides the breakdown of impaired and non-impaired restructured exposures.

S\$ million	Impaired Exposures	Non-impaired Exposures
Credit Quality of Restructured Exposures		
Substandard	1,011	88
Doubtful	514	1
Loss	26	18
Passed/ Watchlist/ Special Mention	24	244
At 31 December 2019	1,575	351

10. KEY APPROACHES USED FOR COMPUTATION OF RWA

Table below provides detail on key approaches used for computation of RWA.

Risk Type	Approach for Computation of RWA
Credit Risk	<ul style="list-style-type: none"> Advanced Internal Ratings Based (A-IRB) approach for major consumer portfolios, including residential mortgages, credit cards and auto loans as well as small business and margin lending Foundation Internal Ratings Based (F-IRB) for wholesale portfolios, namely sovereign, bank, non-bank financial institution, corporate real estate (including income-producing real estate specialised lending) and general corporate Supervisory slotting approach for other specialised lending portfolios, namely project finance, object finance and commodities finance Any credit risk-weighted assets for securitisation exposures will be computed using the ratings-based method prescribed by MAS Notice 637 Standardised approach for portfolios in OCBC Wing Hang and Bank OCBC NISP. Portfolios in OCBC Wing Hang will be progressively migrated to the internal ratings-based approaches for which implementation initiatives are in progress. Regulatory prescribed risk weights based on asset class and external ratings from approved credit rating agencies, where available, are used to determine regulatory capital. Approved external credit rating agencies are Standard and Poor's, Moody's and Fitch Ratings
Market Risk	<ul style="list-style-type: none"> Standardised approach for market risk assets, where Risk Weights are specified according to the instrument category, maturity period, credit quality grade as well as other factors and applied to the corresponding notional amount as prescribed under MAS Notice 637
Operational Risk	<ul style="list-style-type: none"> Standardised approach is used across the Group except for OCBC Wing Hang and Bank OCBC NISP, which have adopted the Basic Indicator approach Operational risk-weighted assets are derived by applying specified factors or percentages to the annual gross income for the prescribed business lines in accordance with regulatory guidelines

11. OVERVIEW OF RISK WEIGHTED ASSETS

The table below provides an overview of the Group's total RWA, broken down by the approaches with which the RWA are computed, as stipulated by MAS Notice 637. Total RWA remained relatively stable between September 2019 and December 2019.

S\$ million		RWA		Minimal Capital Requirements ^{1/}
		(a) Dec-19	(b) Sep-19	(c) Dec-19
1	Credit Risk (excluding Counterparty Credit Risk)	168,683	167,281	16,868
2	Of which: Standardised Approach	49,085	48,352	4,908
3	Of which: Foundation Internal Ratings-Based Approach (F-IRBA)	101,825	100,722	10,183
4	Of which: Supervisory Slotting Approach	2,999	2,743	300
5	Of which: Advanced Internal Ratings-Based Approach (A-IRBA)	14,774	15,464	1,477
6	Credit Risk: Counterparty Credit Risk (CCR)	2,670	3,245	267
7	Of which: Current Exposure Method	2,085	2,542	208
8	Of which: Internal Models Method	-	-	-
9	Of which: Other CCR	158	209	16
9a	Of which: Central Counterparties (CCP)	427	494	43
10	Credit Valuation Adjustments (CVA)	3,093	3,633	309
11	Equity exposures under Simple Risk Weight Method	-	-	-
11a	Equity exposures under Internal Models Method	-	-	-
12	Equity investments in funds - Look Through Approach	121	120	12
13	Equity investments in funds - Mandate-Based Approach	150	147	15
14	Equity investments in funds - Fall Back Approach	27	15	3
14a	Equity investments in funds - Partial Use of an Approach	133	129	13
15	Unsettled Transactions	10	14	1
16	Securitisation exposures in banking book	-	-	-
17	Of which: SEC-IRBA	-	-	-
18	Of which: SEC-ERBA, including IAA	-	-	-
19	Of which: SEC-SA	-	-	-
20	Market Risk	14,751	15,161	1,475
21	Of which: Standardised Approach	14,751	15,161	1,475
22	Of which: Internal Models Approach	-	-	-
23	Operational Risk	15,166	14,803	1,518
24	Credit RWA pursuant to paragraph 6.1.3(p)(iii) ^{2/}	8,552	8,291	855
25	Floor Adjustment	-	-	-
26	Total	213,356	212,839	21,336

^{1/} Minimum capital requirements are calculated at 10% of RWA

^{2/} Refers to Credit RWA attributed to investments in the ordinary shares of unconsolidated major stake companies that are financial institutions, within the prescribed threshold amount in accordance with MAS Notice 637 paragraph 6.1.3 (p)(iii)

12. RWA FLOW STATEMENT FOR CREDIT RISK EXPOSURES

This table provides an overview of the quarter-on-quarter movement of Credit Risk RWA attributed to the key drivers from rows 2 to 8.

The increase in RWA during the fourth quarter of 2019 was primarily due to asset growth particularly in corporate loans partially offset by improving asset quality as well as FX effect largely attributable to appreciation of SGD against USD.

S\$ million	(a) RWA
1 RWA as at 30 September 2019 ^{1/}	118,929
2 Asset Size ^{2/}	3,428
3 Asset Quality ^{3/}	(1,898)
4 Model Updates ^{4/}	31
5 Methodology and Policy ^{5/}	-
6 Acquisitions and Disposals ^{6/}	-
7 Foreign exchange movements ^{7/}	(892)
8 Other ^{8/}	-
9 RWA as at 31 December 2019 ^{1/} (1 + 2 + 3 + 4 + 5 + 6 + 7 + 8)	119,598

^{1/} Refers to RWA of Credit Risk exposures under IRB Approach and Equity exposures under PD/LGD method (excluding Counterparty Credit Risk)

^{2/} Refers to organic changes in book size and composition (origination of new businesses and maturing loans), excluding acquisitions and disposal of entities

^{3/} Refers to changes in the assessed quality of the bank's assets due to changes in borrower risk, such as rating grade migration or similar effects

^{4/} Refers to changes due to model implementation, changes in model scope, or any model enhancements

^{5/} Refers to changes driven by methodological changes such as regulatory policy changes

^{6/} Refers to changes in book size due to acquisition and disposal of entities or portfolios

^{7/} Refers to changes driven by market movements such as foreign exchange movements

^{8/} Refers to changes that cannot be attributed to any other category

13. CREDIT EXPOSURES UNDER STANDARDISED AND IRB APPROACH

13.1 Credit Exposures under Standardised Approach and CRM effects

The following table illustrates the effects of credit risk mitigation (CRM) on the calculation of capital requirements for credit and equity exposures under the Standardised Approach.

In the second half of 2019, RWA increased mainly due to higher exposures under Corporate asset class attributed to loan growth.

		31 Dec 2019									
		(a)		(b)		(c)		(d)	(e)	(f)	
		Exposures before CCF and CRM				Exposures post-CCF and post-CRM					
S\$ million	Asset Class	On-Balance Sheet	Off-Balance Sheet	On-Balance Sheet	Off-Balance Sheet	On-Balance Sheet	Off-Balance Sheet	RWA	RWA Density		
1	Cash Items	1,008	-	1,008	-	1,008	-	7	1%		
2	Sovereign	3,851	-	3,851	-	3,851	-	744	19%		
3	PSE	282	-	282	-	282	-	141	50%		
4	MDB	8	130	8	-	8	-	-	0%		
5	Bank	5,566	20	5,603	4	5,603	4	2,561	46%		
6	Corporate	16,056	8,831	15,442	1,888	15,442	1,888	16,056	93%		
7	Regulatory Retail	7,331	1,833	6,922	57	6,922	57	5,234	75%		
8	Residential Mortgage	12,907	24	12,689	-	12,689	-	4,516	36%		
9	Commercial Real Estate	12,165	2,045	12,090	147	12,090	147	12,236	100%		
10	Equity exposures	567	-	567	-	567	-	908	160%		
11	Past Due exposures	194	1	194	1	194	1	232	119%		
12	Higher risk exposures	-	-	-	-	-	-	-	NA		
13	Others ^{1/}	6,627	857	6,419	31	6,419	31	6,450	100%		
14	Total	66,562	13,741	65,075	2,128	65,075	2,128	49,085	73%		

		30 Jun 2019									
		(a)		(b)		(c)		(d)	(e)	(f)	
		Exposures before CCF and CRM				Exposures post-CCF and post-CRM					
S\$ million	Asset Class	On-Balance Sheet	Off-Balance Sheet	On-Balance Sheet	Off-Balance Sheet	On-Balance Sheet	Off-Balance Sheet	RWA	RWA Density		
1	Cash Items	833	-	833	-	833	-	7	1%		
2	Sovereign	3,501	-	3,501	-	3,501	-	713	20%		
3	PSE	262	41	262	41	262	41	151	50%		
4	MDB	18	130	18	-	18	-	-	0%		
5	Bank	5,492	163	5,514	146	5,514	146	2,530	45%		
6	Corporate	15,005	7,027	14,380	1,488	14,380	1,488	14,624	92%		
7	Regulatory Retail	7,038	1,743	6,681	54	6,681	54	5,051	75%		
8	Residential Mortgage	13,524	65	13,279	2	13,279	2	4,711	35%		
9	Commercial Real Estate	11,794	1,800	11,707	132	11,707	132	11,839	100%		
10	Equity exposures	510	-	510	-	510	-	816	160%		
11	Past Due exposures	191	#	191	#	191	#	237	124%		
12	Higher risk exposures	-	-	-	-	-	-	-	NA		
13	Others ^{1/}	6,747	792	6,562	58	6,562	58	6,620	100%		
14	Total	64,915	11,761	63,438	1,921	63,438	1,921	47,299	72%		

^{1/} Includes other exposures not included in the above asset classes, such as fixed asset

Represents amounts of less than \$0.5 million

13.2 Credit Exposures under Standardised Approach by Risk Weight

The following table provides a breakdown of credit risk exposures treated under the Standardised approach by asset class and risk weight. The risk weight assigned corresponds to the level of risk attributed to each exposure.

		31 Dec 2019									
		(a)	(b)	(c)	Risk Weight		(f)	(g)	(h)	(i)	(j)
S\$ million		0%	10%	20%	35%	50%	75%	100%	150%	Others	Total EAD ^{1/}
Asset Class											
1	Cash Items	973	-	35	-	-	-	-	-	-	1,008
2	Sovereign	2,364	-	-	-	1,487	-	-	-	-	3,851
3	PSE	-	-	-	-	282	-	-	-	-	282
4	MDB	8	-	-	-	-	-	-	-	-	8
5	Bank	-	-	934	-	4,597	-	76	-	-	5,607
6	Corporate	-	-	57	-	2,461	-	14,814	-	-	17,332
7	Regulatory Retail	-	-	-	-	-	6,979	-	-	-	6,979
8	Residential Mortgage	-	-	-	12,531	-	111	47	-	-	12,689
9	Commercial Real Estate	-	-	-	-	-	-	12,236	-	-	12,236
10	Equity exposures	-	-	-	-	-	-	-	-	567	567
11	Past Due exposures	-	-	-	-	-	-	118	76	-	194
12	Higher risk exposures	-	-	-	-	-	-	-	-	-	-
13	Others ^{2/}	-	-	-	-	-	-	6,450	-	-	6,450
14	Total	3,345	-	1,026	12,531	8,827	7,090	33,741	76	567	67,203

		30 Jun 2019									
		(a)	(b)	(c)	Risk Weight		(f)	(g)	(h)	(i)	(j)
S\$ million		0%	10%	20%	35%	50%	75%	100%	150%	Others	Total EAD ^{1/}
Asset Class											
1	Cash Items	800	-	33	-	-	-	-	-	-	833
2	Sovereign	2,075	-	-	-	1,426	-	-	-	-	3,501
3	PSE	-	-	-	-	303	-	-	-	-	303
4	MDB	18	-	-	-	-	-	-	-	-	18
5	Bank	-	-	1,015	-	4,639	-	7	-	-	5,661
6	Corporate	-	-	124	-	2,290	-	13,454	-	-	15,868
7	Regulatory Retail	-	-	-	-	-	6,735	-	-	-	6,735
8	Residential Mortgage	-	-	-	13,143	-	106	32	-	-	13,281
9	Commercial Real Estate	-	-	-	-	-	-	11,839	-	-	11,839
10	Equity exposures	-	-	-	-	-	-	-	-	510	510
11	Past Due exposures	-	-	-	-	-	-	99	92	-	191
12	Higher risk exposures	-	-	-	-	-	-	-	-	-	-
13	Others ^{2/}	-	-	-	-	-	-	6,619	-	-	6,619
14	Total	2,893	-	1,172	13,143	8,658	6,841	32,050	92	510	65,359

^{1/} Total EAD refers to both on and off-balance sheet amounts that are used for computing capital requirements, net of impairment allowances and write-offs and after application of CRM and CCF

^{2/} Includes other exposures not included in the above asset classes, such as fixed asset

13.3 Credit Exposures under Foundation Internal Ratings-Based Approach (F-IRBA)

The following table provides the main parameters used in the treatment of exposures for the calculation of capital requirements under the F-IRBA.

	31 Dec 2019											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Average CCF (%)	EAD ^{3/} (\$ million)	Average PD ^{4/} (%)	Number of Obligors ^{5/}	Average LGD ^{4/} (%)	Average Maturity ^{6/} (In years)	RWA (\$ million)	RWA Density ^{7/} (%)	Expected Losses (\$ million)	TEP ^{8/} (\$ million)
Sovereign	(\$ million)											
PD Range												
0.00 to < 0.15	38,879	247	100%	39,424	0.00%	20	45%	1.6	747	2%	1	
0.15 to < 0.25	-	-	-	-	-	-	-	-	-	NA	-	
0.25 to < 0.50	-	-	-	-	-	-	-	-	-	NA	-	
0.50 to < 0.75	-	-	-	-	-	-	-	-	-	NA	-	
0.75 to < 2.50	41	-	-	41	1.11%	1	45%	1.0	33	81%	#	
2.50 to < 10.00	49	-	-	49	6.42%	1	53%	1.0	90	183%	2	
10.00 to < 100.00	-	200	-	-	NA	2	NA	-	-	NA	-	
100.00 (Default)	-	-	-	-	-	-	-	-	-	NA	-	
Sub-total	38,969	447	55%	39,514	0.01%	24	45%	1.6	870	2%	3	10
Bank												
PD Range												
0.00 to < 0.15	37,766	2,330	6%	40,663	0.05%	269	45%	1.1	6,252	15%	10	
0.15 to < 0.25	-	-	-	-	-	-	-	-	-	NA	-	
0.25 to < 0.50	2,824	90	43%	3,056	0.37%	18	45%	0.8	1,768	58%	5	
0.50 to < 0.75	2,362	262	9%	2,435	0.54%	23	45%	0.7	1,722	71%	6	
0.75 to < 2.50	1,231	146	8%	1,242	1.84%	25	45%	0.7	1,459	118%	10	
2.50 to < 10.00	160	3	69%	162	6.17%	25	44%	0.2	267	164%	4	
10.00 to < 100.00	12	1	51%	12	11.10%	40	44%	0.1	25	206%	1	
100.00 (Default)	#	-	0%	#	100.00%	1	45%	1.0	-	0%	#	
Sub-total	44,355	2,832	8%	47,570	0.17%	401	45%	1.0	11,493	24%	36	130
Corporate												
PD Range												
0.00 to < 0.15	39,376	38,360	22%	47,849	0.09%	944	44%	2.5	14,246	30%	20	
0.15 to < 0.25	2	#	10%	2	0.19%	6	37%	4.7	1	54%	#	
0.25 to < 0.50	15,192	17,597	22%	18,809	0.37%	524	43%	2.0	10,608	56%	30	
0.50 to < 0.75	9,397	12,118	16%	10,910	0.54%	572	44%	2.0	7,605	70%	26	
0.75 to < 2.50	11,408	12,840	13%	11,582	1.42%	800	43%	1.9	11,200	97%	70	
2.50 to < 10.00	3,204	1,498	13%	2,906	5.26%	239	43%	2.4	4,413	152%	66	
10.00 to < 100.00	550	2,411	1%	548	13.14%	354	39%	3.2	1,107	202%	29	
100.00 (Default)	2,366	31	55%	2,383	100.00%	158	43%	2.4	-	0%	1,036	
Sub-total	81,495	84,855	19%	94,989	3.10%	3,597	43%	2.3	49,180	52%	1,277	1,876

13.3 Credit Exposures under Foundation Internal Ratings-Based Approach (F-IRBA) (continued)

	31 Dec 2019											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Average CCF (%)	EAD ^{3/} (S\$ million)	Average PD ^{4/} (%)	Number of Obligors ^{5/}	Average LGD ^{4/} (%)	Average Maturity ^{6/} (In years)	RWA (S\$ million)	RWA Density ^{7/} (%)	Expected Losses (S\$ million)	TEP ^{8/} (S\$ million)
	(S\$ million)											
Corporate (IPRE)												
PD Range												
0.00 to < 0.15	3,240	214	59%	3,367	0.14%	16	45%	1.8	1,050	31%	2	
0.15 to < 0.25	-	-	-	-	-	-	-	-	-	NA	-	
0.25 to < 0.50	4,709	899	62%	5,268	0.37%	40	45%	2.7	3,484	66%	9	
0.50 to < 0.75	9,592	1,531	69%	10,632	0.54%	97	45%	3.0	8,766	82%	26	
0.75 to < 2.50	13,873	2,504	56%	15,269	1.35%	275	45%	2.6	16,536	108%	92	
2.50 to < 10.00	2,466	1,105	45%	2,956	4.14%	128	45%	3.0	4,554	154%	55	
10.00 to < 100.00	35	23	58%	49	11.23%	11	45%	3.6	110	227%	2	
100.00 (Default)	46	1	3%	46	100.00%	4	45%	3.9	-	0%	21	
Sub-total	33,961	6,277	58%	37,587	1.23%	571	45%	2.7	34,500	92%	207	399
Corporate Small Business												
PD Range												
0.00 to < 0.15	1,001	635	12%	1,077	0.11%	448	37%	3.2	308	29%	#	
0.15 to < 0.25	500	162	12%	518	0.16%	803	38%	4.2	204	39%	#	
0.25 to < 0.50	614	555	18%	684	0.37%	290	38%	2.5	333	49%	1	
0.50 to < 0.75	752	866	11%	830	0.54%	582	38%	1.9	415	50%	2	
0.75 to < 2.50	2,256	2,225	11%	2,386	1.44%	1,049	39%	2.2	1,883	79%	13	
2.50 to < 10.00	1,827	1,541	9%	1,953	4.41%	634	37%	2.7	2,059	105%	32	
10.00 to < 100.00	368	126	21%	394	13.10%	490	37%	2.0	580	147%	19	
100.00 (Default)	1,033	11	67%	1,040	100.00%	200	43%	1.7	-	0%	450	
Sub-total	8,351	6,121	12%	8,882	13.75%	4,496	38%	2.5	5,782	65%	517	668
Total (all portfolios)	207,131	100,532	21%	228,542	2.06%	9,089	44%	2.0	101,825	45%	2,040	3,083

13.3 Credit Exposures under Foundation Internal Ratings-Based Approach (F-IRBA) (continued)

30 Jun 2019												
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Average CCF (%)	EAD ^{3/} (\$ million)	Average PD ^{4/} (%)	Number of Obligors ^{5/}	Average LGD ^{4/} (%)	Average Maturity ^{6/} (In years)	RWA (\$ million)	RWA Density ^{7/} (%)	Expected Losses (\$ million)	TEP ^{8/} (\$ million)
Sovereign	(S\$ million)											
PD Range												
0.00 to < 0.15	34,687	944	100%	36,134	0.01%	22	45%	1.6	744	2%	1	
0.15 to < 0.25	-	-	-	-	-	-	-	-	-	NA	-	
0.25 to < 0.50	-	-	-	-	-	-	-	-	-	NA	-	
0.50 to < 0.75	-	-	-	-	-	-	-	-	-	NA	-	
0.75 to < 2.50	2	-	-	2	1.11%	1	45%	1.0	1	81%	#	
2.50 to < 10.00	41	-	-	41	6.42%	1	48%	1.0	66	164%	1	
10.00 to < 100.00	#	#	-	#	11.10%	2	45%	1.0	#	194%	#	
100.00 (Default)	-	-	-	-	-	-	-	-	-	NA	-	
Sub-total	34,730	944	100%	36,177	0.01%	26	45%	1.6	811	2%	2	8
Bank												
PD Range												
0.00 to < 0.15	38,615	2,492	13%	39,370	0.05%	260	45%	1.1	5,822	15%	8	
0.15 to < 0.25	-	-	-	-	-	-	-	-	-	NA	-	
0.25 to < 0.50	2,717	128	42%	4,703	0.37%	18	45%	0.9	2,852	61%	8	
0.50 to < 0.75	2,711	157	9%	2,746	0.54%	18	45%	0.9	1,999	73%	7	
0.75 to < 2.50	1,751	28	5%	1,752	1.89%	26	45%	0.9	2,151	123%	15	
2.50 to < 10.00	276	8	40%	279	6.34%	25	45%	0.2	417	150%	8	
10.00 to < 100.00	#	#	88%	#	11.10%	40	2%	1.0	#	7%	#	
100.00 (Default)	#	-	0%	#	100.00%	1	45%	1.0	-	0%	#	
Sub-total	46,070	2,813	14%	48,850	0.21%	388	45%	1.1	13,241	27%	46	135
Corporate												
PD Range												
0.00 to < 0.15	41,248	37,148	21%	49,319	0.09%	894	44%	2.2	13,558	27%	20	
0.15 to < 0.25	#	3	1%	#	0.19%	5	36%	3.1	#	40%	#	
0.25 to < 0.50	14,669	15,846	21%	17,925	0.37%	576	43%	2.2	10,652	59%	29	
0.50 to < 0.75	8,272	10,527	14%	9,599	0.54%	545	43%	1.7	6,256	65%	23	
0.75 to < 2.50	11,255	11,759	13%	10,954	1.42%	771	43%	1.9	10,570	97%	66	
2.50 to < 10.00	3,266	2,008	11%	3,107	4.97%	251	43%	2.1	4,526	146%	67	
10.00 to < 100.00	920	1,766	1%	914	14.46%	312	40%	3.5	1,965	215%	54	
100.00 (Default)	2,182	47	52%	2,206	100.00%	160	44%	2.5	-	0%	970	
Sub-total	81,812	79,104	18%	94,024	2.99%	3,514	44%	2.1	47,527	51%	1,229	1,641

13.3 Credit Exposures under Foundation Internal Ratings-Based Approach (F-IRBA) (continued)

30 Jun 2019												
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Average CCF (%)	EAD ^{3/} (S\$ million)	Average PD ^{4/} (%)	Number of Obligors ^{5/}	Average LGD ^{4/} (%)	Average Maturity ^{6/} (In years)	RWA (S\$ million)	RWA Density ^{7/} (%)	Expected Losses (S\$ million)	TEP ^{8/} (S\$ million)
Corporate (IPRE)	(S\$ million)											
PD Range												
0.00 to < 0.15	2,519	73	66%	2,568	0.14%	15	45%	1.8	831	32%	2	
0.15 to < 0.25	-	-	-	-	-	-	-	-	-	NA	-	
0.25 to < 0.50	4,469	982	60%	5,058	0.37%	41	45%	2.6	3,282	65%	8	
0.50 to < 0.75	8,609	1,693	57%	9,577	0.54%	85	45%	3.2	8,107	85%	23	
0.75 to < 2.50	13,447	3,049	56%	15,123	1.33%	275	45%	2.6	16,453	109%	90	
2.50 to < 10.00	2,403	1,041	49%	2,908	3.74%	138	45%	3.1	4,404	151%	48	
10.00 to < 100.00	23	23	58%	36	11.52%	10	45%	3.2	81	223%	2	
100.00 (Default)	6	#	50%	6	100.00%	4	45%	4.8	-	0%	3	
Sub-total	31,476	6,861	56%	35,276	1.12%	568	45%	2.8	33,158	94%	176	337
Corporate Small Business												
PD Range												
0.00 to < 0.15	879	706	11%	956	0.12%	457	41%	2.8	296	31%	#	
0.15 to < 0.25	484	139	11%	499	0.16%	724	38%	4.2	198	40%	#	
0.25 to < 0.50	621	620	15%	713	0.37%	292	37%	2.6	327	46%	1	
0.50 to < 0.75	798	828	8%	866	0.54%	581	38%	1.9	443	51%	2	
0.75 to < 2.50	2,269	1,935	11%	2,368	1.43%	1,059	39%	2.3	1,830	77%	13	
2.50 to < 10.00	1,890	1,453	10%	2,020	4.33%	617	37%	2.6	2,175	108%	32	
10.00 to < 100.00	432	176	20%	466	13.10%	4,866	34%	2.5	625	134%	21	
100.00 (Default)	1,102	4	53%	1,104	100.00%	208	43%	1.8	-	0%	479	
Sub-total	8,475	5,861	11%	8,992	14.41%	8,804	39%	2.5	5,894	66%	548	589
Total (all portfolios)	202,563	95,583	21%	223,319	2.06%	13,300	44%	1.9	100,631	45%	2,001	2,710

- ^{1/} On-balance sheet refers to the amount of the on-balance sheet exposure gross of impairment allowances (before taking into account the effect of CRM)
- ^{2/} Off-balance sheet refers to the exposure value without taking into account valuation adjustments and impairment allowances, CCFs and the effect of CRM
- ^{3/} EAD refers to the amount relevant for the capital requirements calculation, after taking into account the effect of CCFs and CRM
- ^{4/} Refers to the PD and LGD associated with each obligor grade, weighted by EAD
- ^{5/} Number of obligors refers to the number of counterparties. The drop in the number of obligors under Corporate Small Business in Dec-19 was due to the exclusion of customers with only temporary exposures
- ^{6/} Refers to the effective maturity of the exposures to the obligor in years, weighted by EAD
- ^{7/} Total RWA divided by the exposures post-CCF and post-CRM
- ^{8/} Refers to the total eligible provisions attributed to the respective portfolios
- # Represents amounts of less than \$0.5 million

13.4 Credit Exposures under Advanced Internal Ratings-Based Approach (A-IRBA)

The following table provides the main parameters used in the treatment of exposures for the calculation of capital requirements under the A-IRBA.

	31 Dec 2019											
	(a) On- Balance Sheet ^{1/} (S\$ million)	(b) Off- Balance Sheet ^{2/}	(c) Average CCF (%)	(d) EAD ^{3/} (S\$ million)	(e) Average PD ^{4/} (%)	(f) Number of Obligors ^{5/}	(g) Average LGD ^{4/} (%)	(h) Average Maturity ^{6/} (In years)	(i) RWA (S\$ million)	(j) RWA Density ^{7/} (%)	(k) Expected Losses (S\$ million)	(l) TEP ^{8/} (S\$ million)
Residential Mortgage												
PD Range												
0.00 to < 0.15	3,195	654	68%	3,642	0.09%	12,465	10%		85	2%	#	
0.15 to < 0.25	13,420	813	74%	14,026	0.15%	36,619	10%		493	4%	3	
0.25 to < 0.50	12,359	756	63%	12,837	0.25%	44,592	10%		674	5%	3	
0.50 to < 0.75	13,505	535	65%	13,854	0.50%	46,327	11%		1,206	9%	7	
0.75 to < 2.50	6,602	474	71%	6,941	1.01%	31,430	11%		985	14%	7	
2.50 to < 10.00	2,472	123	89%	2,581	3.74%	8,286	11%		787	31%	10	
10.00 to < 100.00	882	16	65%	892	23.03%	6,245	12%		571	64%	25	
100.00 (Default)	433	6	0%	433	100.00%	2,551	15%		254	59%	72	
Sub-total	52,868	3,377	69%	55,206	1.69%	188,515	10%		5,055	9%	127	129
Qualifying Revolving Retail												
PD Range												
0.00 to < 0.15	806	5,833	43%	3,322	0.06%	549,233	80%		106	3%	2	
0.15 to < 0.25	84	1,596	55%	959	0.17%	168,654	82%		78	8%	1	
0.25 to < 0.50	217	707	45%	536	0.30%	85,035	81%		68	13%	1	
0.50 to < 0.75	338	838	43%	702	0.58%	103,082	78%		145	21%	3	
0.75 to < 2.50	306	571	59%	644	1.38%	95,130	86%		143	22%	8	
2.50 to < 10.00	307	254	69%	482	5.16%	65,473	84%		520	108%	21	
10.00 to < 100.00	115	133	90%	235	24.58%	22,650	86%		546	232%	35	
100.00 (Default)	21	-	0%	21	100.00%	3,290	82%		-	0%	21	
Sub-total	2,194	9,932	47%	6,901	1.76%	1,092,547	81%		1,606	23%	92	39
Retail Small Business												
PD Range												
0.00 to < 0.15	286	280	56%	442	0.10%	2,510	27%		31	7%	#	
0.15 to < 0.25	1,230	485	50%	1,470	0.17%	5,929	34%		191	13%	2	
0.25 to < 0.50	307	32	56%	325	0.35%	1,160	35%		69	21%	#	
0.50 to < 0.75	565	48	61%	594	0.50%	3,128	42%		190	32%	1	
0.75 to < 2.50	942	94	59%	998	1.17%	5,687	46%		517	52%	5	
2.50 to < 10.00	501	24	75%	519	4.39%	5,177	43%		341	66%	10	
10.00 to < 100.00	279	20	77%	294	31.64%	2,440	43%		265	90%	38	
100.00 (Default)	119	4	0%	119	100.00%	1,258	55%		160	134%	57	
Sub-total	4,229	987	54%	4,761	5.33%	27,289	39%		1,764	37%	113	77

13.4 Credit Exposures under Advanced Internal Ratings-Based Approach (A-IRBA) (continued)

	31 Dec 2019											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Average CCF (%)	EAD ^{3/} (\$ million)	Average PD ^{4/} (%)	Number of Obligors ^{5/}	Average LGD ^{4/} (%)	Average Maturity ^{6/} (In years)	RWA (\$ million)	RWA Density ^{7/} (%)	Expected Losses (\$ million)	TEP ^{8/} (\$ million)
	(\$ million)											
Other Retail												
PD Range												
0.00 to < 0.15	474	2,542	99%	3,001	0.05%	2,832	8%		38	1%	#	
0.15 to < 0.25	3,099	1,375	94%	4,389	0.19%	25,550	11%		191	4%	1	
0.25 to < 0.50	244	18	49%	252	0.30%	3,875	15%		21	8%	#	
0.50 to < 0.75	3,572	957	95%	4,482	0.50%	3,830	10%		359	8%	2	
0.75 to < 2.50	7,432	1,173	99%	8,594	1.48%	3,944	9%		953	11%	12	
2.50 to < 10.00	4,467	772	100%	5,239	4.99%	1,374	10%		793	15%	25	
10.00 to < 100.00	7,702	942	100%	8,644	12.14%	1,141	11%		1,850	21%	119	
100.00 (Default)	40	1	5%	40	100.00%	160	30%		94	235%	6	
Sub-total	27,030	7,780	98%	34,641	4.36%	42,706	10%		4,299	12%	165	54
Corporate												
PD Range												
0.00 to < 0.15	74	402	100%	476	0.05%	349	7%	1.0	9	2%	#	
0.15 to < 0.25	423	266	100%	689	0.20%	353	8%	1.0	39	6%	#	
0.25 to < 0.50	-	-	-	-	-	-	-	-	-	NA	-	
0.50 to < 0.75	448	224	100%	671	0.50%	147	8%	1.0	69	10%	#	
0.75 to < 2.50	1,563	394	100%	1,957	1.40%	206	8%	1.0	323	17%	2	
2.50 to < 10.00	1,183	265	100%	1,448	5.00%	80	9%	1.0	423	29%	7	
10.00 to < 100.00	1,741	306	100%	2,048	12.64%	180	13%	1.0	1,187	58%	35	
100.00 (Default)	#	#	100%	#	100.00%	1	50%	1.0	-	0%	#	
Sub-total	5,432	1,857	100%	7,289	4.99%	1,316	10%	1.0	2,050	28%	44	23
Total (all portfolios)	91,753	23,933	71%	108,798	2.92%	1,352,373	16%		14,774	14%	541	322

13.4 Credit Exposures under Advanced Internal Ratings-Based Approach (A-IRBA) (continued)

	30 Jun 2019											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Average CCF (%)	EAD ^{3/} (S\$ million)	Average PD ^{4/} (%)	Number of Obligors ^{5/}	Average LGD ^{4/} (%)	Average Maturity ^{6/} (In years)	RWA (S\$ million)	RWA Density ^{7/} (%)	Expected Losses (S\$ million)	TEP ^{8/} (S\$ million)
Residential Mortgage	(S\$ million)											
PD Range												
0.00 to < 0.15	2,996	667	68%	3,450	0.09%	12,154	10%		81	2%	#	
0.15 to < 0.25	13,232	712	80%	13,804	0.15%	36,327	10%		486	4%	2	
0.25 to < 0.50	11,987	658	70%	12,450	0.25%	44,018	10%		654	5%	3	
0.50 to < 0.75	13,540	433	74%	13,861	0.50%	46,732	11%		1,208	9%	7	
0.75 to < 2.50	6,590	441	83%	6,955	1.02%	32,454	11%		991	14%	8	
2.50 to < 10.00	2,631	125	88%	2,742	3.81%	8,875	11%		844	31%	11	
10.00 to < 100.00	963	13	73%	972	23.40%	6,861	12%		629	65%	27	
100.00 (Default)	433	8	0%	433	100.00%	2,551	15%		290	67%	67	
Sub-total	52,372	3,057	75%	54,667	1.76%	189,972	11%		5,183	9%	125	120
Qualifying Revolving Retail												
PD Range												
0.00 to < 0.15	725	5,793	43%	3,243	0.06%	544,716	80%		104	3%	1	
0.15 to < 0.25	68	1,483	52%	840	0.17%	154,380	81%		66	8%	1	
0.25 to < 0.50	204	689	45%	512	0.30%	82,717	81%		64	13%	1	
0.50 to < 0.75	310	795	43%	656	0.58%	99,341	78%		135	21%	3	
0.75 to < 2.50	285	548	60%	614	1.40%	84,761	83%		263	43%	7	
2.50 to < 10.00	308	242	66%	468	5.14%	63,062	83%		498	106%	20	
10.00 to < 100.00	120	125	89%	231	24.78%	28,584	86%		534	232%	49	
100.00 (Default)	22	-	0%	22	100.00%	3,460	82%		-	0%	22	
Sub-total	2,042	9,675	47%	6,586	1.82%	1,061,021	81%		1,664	25%	104	38
Retail Small Business												
PD Range												
0.00 to < 0.15	285	263	57%	436	0.10%	2,501	27%		31	7%	#	
0.15 to < 0.25	1,250	479	49%	1,483	0.17%	5,906	32%		188	13%	1	
0.25 to < 0.50	301	31	53%	317	0.35%	1,148	32%		63	20%	#	
0.50 to < 0.75	540	45	60%	567	0.50%	3,089	39%		169	30%	1	
0.75 to < 2.50	938	92	57%	990	1.15%	5,509	43%		492	50%	5	
2.50 to < 10.00	487	26	73%	505	4.45%	5,469	41%		318	63%	9	
10.00 to < 100.00	326	23	83%	344	29.78%	6,130	42%		303	88%	43	
100.00 (Default)	116	4	0%	116	100.00%	1,249	54%		157	136%	54	
Sub-total	4,243	963	54%	4,758	5.44%	31,001	37%		1,721	36%	113	70

13.4 Credit Exposures under Advanced Internal Ratings-Based Approach (A-IRBA) (continued)

	30 Jun 2019											
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Average CCF (%)	EAD ^{3/} (S\$ million)	Average PD ^{4/} (%)	Number of Obligors ^{5/}	Average LGD ^{4/} (%)	Average Maturity ^{6/} (In years)	RWA (S\$ million)	RWA Density ^{7/} (%)	Expected Losses (S\$ million)	TEP ^{8/} (S\$ million)
	(S\$ million)											
Other Retail												
PD Range												
0.00 to < 0.15	442	2,316	99%	2,745	0.05%	2,658	8%		37	1%	#	
0.15 to < 0.25	2,944	1,310	94%	4,174	0.19%	25,239	11%		183	4%	1	
0.25 to < 0.50	271	23	54%	283	0.31%	3,934	15%		23	8%	#	
0.50 to < 0.75	3,366	632	98%	3,987	0.50%	3,932	10%		314	8%	2	
0.75 to < 2.50	7,742	1,325	98%	9,043	1.49%	4,080	10%		1,078	12%	13	
2.50 to < 10.00	4,466	869	100%	5,333	5.00%	1,702	10%		829	16%	27	
10.00 to < 100.00	8,076	993	100%	9,069	12.96%	1,537	11%		1,893	21%	129	
100.00 (Default)	48	1	6%	48	100.00%	163	28%		116	243%	6	
Sub-total	27,355	7,469	98%	34,682	4.77%	43,245	10%		4,473	13%	178	52
Corporate												
PD Range												
0.00 to < 0.15	65	417	100%	482	0.05%	345	7%	1.0	9	2%	#	
0.15 to < 0.25	517	304	100%	821	0.20%	374	8%	1.0	48	6%	#	
0.25 to < 0.50	-	-	-	-	-	-	-	-	-	NA	-	
0.50 to < 0.75	525	148	100%	672	0.50%	164	8%	1.0	65	10%	#	
0.75 to < 2.50	1,101	228	100%	1,329	1.42%	207	8%	1.0	202	15%	1	
2.50 to < 10.00	1,187	369	100%	1,555	5.00%	88	10%	1.0	478	31%	8	
10.00 to < 100.00	2,169	353	100%	2,522	11.83%	377	12%	1.0	1,327	53%	36	
100.00 (Default)	-	-	-	-	-	-	-	-	-	NA	-	
Sub-total	5,564	1,819	100%	7,381	5.42%	1,555	10%	1.0	2,129	29%	45	22
Total (all portfolios)	91,576	22,983	72%	108,074	3.14%	1,326,794	16%		15,170	14%	565	302

- ^{1/} On-balance sheet refers to the amount of the on-balance sheet exposure gross of impairment allowances (before taking into account the effect of CRM)
- ^{2/} Off-balance sheet refers to the exposure value without taking into account valuation adjustments and impairment allowances, CCFs and the effect of CRM
- ^{3/} EAD refers to the amount relevant for the capital requirements calculation, after taking into account the effects of CCFs and CRM
- ^{4/} Refers to the PD and LGD associated with each obligor grade, weighted by EAD
- ^{5/} Number of obligors refers to the number of accounts, except for Retail Small Business which refers to the number of counterparties
- ^{6/} Refers to the effective maturity of the exposures to the obligor in years and is not applicable for portfolios under the IRB treatment of Retail asset classes
- ^{7/} Total RWA divided by the exposures post-CCF and post-CRM
- ^{8/} Refers to the total eligible provisions attributed to the respective portfolios
- # Represents amounts of less than \$0.5 million

13.5 Overview of Credit Risk Mitigation Techniques

The table below provides an overview of the Group's usage of Credit Risk Mitigation (CRM) techniques for on-balance sheet exposures to Loans & Bills Receivable and Debt Securities, categorised by status followed by form of instrument.

		31 Dec 2019				
		(a)	(b)	(c)	(d)	(e)
S\$ million		Exposures unsecured	Exposures secured ^{1/}	Exposures secured by Collateral	Exposures secured by Financial Guarantees	Exposures secured by Credit Derivatives ^{2/}
1	Loans and Bills Receivable	147,284	115,345	104,368	3,396	-
2	Debt Securities	24,725	298	-	298	-
3	Total	172,009	115,643	104,368	3,694	-
4	Of which: Defaulted	1,502	946	684	-	-

		30 Jun 2019				
		(a)	(b)	(c)	(d)	(e)
S\$ million		Exposures unsecured	Exposures secured ^{1/}	Exposures secured by Collateral	Exposures secured by Financial Guarantees	Exposures secured by Credit Derivatives ^{2/}
1	Loans and Bills Receivable	146,858	113,767	103,309	2,963	-
2	Debt Securities	24,356	494	-	494	-
3	Total	171,214	114,261	103,309	3,457	-
4	Of which: Defaulted	1,741	803	637	-	-

^{1/} Refers to carrying amount of exposures (net of impairment allowances) which have at least one credit risk mitigation mechanism, collateral or financial guarantees associated with them

^{2/} Not applicable since the Group does not recognise credit derivatives as a form of CRM instrument for exposures

13.6 Effect on RWA of Credit Derivatives used as CRM

The Group does not recognise credit derivatives as a credit risk mitigant for exposures under F-IRBA or A-IRBA.

14. BACKTESTING OF PD FOR PORTFOLIOS UNDER IRB APPROACH

14.1 Backtesting of PD for Portfolios under Foundation Internal Ratings-Based Approach (F-IRBA)

The following table provides the information used to validate the reliability of PD used in the calculation of capital requirements. It compares the PD under F-IRBA with the average of the annual observed default rate of the Group's obligors.

(a)	(b)	(c)			31 Dec 2019		(f)	(g)	(h)	(i)	
		External Ratings			(d)	(e)					Number of Obligors
		S&P	Fitch	Moody's	PD ^{1/} (%)	Arithmetic PD of Obligors ^{2/} (%)	Dec-18	Dec-19	Defaulted Obligors	Of which: New Defaulted Obligors ^{3/}	Historical Annual Default Rate ^{4/} (%)
Sovereign											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.01%	0.02%	36	34	-	-	-
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	NA	NA	-	-	-	-	-
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	NA	NA	-	-	-	-	-
	0.50 to < 0.75	BB+	BB+	Ba1	NA	NA	-	-	-	-	-
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.90%	1.90%	1	1	-	-	-
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	6.42%	6.42%	1	2	-	-	-
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	NA	11.10%	1	2	-	-	-
Total					0.02%	0.52%	39	39	-	-	-
Bank											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.05%	0.06%	254	277	-	-	-
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	NA	NA	-	-	-	-	-
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.37%	23	19	-	-	-
	0.50 to < 0.75	BB+	BB+	Ba1	0.54%	0.54%	19	23	-	-	-
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.85%	1.62%	28	28	-	-	-
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	6.29%	5.88%	30	26	-	-	-
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	11.10%	11.10%	38	43	-	-	-
Total					0.17%	1.73%	392	416	-	-	-
Corporate											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.10%	0.10%	953	992	1	-	0.01%
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	0.15%	0.15%	4	6	-	-	-
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.37%	594	533	-	-	0.03%
	0.50 to < 0.75	BB+	BB+	Ba1	0.54%	0.54%	568	578	1	-	0.14%
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.46%	1.44%	818	822	2	-	0.42%
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	4.97%	4.59%	251	240	4	-	2.56%
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	15.01%	11.15%	355	383	4	-	1.96%
Total					0.65%	1.95%	3,543	3,554	12	-	0.62%

14.1 Backtesting of PD for Portfolios under Foundation Internal Ratings-Based Approach (F-IRBA)
 (continued)

(a)	(b)	31 Dec 2019			(d)	(e)	(f)		(g)	(h)	(i)
		External Ratings					Number of Obligors				
		S&P	Fitch	Moody's			PD ^{1/} (%)	Arithmetic PD of Obligors ^{2/} (%)			
Corporate IPRE											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.14%	0.13%	15	16	-	-	
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	NA	NA	-	-	-	-	
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.37%	44	40	-	-	
	0.50 to < 0.75	BB+	BB+	Ba1	0.54%	0.54%	85	97	-	-	
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.36%	1.42%	256	276	2	-	
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	3.68%	4.32%	150	126	-	-	
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	12.19%	12.53%	13	11	2	-	
Total					1.11%	2.20%	563	566	4	-	0.40%
Corporate Small Business											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.13%	0.12%	449	454	1	-	0.03%
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	0.16%	0.17%	822	803	1	-	0.07%
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.36%	306	293	-	-	0.03%
	0.50 to < 0.75	BB+	BB+	Ba1	0.54%	0.53%	579	590	1	-	0.08%
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.44%	1.53%	6,786	1,059	6	-	0.07%
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	4.69%	4.46%	653	634	5	-	1.25%
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	12.63%	14.02%	385	499	10	1	2.36%
Total					2.42%	1.93%	9,980	4,332	24	1	0.23%

14.1 Backtesting of PD for Portfolios under Foundation Internal Ratings-Based Approach (F-IRBA) (continued)

(a)	(b)	(c)			31 Dec 2018		(f)		(g)	(h)	(i)
		External Ratings			(d)	(e)	Number of Obligors				
		S&P	Fitch	Moody's			PD ^{1/} (%)	Arithmetic PD of Obligors ^{2/} (%)			
Sovereign											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.00%	0.01%	39	36	-	-	-
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	NA	NA	-	-	-	-	-
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.37%	3	-	-	-	-
	0.50 to < 0.75	BB+	BB+	Ba1	NA	NA	-	-	-	-	-
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.90%	1.90%	1	1	-	-	-
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	6.42%	6.42%	1	1	-	-	-
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	NA	11.10%	1	1	-	-	-
Total					0.02%	0.47%	45	39	-	-	-
Bank											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.05%	0.06%	236	254	-	-	-
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	NA	NA	-	-	-	-	-
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.37%	31	23	-	-	-
	0.50 to < 0.75	BB+	BB+	Ba1	0.54%	0.54%	22	19	-	-	-
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.13%	1.41%	29	28	-	-	-
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	6.15%	5.39%	25	30	-	-	-
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	11.10%	11.10%	38	38	-	-	-
Total					0.16%	1.67%	381	392	-	-	-
Corporate											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.09%	0.11%	890	953	-	-	-
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	0.18%	0.18%	7	4	-	-	-
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.37%	483	594	-	-	0.04%
	0.50 to < 0.75	BB+	BB+	Ba1	0.54%	0.54%	526	568	2	-	0.13%
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.48%	1.48%	804	818	1	-	0.45%
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	4.83%	4.45%	319	251	13	-	2.72%
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	14.43%	11.24%	327	355	6	2	2.09%
Total					0.85%	2.04%	3,356	3,543	22	2	0.66%

14.1 Backtesting of PD for Portfolios under Foundation Internal Ratings-Based Approach (F-IRBA) (continued)

(a)	(b)	(c)			31 Dec 2018		(f)	(g)	(h)	(i)	
		External Ratings			(d)	(e)					
		S&P	Fitch	Moody's	PD ^{1/} (%)	Arithmetic PD of Obligors ^{2/} (%)	Dec-17	Dec-18	Defaulted Obligors	Of which: New Defaulted Obligors ^{3/}	Historical Annual Default Rate ^{4/} (%)
Corporate IPRE											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.14%	0.14%	13	15	-	-	
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	NA	NA	-	-	-	-	
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.37%	37	44	-	-	
	0.50 to < 0.75	BB+	BB+	Ba1	0.54%	0.54%	81	85	-	-	
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.40%	1.44%	240	256	-	-	
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	4.17%	4.40%	131	150	1	-	
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	11.25%	12.13%	18	13	-	-	
Total					1.22%	2.31%	520	563	1	-	0.34%
Corporate Small Business											
PD Range											
	0.00 to < 0.15	AAA to BBB	AAA to BBB	Aaa to Baa2	0.12%	0.12%	459	449	-	-	-
	0.15 to < 0.25	BBB to BBB-	BBB to BBB-	Baa2 to Baa3	0.16%	0.17%	795	822	-	-	0.06%
	0.25 to < 0.50	BBB- to BB+	BBB- to BB+	Baa3 to Ba1	0.37%	0.36%	331	306	-	-	0.04%
	0.50 to < 0.75	BB+	BB+	Ba1	0.54%	0.52%	612	579	-	-	0.06%
	0.75 to < 2.50	BB+ to B+	BB+ to B+	Ba1 to B1	1.44%	1.55%	6,664	6,786	5	-	0.06%
	2.50 to < 10.00	B+ to B-	B+ to B-	B1 to B3	4.51%	4.41%	688	653	12	1	1.33%
	10.00 to < 100.00	B- to C-	B- to C-	B3 to C3	12.28%	14.03%	449	385	21	-	2.37%
Total					2.41%	2.03%	9,998	9,980	38	1	0.23%

^{1/} Refers to PD associated with each obligor grade, weighted by EAD

^{2/} Arithmetic mean of PDs by the number of obligors within the PD range

^{3/} New defaulted obligors refer to the number of obligors that defaulted during the last 12-month period that were not funded at the end of the previous annual reporting period

^{4/} Refers to the average of the annual observed default rate (ODR) over a minimum of the last five years. For Corporate IPRE, ODR is only available at overall asset class level as PD approach was only adopted in Q4 2015. For Sovereign asset class, ODR was based on two years of data as the Sovereign portfolio migrated to F-IRBA in the second half of 2017

^{5/} The drop in the number of obligors under Corporate Small Business in Dec-19 was due to the exclusion of customers with only temporary exposures

14.2 Backtesting of PD for Portfolios under Advanced Internal Ratings-Based Approach (A-IRBA)

The following table provides the information used to validate the reliability of PD used in the calculation of capital requirements. It compares the PD under A-IRBA with the average of the annual observed default rate of the Group's obligors.

31 Dec 2019											
(a)	(b)	(c) External Ratings ^{1/}			(d)	(e)	(f) Number of Obligators		(g)	(h)	(i)
		S&P	Fitch	Moody's	PD ^{2/} (%)	Arithmetic PD of Obligators ^{3/} (%)	Dec-18	Dec-19	Defaulted Obligators	Of which: New Defaulted Obligators ^{4/}	Historical Annual Default Rate ^{5/} (%)
Residential Mortgage											
PD Range											
	0.00 to < 0.15				0.09%	0.08%	11,687	12,465	9	-	0.07%
	0.15 to < 0.25				0.15%	0.15%	36,695	36,619	27	-	0.10%
	0.25 to < 0.50				0.25%	0.25%	43,828	44,592	78	-	0.20%
	0.50 to < 0.75				0.50%	0.50%	47,632	46,327	153	-	0.34%
	0.75 to < 2.50				1.02%	1.12%	33,802	31,430	235	2	0.77%
	2.50 to < 10.00				3.58%	3.98%	11,297	8,286	244	1	2.23%
	10.00 to < 100.00				22.90%	23.40%	6,503	6,245	1,254	2	20.16%
Total					1.00%	1.44%	191,444	185,964	2,000	5	1.16%
Qualifying Revolving Retail											
PD Range											
	0.00 to < 0.15				0.06%	0.06%	525,466	549,233	302	1	0.08%
	0.15 to < 0.25				0.17%	0.16%	141,311	168,654	121	5	0.14%
	0.25 to < 0.50				0.30%	0.30%	94,302	85,035	293	2	0.29%
	0.50 to < 0.75				0.59%	0.59%	101,420	103,082	477	1	0.59%
	0.75 to < 2.50				1.42%	1.42%	87,267	95,130	994	70	1.31%
	2.50 to < 10.00				5.13%	5.07%	63,435	65,473	2,496	119	4.38%
	10.00 to < 100.00				22.51%	22.58%	22,570	22,650	3,793	69	19.89%
Total					1.28%	1.06%	1,035,771	1,089,257	8,476	267	1.01%
Retail Small Business											
PD Range											
	0.00 to < 0.15				0.10%	0.10%	2,613	2,510	4	-	0.04%
	0.15 to < 0.25				0.17%	0.18%	5,947	5,929	8	-	0.28%
	0.25 to < 0.50				0.35%	0.35%	1,118	1,160	5	-	0.41%
	0.50 to < 0.75				0.50%	0.50%	3,094	3,128	4	-	0.27%
	0.75 to < 2.50				1.14%	1.30%	7,540	5,687	55	4	0.88%
	2.50 to < 10.00				4.45%	5.01%	5,948	5,177	137	5	2.85%
	10.00 to < 100.00				29.07%	27.40%	2,742	2,496	412	-	18.91%
Total					2.91%	4.07%	29,002	26,087	625	9	2.50%

14.2 Backtesting of PD for Portfolios under Advanced Internal Ratings-Based Approach (A-IRBA) (continued)

(a)	(b)	31 Dec 2019									
		(c) External Ratings ^{1/}			(d)	(e)	(f) Number of Obligors		(g)	(h)	(i)
		S&P	Fitch	Moody's	PD ^{2/} (%)	Arithmetic PD of Obligors ^{3/} (%)	Dec-18	Dec-19	Defaulted Obligors	Of which: New Defaulted Obligors ^{4/}	Historical Annual Default Rate ^{5/} (%)
Other Retail											
PD Range											
	0.00 to < 0.15				0.05%	0.05%	2,563	2,832	1	-	0.14%
	0.15 to < 0.25				0.19%	0.16%	25,144	25,550	15	2	0.13%
	0.25 to < 0.50				0.31%	0.29%	4,132	3,875	3	-	0.18%
	0.50 to < 0.75				0.50%	0.52%	4,066	3,830	16	-	0.42%
	0.75 to < 2.50				1.47%	1.26%	4,208	3,944	15	-	0.58%
	2.50 to < 10.00				5.00%	4.91%	1,698	1,374	22	-	1.66%
	10.00 to < 100.00				13.63%	13.86%	1,605	1,141	78	-	10.66%
Total					5.21%	1.00%	43,416	42,546	150	2	0.52%
Corporate											
PD Range											
	0.00 to < 0.15				0.05%	0.05%	348	353	-	-	-
	0.15 to < 0.25				0.20%	0.20%	370	363	-	-	-
	0.25 to < 0.50				NA	NA	-	-	-	-	-
	0.50 to < 0.75				0.50%	0.50%	149	151	-	-	-
	0.75 to < 2.50				1.49%	1.38%	203	214	-	-	-
	2.50 to < 10.00				5.00%	5.00%	113	88	-	-	-
	10.00 to < 100.00				12.09%	11.33%	323	193	-	-	-
Total					5.60%	3.10%	1,506	1,362	-	-	-

14.2 Backtesting of PD for Portfolios under Advanced Internal Ratings-Based Approach (A-IRBA) (continued)

31 Dec 2018											
(a)	(b)	(c) External Ratings ^{1/}			(d) PD ^{2/} (%)	(e) Arithmetic PD of Obligor ^{3/} (%)	(f) Number of Obligor		(g) Defaulted Obligor	(h) Of which: New Defaulted Obligor ^{4/}	(i) Historical Annual Default Rate ^{5/} (%)
		S&P	Fitch	Moody's			Dec-17	Dec-18			
Residential Mortgage											
PD Range											
	0.00 to < 0.15				0.05%	0.05%	11,195	11,687	4	-	0.07%
	0.15 to < 0.25				0.15%	0.15%	36,044	36,695	36	-	0.10%
	0.25 to < 0.50				0.25%	0.25%	44,832	43,828	91	-	0.21%
	0.50 to < 0.75				0.50%	0.50%	49,361	47,632	165	4	0.35%
	0.75 to < 2.50				1.02%	1.12%	37,339	33,802	249	2	0.78%
	2.50 to < 10.00				3.62%	3.99%	12,660	11,297	300	10	2.25%
	10.00 to < 100.00				23.12%	23.67%	7,476	6,503	1,419	-	20.31%
Total					1.12%	1.57%	198,907	191,444	2,264	16	1.17%
Qualifying Revolving Retail											
PD Range											
	0.00 to < 0.15				0.06%	0.06%	543,449	525,466	444	1	0.08%
	0.15 to < 0.25				0.17%	0.16%	101,474	141,311	88	5	0.15%
	0.25 to < 0.50				0.29%	0.29%	122,268	94,302	335	-	0.29%
	0.50 to < 0.75				0.59%	0.60%	93,449	101,420	547	3	0.61%
	0.75 to < 2.50				1.43%	1.43%	86,030	87,267	1,230	86	1.35%
	2.50 to < 10.00				5.10%	4.94%	63,223	63,435	2,953	88	4.48%
	10.00 to < 100.00				23.47%	23.78%	18,634	22,570	3,495	11	20.45%
Total					1.15%	0.99%	1,028,527	1,035,771	9,092	194	1.04%
Retail Small Business											
PD Range											
	0.00 to < 0.15				0.10%	0.10%	2,724	2,613	4	-	0.02%
	0.15 to < 0.25				0.17%	0.18%	6,204	5,947	12	-	0.31%
	0.25 to < 0.50				0.35%	0.35%	1,087	1,118	3	-	0.41%
	0.50 to < 0.75				0.50%	0.50%	3,224	3,094	6	-	0.30%
	0.75 to < 2.50				1.15%	1.27%	7,009	7,540	35	1	0.91%
	2.50 to < 10.00				4.45%	4.96%	6,773	5,948	153	2	2.96%
	10.00 to < 100.00				27.19%	28.65%	3,401	2,742	521	-	19.55%
Total					2.87%	4.71%	30,422	29,002	734	3	2.56%

14.2 Backtesting of PD for Portfolios under Advanced Internal Ratings-Based Approach (A-IRBA) (continued)

(a)	(b)	31 Dec 2018									
		(c) External Ratings ^{1/}			(d)	(e)	(f) Number of Obligators		(g)	(h)	(i)
		S&P	Fitch	Moody's	PD ^{2/} (%)	Arithmetic PD of Obligators ^{3/} (%)	Dec-17	Dec-18	Defaulted Obligators	Of which: New Defaulted Obligators ^{4/}	Historical Annual Default Rate ^{5/} (%)
Other Retail											
PD Range											
	0.00 to < 0.15				0.05%	0.05%	2,558	2,563	3	-	0.15%
	0.15 to < 0.25				0.18%	0.16%	24,679	25,144	18	1	0.14%
	0.25 to < 0.50				0.31%	0.29%	4,435	4,132	10	-	0.20%
	0.50 to < 0.75				0.50%	0.52%	4,565	4,066	19	-	0.43%
	0.75 to < 2.50				1.49%	1.25%	4,345	4,208	17	-	0.62%
	2.50 to < 10.00				4.99%	4.94%	1,825	1,698	29	1	1.72%
	10.00 to < 100.00				13.21%	13.61%	1,410	1,605	65	-	11.63%
Total					4.84%	0.94%	43,817	43,416	161	2	0.55%
Corporate											
PD Range											
	0.00 to < 0.15				0.05%	0.05%	361	348	-	-	-
	0.15 to < 0.25				0.20%	0.20%	359	370	-	-	-
	0.25 to < 0.50				NA	NA	-	-	-	-	-
	0.50 to < 0.75				0.50%	0.50%	201	149	-	-	-
	0.75 to < 2.50				1.34%	1.41%	199	203	-	-	-
	2.50 to < 10.00				5.00%	5.00%	94	113	-	-	-
	10.00 to < 100.00				13.62%	11.43%	286	323	-	-	-
Total					6.34%	2.81%	1,500	1,506	-	-	-

^{1/} Not applicable for A-IRBA Retail and Corporate asset classes

^{2/} Refers to PD associated with each obligor grade, weighted by EAD

^{3/} Arithmetic mean of PDs by the number of obligors within the PD range

^{4/} New defaulted obligors refer to the number of obligors that defaulted during the last 12-month period that were not funded at the end of the previous annual reporting period

^{5/} Refers to the average of the annual observed default rate (ODR) over a minimum of the last five years. However, included in the Other Retail and Corporate asset classes are the Margin Lending portfolio of Bank of Singapore which migrated to the A-IRBA at the end of 2017. As such, two years of data was used to compute the ODR for these asset classes

15. SPECIALISED LENDING UNDER SUPERVISORY SLOTTING CRITERIA

Exposures treated under the Supervisory Slotting Criteria include loans to customers for Project Financing (PF), Object Financing (OF) and Commodity Financing (CF). Income Producing Real Estate (IPRE) exposures are reported under F-IRBA.

31 Dec 2019										
Specialised Lending Portfolio (S\$ million)					EAD ^{3/}					
Regulatory Categories	Remaining Maturities	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Risk Weight (%)	PF	OF	CF	Total	RWA	Expected Losses
Strong	Less than 2.5 years	-	-	50%	-	-	-	-	-	-
	Equal to or more than 2.5 years	-	-	70%	-	-	-	-	-	-
Good	Less than 2.5 years	-	-	70%	-	-	-	-	-	-
	Equal to or more than 2.5 years	-	-	90%	-	-	-	-	-	-
Satisfactory		1,596	1,464	115%	2,182	181	97	2,460	2,999	69
Weak		-	-	250%	-	-	-	-	-	-
Default		106	-	-	30	79	79	188	-	94
Total		1,702	1,464		2,212	260	176	2,648	2,999	163

30 Jun 2019										
Specialised Lending Portfolio (S\$ million)					EAD ^{3/}					
Regulatory Categories	Remaining Maturities	On-Balance Sheet ^{1/}	Off-Balance Sheet ^{2/}	Risk Weight (%)	PF	OF	CF	Total	RWA	Expected Losses
Strong	Less than 2.5 years	-	-	50%	-	-	-	-	-	-
	Equal to or more than 2.5 years	-	-	70%	-	-	-	-	-	-
Good	Less than 2.5 years	-	-	70%	-	-	-	-	-	-
	Equal to or more than 2.5 years	-	-	90%	-	-	-	-	-	-
Satisfactory		1,287	1,666	115%	1,725	176	91	1,992	2,428	56
Weak		-	-	250%	-	-	-	-	-	-
Default		129	-	-	30	80	89	199	-	99
Total		1,416	1,666		1,755	256	180	2,191	2,428	155

^{1/} On-balance sheet refers to the amount of the on-balance sheet exposure net of impairment allowances and write-offs (after taking into account the effect of CRM)

^{2/} Off-balance sheet refers to the exposure value without taking into account the effects of CCFs and CRM

^{3/} EAD refers to the amount relevant for capital requirements calculated by taking into account the effects of CCFs and CRM

16. COUNTERPARTY CREDIT RISK

16.1 Counterparty Credit Risk Exposures by Approach

Counterparty credit risk (CCR) is the risk of a counterparty defaulting before the final settlement of the transaction, which generally represents uncertain exposures that can vary over time with the movement of underlying market factors such as those in over-the-counter (OTC) derivatives.

The Group currently treats CCR under the Current Exposure Method (CEM), with regulatory prescribed add-on that represents the potential future exposure in addition to the net replacement cost of the OTC derivatives.

The table below provides an overview of the CCR for OTC derivatives and Securities Financing Transactions (SFTs).

		31 Dec 2019					
		(a)	(b)	(c)	(d)	(e)	(f)
Counterparty Credit Risk Exposure by Approach		Replacement Cost	Potential Future Exposure	Effective EPE	Alpha factor (α)	EAD ^{1/}	RWA
(S\$ million)							
1	CEM (For derivatives)	4,407	7,678			6,616	2,085
2	CCR Internal models method (For derivatives and SFTs)			-		-	-
3	FC(SA) for SFTs					-	-
4	FC(CA) for SFTs					3,816	158
5	VaR for SFTs					-	-
6	Total						2,243

		30 Jun 2019					
		(a)	(b)	(c)	(d)	(e)	(f)
Counterparty Credit Risk Exposure by Approach		Replacement Cost	Potential Future Exposure	Effective EPE	Alpha factor (α)	EAD ^{1/}	RWA
(S\$ million)							
1	CEM (For derivatives)	4,138	7,885			6,879	2,089
2	CCR Internal models method (For derivatives and SFTs)			-		-	-
3	FC(SA) for SFTs					-	-
4	FC(CA) for SFTs					5,492	182
5	VaR for SFTs					-	-
6	Total						2,271

^{1/} EAD refers to the amount relevant for capital requirements calculation, after taking into account the effects of CRM

16.2 CVA Risk Capital Charge

The Credit Valuation Adjustment (CVA) is made to the mark-to-market valuation of OTC derivatives as calculated under the Standardised approach for the Group.

31 Dec 2019		
	(a)	(b)
S\$ million	EAD ^{1/}	RWA
Credit Valuation Adjustments (CVA) Risk Capital Requirements		
Total portfolios subject to Advanced CVA capital requirement	-	-
1 (i) VaR component (including the three-times multiplier)	-	-
2 (ii) Stressed VaR component (including the three-times multiplier)	-	-
3 All portfolios subject to Standardised CVA capital requirement	6,064	3,093
4 Total portfolios subject to the CVA risk capital requirement	6,064	3,093
<hr/>		
30 Jun 2019		
	(a)	(b)
S\$ million	EAD ^{1/}	RWA
Credit Valuation Adjustments (CVA) Risk Capital Requirements		
Total portfolios subject to Advanced CVA capital requirement	-	-
1 (i) VaR component (including the three-times multiplier)	-	-
2 (ii) Stressed VaR component (including the three-times multiplier)	-	-
3 All portfolios subject to Standardised CVA capital requirement	6,348	2,881
4 Total portfolios subject to the CVA risk capital requirement	6,348	2,881

^{1/} EAD refers to the amount relevant for capital requirements calculation, after taking into account the effects of CRM

16.3 Exposures to Central Counterparties

The table below provides an overview of the Group's exposures to Central Clearing Counterparties (CCPs), including all types of exposures due to operations, margins, contributions to default funds and related capital requirements.

All derivative exposures to CCPs are currently treated under the Current Exposure Method (CEM), with regulatory prescribed add-on in addition to the net replacement cost of the derivatives.

		31 Dec 2019	
S\$ million		(a) EAD	(b) RWA
1	Total exposures to qualifying CCPs		416
2	Exposures to qualifying CCPs	4,516	177
3	arising from: OTC derivative transactions;	4,514	177
4	arising from: Exchange-traded derivative transactions;	2	#
5	arising from: SFTs; and	-	-
6	arising from: Netting sets ^{1/}	-	-
7	Segregated collateral ^{2/}	106	
8	Non-segregated collateral	1,019	239
9	Pre-funded default fund contributions	7	-
10	Unfunded default fund contributions	-	-
11	Total exposures to non-qualifying CCPs		11
12	Exposures to non-qualifying CCPs	#	#
13	arising from: OTC derivative transactions;	-	-
14	arising from: Exchange-traded derivative transactions;	#	#
15	arising from: SFTs; and	-	-
16	arising from: Netting sets ^{1/}	-	-
17	Segregated collateral ^{2/}	-	
18	Non-segregated collateral	11	11
19	Pre-funded default fund contributions	-	-
20	Unfunded default fund contributions	-	-

16.3 Exposures to Central Counterparties (continued)

		30 Jun 2019	
S\$ million		(a)	(b)
		EAD	RWA
1	Total exposures to qualifying CCPs		415
2	Exposures to qualifying CCPs	4,463	196
3	arising from: OTC derivative transactions;	4,463	196
4	arising from: Exchange-traded derivative transactions;	#	#
5	arising from: SFTs; and	-	-
6	arising from: Netting sets ^{1/}	-	-
7	Segregated collateral ^{2/}	67	
8	Non-segregated collateral	905	218
9	Pre-funded default fund contributions	12	1
10	Unfunded default fund contributions	-	-
11	Total exposures to non-qualifying CCPs		10
12	Exposures to non-qualifying CCPs	2	2
13	arising from: OTC derivative transactions;	-	-
14	arising from: Exchange-traded derivative transactions;	2	2
15	arising from: SFTs; and	-	-
16	arising from: Netting sets ^{1/}	-	-
17	Segregated collateral ^{2/}	-	
18	Non-segregated collateral	8	8
19	Pre-funded default fund contributions	-	-
20	Unfunded default fund contributions	-	-

^{1/} Refers to netting assets where cross-product netting has been approved

^{2/} Refers to collateral which is held in a bankruptcy remote manner

Represents amounts of less than \$0.5 million

16.4 Counterparty Credit Risk Exposures under Standardised Approach by Risk Weight

The table below represents the risk weights used in the calculation of capital for the Group's portfolio, which are subjected to the CCR requirements under the Standardised Approach by asset classes.

S\$ million	31 Dec 2019								
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
	Risk Weight								Total EAD ^{1/}
	0%	10%	20%	50%	75%	100%	150%	Others	
Asset Class									
Sovereign	329	-	-	-	-	-	-	-	329
PSE	-	-	-	-	-	-	-	-	-
MDB	-	-	-	-	-	-	-	-	-
Bank	-	-	89	14	-	-	-	-	103
Corporate	-	-	#	-	-	97	-	-	97
Regulatory	-	-	-	-	-	-	-	-	-
Retail	-	-	-	-	-	-	-	-	-
Others ^{2/}	-	-	-	-	-	35	-	-	35
Total	329	-	89	14	-	132	-	-	564

S\$ million	30 Jun 2019								
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
	Risk Weight								Total EAD ^{1/}
	0%	10%	20%	50%	75%	100%	150%	Others	
Asset Class									
Sovereign	647	-	-	-	-	-	-	-	647
PSE	-	-	-	-	-	-	-	-	-
MDB	-	-	-	-	-	-	-	-	-
Bank	-	-	113	3	-	#	-	-	116
Corporate	-	-	#	-	-	128	-	-	128
Regulatory	-	-	-	-	-	-	-	-	-
Retail	-	-	-	-	-	-	-	-	-
Others ^{2/}	-	-	-	-	-	72	-	-	72
Total	647	-	113	3	-	200	-	-	963

^{1/} EAD refers to the amount relevant for capital requirement calculation, after taking into account the effects of CRM

^{2/} Includes other exposures not included in the above asset classes

Represents amounts of less than \$0.5 million

16.5 Counterparty Credit Risk Exposures under Foundation Internal Ratings-Based Approach (F-IRBA)

The table below represents the parameters used in the calculation of capital for the Group's portfolio, which are subjected to the CCR requirements under the F-IRBA by asset classes.

	31 Dec 2019						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	EAD ^{1/} (S\$ million)	Average PD ^{2/} (%)	Number of Obligors ^{3/}	Average LGD ^{2/} (%)	Average Maturity ^{4/} (In years)	RWA (S\$ million)	RWA Density ^{5/} (%)
Sovereign							
PD Range							
0.00 to < 0.15	2,000	0.00%	7	42%	0.1	1	0%
0.15 to < 0.25	-	-	-	-	-	-	NA
0.25 to < 0.50	-	-	-	-	-	-	NA
0.50 to < 0.75	-	-	-	-	-	-	NA
0.75 to < 2.50	-	-	-	-	-	-	NA
2.50 to < 10.00	-	-	-	-	-	-	NA
10.00 to < 100.00	-	-	-	-	-	-	NA
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	2,000	0.00%	7	42%	0.1	1	0%
Bank							
PD Range							
0.00 to < 0.15	3,562	0.05%	133	32%	0.8	357	10%
0.15 to < 0.25	-	-	-	-	-	-	NA
0.25 to < 0.50	140	0.37%	5	45%	0.7	79	56%
0.50 to < 0.75	214	0.54%	9	45%	0.7	147	69%
0.75 to < 2.50	1	1.90%	3	0%	0.2	-	0%
2.50 to < 10.00	#	3.25%	2	45%	0.0	#	107%
10.00 to < 100.00	#	11.10%	3	45%	0.0	#	212%
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	3,917	0.09%	155	33%	0.8	583	15%
Corporate							
PD Range							
0.00 to < 0.15	1,653	0.09%	177	39%	2.0	414	25%
0.15 to < 0.25	-	-	-	-	-	-	NA
0.25 to < 0.50	452	0.37%	67	19%	1.0	132	29%
0.50 to < 0.75	155	0.54%	76	17%	0.9	46	29%
0.75 to < 2.50	244	1.61%	96	45%	2.3	270	111%
2.50 to < 10.00	35	6.16%	20	45%	2.8	61	175%
10.00 to < 100.00	#	11.13%	32	45%	3.0	1	219%
100.00 (Default)	34	100.00%	1	45%	4.7	-	0%
Sub-total	2,573	1.73%	469	35%	1.8	924	36%

16.5 Counterparty Credit Risk Exposures under Foundation Internal Ratings-Based Approach (F-IRBA)
 (continued)

	31 Dec 2019						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	EAD ^{1/} (S\$ million)	Average PD ^{2/} (%)	Number of Obligors ^{3/}	Average LGD ^{2/} (%)	Average Maturity ^{4/} (In years)	RWA (S\$ million)	RWA Density ^{5/} (%)
Corporate (IPRE)							
PD Range							
0.00 to < 0.15	33	0.14%	7	45%	2.4	12	37%
0.15 to < 0.25	-	-	-	-	-	-	NA
0.25 to < 0.50	23	0.37%	12	45%	3.2	16	72%
0.50 to < 0.75	60	0.54%	25	45%	3.4	53	88%
0.75 to < 2.50	41	1.37%	38	45%	2.1	43	104%
2.50 to < 10.00	#	3.20%	2	45%	1.5	#	125%
10.00 to < 100.00	-	-	-	-	-	-	NA
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	157	0.65%	84	45%	2.8	124	79%
Corporate Small Business							
PD Range							
0.00 to < 0.15	15	0.10%	35	45%	4.7	6	43%
0.15 to < 0.25	#	0.17%	8	45%	0.2	#	16%
0.25 to < 0.50	1	0.37%	21	45%	1.2	1	44%
0.50 to < 0.75	131	0.54%	33	45%	0.0	77	59%
0.75 to < 2.50	1	1.34%	51	45%	0.9	1	73%
2.50 to < 10.00	1	3.64%	17	45%	2.5	1	116%
10.00 to < 100.00	#	17.17%	14	45%	0.6	#	154%
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	149	0.55%	179	45%	0.5	86	58%
Total (all portfolios)	8,796	0.57%	894	36%	1.0	1,718	20%

16.5 Counterparty Credit Risk Exposures under Foundation Internal Ratings-Based Approach (F-IRBA)
 (continued)

	30 Jun 2019						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	EAD ^{1/} (S\$ million)	Average PD ^{2/} (%)	Number of Obligors ^{3/}	Average LGD ^{2/} (%)	Average Maturity ^{4/} (In years)	RWA (S\$ million)	RWA Density ^{5/} (%)
Sovereign							
PD Range							
0.00 to < 0.15	3,207	0.00%	7	27%	0.1	1	0%
0.15 to < 0.25	-	-	-	-	-	-	NA
0.25 to < 0.50	-	-	-	-	-	-	NA
0.50 to < 0.75	-	-	-	-	-	-	NA
0.75 to < 2.50	-	-	-	-	-	-	NA
2.50 to < 10.00	-	-	-	-	-	-	NA
10.00 to < 100.00	-	-	-	-	-	-	NA
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	3,207	0.00%	7	27%	0.1	1	0%
Bank							
PD Range							
0.00 to < 0.15	3,596	0.05%	128	32%	0.7	357	10%
0.15 to < 0.25	-	-	-	-	-	-	NA
0.25 to < 0.50	132	0.37%	6	44%	0.7	73	55%
0.50 to < 0.75	528	0.54%	9	29%	0.3	221	42%
0.75 to < 2.50	3	1.68%	5	23%	0.3	1	44%
2.50 to < 10.00	#	6.42%	1	45%	0.0	#	142%
10.00 to < 100.00	#	11.10%	3	45%	0.0	#	182%
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	4,259	0.12%	152	32%	0.7	652	15%
Corporate							
PD Range							
0.00 to < 0.15	1,739	0.07%	196	39%	2.1	426	24%
0.15 to < 0.25	-	-	-	-	-	-	NA
0.25 to < 0.50	517	0.37%	81	22%	1.2	174	34%
0.50 to < 0.75	138	0.54%	71	45%	2.9	113	82%
0.75 to < 2.50	91	1.60%	91	45%	3.0	109	120%
2.50 to < 10.00	34	6.11%	18	45%	2.9	59	175%
10.00 to < 100.00	3	11.10%	37	45%	4.3	6	235%
100.00 (Default)	40	100.00%	2	45%	5.0	-	0%
Sub-total	2,562	1.85%	496	37%	2.0	887	35%

16.5 Counterparty Credit Risk Exposures under Foundation Internal Ratings-Based Approach (F-IRBA)
 (continued)

	30 Jun 2019						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	EAD ^{1/} (S\$ million)	Average PD ^{2/} (%)	Number of Obligors ^{3/}	Average LGD ^{2/} (%)	Average Maturity ^{4/} (In years)	RWA (S\$ million)	RWA Density ^{5/} (%)
Corporate (IPRE)							
PD Range							
0.00 to < 0.15	27	0.14%	4	45%	3.1	12	44%
0.15 to < 0.25	-	-	-	-	-	-	NA
0.25 to < 0.50	17	0.37%	11	45%	3.0	12	70%
0.50 to < 0.75	45	0.54%	21	45%	3.8	42	93%
0.75 to < 2.50	50	1.33%	34	45%	2.5	53	107%
2.50 to < 10.00	#	3.20%	2	45%	1.0	#	119%
10.00 to < 100.00	-	-	-	-	-	-	NA
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	139	0.72%	72	45%	3.1	119	86%
Corporate Small Business							
PD Range							
0.00 to < 0.15	15	0.14%	39	45%	4.6	6	45%
0.15 to < 0.25	#	0.17%	5	45%	0.2	#	17%
0.25 to < 0.50	2	0.37%	22	45%	1.4	1	61%
0.50 to < 0.75	89	0.54%	31	45%	0.0	36	40%
0.75 to < 2.50	1	1.29%	55	45%	1.4	1	81%
2.50 to < 10.00	1	3.42%	22	45%	2.4	1	111%
10.00 to < 100.00	#	16.05%	8	45%	0.8	#	156%
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	108	0.55%	182	45%	0.7	45	43%
Total (all portfolios)	10,275	0.53%	909	32%	0.9	1,704	17%

^{1/} EAD refers to the amount relevant for capital requirements calculation, after taking into account the effects of CRM

^{2/} Refers to the PD and LGD associated with each obligor grade, weighted by EAD

^{3/} Number of obligors refers to the number of counterparties

^{4/} Refers to the effective maturity of the exposures to the obligor in years, weighted by EAD

^{5/} Total RWA divided by the exposures post-CRM

Represents amounts of less than \$0.5 million

16.6 Counterparty Credit Risk Exposures under Advanced Internal Ratings-Based Approach (A-IRBA)

The table below represents the parameters used in the calculation of capital for the Group's portfolio, which are subjected to the CCR requirements under the A-IRBA by asset classes.

There was no CCR exposure within the other prescribed asset classes (Sovereign, Banks and Corporate Small Business) under A-IRBA as at 31 December 2019.

	31 Dec 2019						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	EAD ^{1/} (S\$ million)	Average PD ^{2/} (%)	Number of Obligors ^{3/}	Average LGD ^{2/} (%)	Average Maturity ^{4/} (In years)	RWA (S\$ million)	RWA Density ^{5/} (%)
Corporate							
PD Range							
0.00 to < 0.15	6	0.05%	38	7%	1.6	#	2%
0.15 to < 0.25	14	0.20%	67	7%	0.5	1	4%
0.25 to < 0.50	-	-	-	-	-	-	NA
0.50 to < 0.75	12	0.50%	34	8%	1.0	1	10%
0.75 to < 2.50	23	1.24%	45	7%	1.2	3	14%
2.50 to < 10.00	17	5.00%	34	11%	1.6	6	37%
10.00 to < 100.00	38	15.77%	106	18%	2.6	37	96%
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	110	6.57%	324	11%	1.6	48	44%
Total (all portfolios)	110	6.57%	324	11%	1.6	48	44%
	30 Jun 2019						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
	EAD ^{1/} (S\$ million)	Average PD ^{2/} (%)	Number of Obligors ^{3/}	Average LGD ^{2/} (%)	Average Maturity ^{4/} (In years)	RWA (S\$ million)	RWA Density ^{5/} (%)
Corporate							
PD Range							
0.00 to < 0.15	8	0.05%	39	7%	1.0	#	2%
0.15 to < 0.25	14	0.20%	72	7%	1.5	1	6%
0.25 to < 0.50	-	-	-	-	-	-	NA
0.50 to < 0.75	6	0.50%	31	7%	1.3	1	9%
0.75 to < 2.50	10	1.29%	47	8%	1.7	2	16%
2.50 to < 10.00	20	5.00%	28	9%	1.2	5	27%
10.00 to < 100.00	49	13.45%	108	15%	2.4	36	75%
100.00 (Default)	-	-	-	-	-	-	NA
Sub-total	107	7.31%	325	11%	1.8	45	42%
Total (all portfolios)	107	7.31%	325	11%	1.8	45	42%

^{1/} EAD refers to the amount relevant for capital requirements calculation, after taking into account the effects of CRM

^{2/} Refers to the PD and LGD associated with each obligor grade, weighted by EAD

^{3/} Number of obligors refers to the number of accounts

^{4/} Refers to the maturity of the exposures to the obligor in years, weighted by EAD

^{5/} Total RWA divided by the exposures post-CRM

Represents amounts of less than \$0.5 million

16.7 Composition of Collateral for Counterparty Credit Risk Exposures

The table below represents all the types of collateral posted or received by the Group to support or reduce its CCR exposures related to derivatives or securities financing transactions (SFTs), including transactions cleared through Central Counterparties (CCP).

		31 Dec 2019					
		(a) Collateral used in derivative transactions		(c) Collateral used in derivative transactions		(e) Collateral used in SFTs ^{1/}	
		Fair value of collateral received		Fair value of collateral posted		Fair value of collateral received	
S\$ million		Segregated ^{2/}	Unsegregated	Segregated ^{2/}	Unsegregated	Fair value of collateral received	Fair value of collateral posted
1	Cash	-	2,054	106	2,053	1,630	2,576
2	Debt	-	1,361	-	46	2,197	2,119
3	Equity	-	1,035	-	-	-	-
4	Others ^{3/}	-	868	-	-	-	-
5	Total	-	5,318	106	2,099	3,827	4,695

		30 Jun 2019					
		(a) Collateral used in derivative transactions		(c) Collateral used in derivative transactions		(e) Collateral used in SFTs ^{1/}	
		Fair value of collateral received		Fair value of collateral posted		Fair value of collateral received	
S\$ million		Segregated ^{2/}	Unsegregated	Segregated ^{2/}	Unsegregated	Fair value of collateral received	Fair value of collateral posted
1	Cash	-	1,973	67	2,210	2,722	2,389
2	Debt	-	1,176	-	28	1,570	3,396
3	Equity	-	1,025	-	-	-	-
4	Others ^{3/}	-	733	-	-	-	-
5	Total	-	4,907	67	2,238	4,292	5,785

^{1/} Refers to Securities Financing Transaction (i.e. Repos and Reverse Repos)

^{2/} Refers to collateral held in a bankruptcy remote manner

^{3/} Includes collateral not reported in the other categories

16.8 Credit Derivative Exposures

The table below presents the Group's exposure to credit derivatives by what had been bought or sold.

The decrease in notional for credit derivatives during the second half of 2019 was mainly driven by lower single-name credit default swaps and index credit default swaps.

S\$ million	31 Dec 2019		30 Jun 2019		
	(a)	(b)	(a)	(b)	
	Protection Bought	Protection Sold	Protection Bought	Protection Sold	
Notional					
1	Single-name credit default swaps	1,570	1,363	1,977	1,683
2	Index credit default swaps	560	533	1,315	1,330
3	Other credit derivatives	282	157	362	198
4	Total notional	2,412	2,053	3,654	3,211
Fair values					
5	Positive fair value (asset)	7	40	14	50
6	Negative fair value (liability)	40	7	52	14

17. SECURITISATION EXPOSURES

The Group has limited exposure to asset-backed securities and collateralised debt obligations and are not active in securitisation activities. As at 31 December 2019, there was no securitisation and re-securitisation exposure in the banking and trading books.

18. MARKET RISK TYPE UNDER STANDARDISED APPROACH

During the second half of 2019, the decrease in Market Risk RWA was driven mainly by lower Interest Rate partially offset by increase in Foreign Exchange risk.

31 Dec 2019		(a)
Market Risk by Standardised Approach		RWA
S\$ million		
Notional		
1	Interest rate risk (general and specific)	7,266
2	Equity risk (general and specific)	684
3	Foreign exchange risk	6,358
4	Commodity risk	17
Options		
5	Simplified approach	-
6	Delta-plus method	320
7	Scenario approach	106
8	Securitisation	-
9	Total	14,751

30 Jun 2019		(a)
Market Risk by Standardised Approach		RWA
S\$ million		
Notional		
1	Interest rate risk (general and specific)	7,828
2	Equity risk (general and specific)	490
3	Foreign exchange risk	6,097
4	Commodity risk	7
Options		
5	Simplified approach	-
6	Delta-plus method	466
7	Scenario approach	75
8	Securitisation	-
9	Total	14,963

There is no Market Risk exposure under Internal Model Approach as at 31 December 2019.

19. INTEREST RATE RISK IN THE BANKING BOOK

Qualitative disclosures related to Interest Rate Risk in the Banking Book, including a description of its nature and key assumptions made by the Group, can be found in the Risk Management chapter and Notes to the Financial Statements of the Annual Report.

Based on a 100 bp parallel rise in yield curves on the Group's exposure to major currencies i.e. Singapore Dollar, US Dollar, Hong Kong Dollar and Malaysian Ringgit, net interest income is estimated to increase by S\$681 million, or approximately +10.8% of reported net interest income. The corresponding impact from a 100 bp decrease is an estimated reduction of S\$681 million in net interest income, or approximately -10.8% of reported net interest income.

20. LIQUIDITY COVERAGE RATIO

OCBC Group (the "Group") has been subjected to the Liquidity Coverage Ratio ("LCR") requirements under the Monetary Authority of Singapore ("MAS") Notice 649 effective from 1 Jan 2015. As at 1 January 2019, the Group is required to maintain daily all-currency and Singapore dollar ("SGD") LCR of at least 100% on an ongoing basis.

LCR ensures that a Bank maintains an adequate level of unencumbered high-quality liquid assets ("HQLA") that can be quickly and easily converted into cash to meet any liquidity needs for a 30-calendar day liquidity stress scenario.

The following quarterly disclosures are made pursuant to the MAS Notice 651 "Liquidity Coverage Ratio Disclosure".

For 4Q19, the average SGD and all-currency LCR for the Group were 278% and 163% respectively. Compared to 3Q19, the average SGD LCR decreased by 19 percentage points due to lower net cash inflow from derivative transactions. The average all-currency LCR was higher by 9 percentage points as a result of an increase in HQLA and a decrease in net cash outflows from unsecured wholesale funding.

The Group continues to focus on acquiring stable deposits and on maintaining a mix of HQLA comprising mainly of Level 1 central bank reserves and liquid sovereign bonds. The Asset & Liability Management Desk in Global Treasury manages the day-to-day liquidity needs of the Group, and is subject to liquidity limits and triggers that serve as risk control on the Group's liquidity exposure.

20. Liquidity Coverage Ratio (continued)

Average Group All Currency LCR for 4Q19

The data presented in the quantitative disclosure are simple averages of daily observations over the quarter. For 4Q19, the number of data points in calculating the average figures is 92.

Group - ALL Currency (\$m)		Total Unweighted Value (average)	Total Weighted Value (average)
HIGH-QUALITY LIQUID ASSETS			
1	Total high-quality liquid assets (HQLA)		49,769
CASH OUTFLOWS			
2	Retail deposits and deposits from small business customers, of which:	137,300	11,559
3	Stable deposits	43,411	2,171
4	Less stable deposits	93,889	9,389
5	Unsecured wholesale funding, of which:	99,378	47,213
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	26,146	6,261
7	Non-operational deposits (all counterparties)	67,354	35,075
8	Unsecured debt	5,877	5,877
9	Secured wholesale funding		353
10	Additional requirements, of which:	56,258	33,601
11	Outflows related to derivative exposures and other collateral requirements	30,762	30,682
12	Outflows related to loss of funding on debt products	-	-
13	Credit and liquidity facilities	25,497	2,919
14	Other contractual funding obligations	1,178	1,178
15	Other contingent funding obligations	13,454	404
16	TOTAL CASH OUTFLOWS		94,308
CASH INFLOWS			
17	Secured lending (eg reverse repos)	1,529	514
18	Inflows from fully performing exposures	53,187	32,276
19	Other cash inflows	30,853	30,808
20	TOTAL CASH INFLOWS	85,570	63,598
			TOTAL ADJUSTED VALUE
21	TOTAL HQLA		49,769
22	TOTAL NET CASH OUTFLOWS		30,710
23	LIQUIDITY COVERAGE RATIO (%)		163

20. Liquidity Coverage Ratio (continued)

Average Group SGD LCR for 4Q19

The data presented in the quantitative disclosure are simple averages of daily observations over the quarter. For 4Q19, the number of data points in calculating the average figures is 92.

Group - SGD (\$m)		Total Unweighted Value (average)	Total Weighted Value (average)
HIGH-QUALITY LIQUID ASSETS			
1	Total high-quality liquid assets (HQLA)		20,754
CASH OUTFLOWS			
2	Retail deposits and deposits from small business customers, of which:	72,851	5,478
3	Stable deposits	36,150	1,808
4	Less stable deposits	36,701	3,670
5	Unsecured wholesale funding, of which:	20,358	8,020
6	Operational deposits (all counterparties) and deposits in networks of cooperative banks	7,763	1,860
7	Non-operational deposits (all counterparties)	12,595	6,160
8	Unsecured debt	0	0
9	Secured wholesale funding		-
10	Additional requirements, of which:	23,007	15,547
11	Outflows related to derivative exposures and other collateral requirements	14,802	14,802
12	Outflows related to loss of funding on debt products	-	-
13	Credit and liquidity facilities	8,206	745
14	Other contractual funding obligations	677	677
15	Other contingent funding obligations	2,120	64
16	TOTAL CASH OUTFLOWS		29,785
CASH INFLOWS			
17	Secured lending (eg reverse repos)	694	-
18	Inflows from fully performing exposures	6,912	3,941
19	Other cash inflows	21,731	21,725
20	TOTAL CASH INFLOWS	29,337	25,666
			TOTAL ADJUSTED VALUE
21	TOTAL HQLA		20,754
22	TOTAL NET CASH OUTFLOWS		7,485
23	LIQUIDITY COVERAGE RATIO (%)		278

21. NET STABLE FUNDING RATIO

OCBC Group (the “Group”) has been subjected to the Net Stable Funding Ratio (“NSFR”) requirements under the Monetary Authority of Singapore (“MAS”) Notice 652 effective from 1 Jan 2018. The Group is required to maintain an all-currency NSFR of at least 100% on an ongoing basis.

NSFR ensures that the Group maintains a stable funding profile in relation to the composition of its assets and off-balance sheet activities. It aims to promote resilience over a longer time horizon by funding its activities with more stable sources of funding on an ongoing basis.

The following semi-annual disclosures are made pursuant to the MAS Notice 653 “Net Stable Funding Ratio Disclosure”.

As at 31 December 2019, the all-currency NSFR for the Group was 111%. Compared to 30 September 2019, the all-currency NSFR increased by 1 percentage point, mainly driven by higher available stable funding (“ASF”) from an increase in wholesale deposits.

The Group continues to maintain a stable funding structure to support its asset growth. Funding strategies have been put in place to provide effective diversification and stability in funding sources across tenors, products and geographies. Liquidity limits and triggers serve as risk control on the Group’s funding and liquidity exposure.

21. Net Stable Funding Ratio (continued)

Group All-Currency NSFR as at 31 Dec 2019

ASF Item	Group - ALL Currency (\$m)	Unweighted value by residual maturity				Weighted value
		No Maturity	< 6 months	6 months to <1 yr	≥ 1yr	
1	Capital:	40,011	-	499	2,395	42,906
2	<i>Regulatory capital</i>	40,011	-	499	2,395	42,906
3	<i>Other capital instruments</i>	-	-	-	-	-
4	Retail deposits and deposits from small business customers:	94,502	48,269	1,831	920	133,294
5	<i>Stable deposits</i>	39,026	5,581	24	1	42,400
6	<i>Less stable deposits</i>	55,476	42,689	1,806	919	90,893
7	Wholesale funding:	58,456	117,618	10,570	9,191	68,771
8	<i>Operational deposits</i>	28,015	-	-	-	14,008
9	<i>Other wholesale funding</i>	30,441	117,618	10,570	9,191	54,763
10	Liabilities with matching interdependent assets	-	-	-	-	-
11	Other liabilities:	4,615	-	-	9,826	275
12	<i>NSFR derivative liabilities</i>	-	-	-	6,609	-
13	<i>All other liabilities and equity not included in the above categories</i>	4,615	2,943	-	275	275
14	Total ASF					245,245
RSF Item						
15	Total NSFR high-quality liquid assets (HQLA)					5,774
16	Deposits held at other financial institutions for operational purposes	30	-	-	-	15
17	Performing loans and securities:	12,960	113,617	24,811	163,180	195,540
18	<i>Performing loans to financial institutions secured by Level 1 HQLA</i>	-	318	-	-	32
19	<i>Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions</i>	5,315	24,741	5,454	3,103	10,584
20	<i>Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs, of which:</i>	7,183	76,809	11,440	93,567	127,537
21	<i>With a risk weight of less than or equal to 35% under MAS Notice 637's standardised approach to credit risk</i>	-	-	-	-	-
22	<i>Performing residential mortgages, of which:</i>	-	1,632	1,444	57,477	40,887
23	<i>With a risk weight of less than or equal to 35% under MAS Notice 637's standardised approach to credit risk</i>	-	1,479	1,319	55,962	39,455
24	<i>Securities that are not in default and do not qualify as HQLA, including exchange-traded equities</i>	463	10,116	6,473	9,032	16,500
25	Assets with matching interdependent liabilities	-	-	-	-	-
26	Other assets:	13,563	-	-	21,211	18,807
27	<i>Physical trade commodities, including gold</i>	-	-	-	-	-
28	<i>Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs</i>	-	-	-	414	352
29	<i>NSFR derivative assets</i>	-	-	-	7,795	1,186
30	<i>NSFR derivative liabilities before deduction of variation margin posted</i>	-	-	-	8,143	407
31	<i>All other assets not included in the above categories</i>	13,563	2,199	238	2,421	16,862
32	Off-balance sheet items	-	-	-	197,904	1,273
33	Total RSF					221,410
34	Net Stable Funding Ratio (%)					111

21. Net Stable Funding Ratio (continued)

Group All-Currency NSFR as at 30 Sep 2019

ASF Item	Group - ALL Currency (\$\$m)	Unweighted value by residual maturity				Weighted value
		No Maturity	< 6 months	6 months to <1 yr	≥ 1yr	
1	Capital:	38,863	1,382	499	2,444	41,806
2	Regulatory capital	38,863	-	499	2,444	41,806
3	Other capital instruments	-	1,382	-	-	-
4	Retail deposits and deposits from small business customers:	94,091	50,346	479	1,683	134,723
5	Stable deposits	41,158	11,142	-	-	49,685
6	Less stable deposits	52,933	39,204	479	1,683	85,037
7	Wholesale funding:	53,870	110,629	13,269	8,459	66,711
8	Operational deposits	24,844	-	-	-	12,422
9	Other wholesale funding	29,026	110,629	13,269	8,459	54,288
10	Liabilities with matching interdependent assets	-	-	-	-	-
11	Other liabilities:	5,044	-	-	10,227	262
12	NSFR derivative liabilities	-	-	-	7,843	-
13	All other liabilities and equity not included in the above categories	5,044	2,122	-	262	262
14	Total ASF					243,501
15	Total NSFR high-quality liquid assets (HQLA)					3,893
16	Deposits held at other financial institutions for operational purposes	40	-	-	-	20
17	Performing loans and securities:	13,589	113,567	25,016	163,580	196,819
18	Performing loans to financial institutions secured by Level 1 HQLA	-	186	-	-	19
19	Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	5,731	22,672	5,712	3,383	10,828
20	Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs, of which:	7,506	79,019	11,159	90,153	125,612
21	With a risk weight of less than or equal to 35% under MAS Notice 637's standardised approach to credit risk	-	-	-	-	-
22	Performing residential mortgages, of which:	-	1,673	1,423	57,657	41,024
23	With a risk weight of less than or equal to 35% under MAS Notice 637's standardised approach to credit risk	-	1,541	1,297	56,078	39,549
24	Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	352	10,017	6,722	12,387	19,336
25	Assets with matching interdependent liabilities	-	-	-	-	-
26	Other assets:	13,739	-	-	24,492	19,400
27	Physical trade commodities, including gold	-	-	-	-	-
28	Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs	-	-	-	452	384
29	NSFR derivative assets	-	-	-	9,365	1,522
30	NSFR derivative liabilities before deduction of variation margin posted	-	-	-	9,605	-
31	All other assets not included in the above categories	13,739	2,226	313	2,531	17,493
32	Off-balance sheet items	-	-	-	198,518	1,291
33	Total RSF					221,422
34	Net Stable Funding Ratio (%)					110