LeadingAsia

Maybank

BASEL II PILLAR 3 DISCLOSURE

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PILLAR 3 DISCLOSURE

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Overview

The Pillar 3 Disclosure for the financial year ended 31 December 2018 for Malayan Banking Berhad ("Maybank" or the "Bank") and its subsidiaries ("Maybank Group" or the "Group") is in accordance with Bank Negara Malaysia's ("BNM") Risk-Weighted Capital Adequacy Framework ("RWCAF") – Disclosure Requirements ("Pillar 3") and Capital Adequacy Framework for Islamic Banks ("CAFIB") – Disclosures Requirements ("Pillar 3"), which are the equivalent of that issued by the Basel Committee on Banking Supervision ("BCBS") entitled International Convergence of Capital Measurement and Capital Standards (commonly referred to as Basel II).

The Group adopts the following approaches in determining the capital requirements of Pillar 1 in accordance with BNM's Guidelines on Capital Adequacy Framework (Basel II – Risk-Weighted Assets) and CAFIB (Basel II – Risk-Weighted Assets):

- Credit Risk – Foundation Internal Ratings-Based ("FIRB") Approach and supervisory slotting criteria to calculate credit risk-weighted assets ("RWA") for major non–retail portfolios, and the Advanced Internal Ratings-Based ("AIRB") Approach for major retail portfolios. Other credit portfolios, especially those in the Bank's subsidiaries and some overseas units, are on the Standardised Approach and will migrate to the Internal Ratings-Based ("IRB") approaches progressively.
- Market Risk – Standardised Approach ("SA").
- Operational Risk – Basic Indicator Approach ("BIA").

MEDIUM AND LOCATION OF DISCLOSURE

The Pillar 3 Disclosure will be made available at www.maybank.com.

BASIS OF DISCLOSURE

This Pillar 3 Disclosure is prepared in accordance with BNM's Pillar 3 Guidelines and the Group's internal policy on Pillar 3 Disclosures, and is to be read in conjunction with the Group's and Bank's Financial Statements for the financial year ended 31 December 2018. Whilst this document discloses the Group's assets both in terms of exposures and capital requirements, the information disclosed herein may not be directly comparable with the information in the Financial Statements 2018 published by the Group and the Bank.

These disclosures have been reviewed and verified by an independent internal party and approved by the Risk Management Committee ("RMC"), as delegated by the Board of Directors ("Board") of the Group.

COMPARATIVE INFORMATION

This is the ninth full Pillar 3 Disclosure since the Group adopted the Basel II IRB Approach in July 2010. The corresponding Pillar 3 Disclosure in the preceding reporting period would be as at 31 December 2017.

Scope of Application

The Pillar 3 Disclosure is prepared on a consolidated basis and comprises information of the Group, the Bank and Maybank Islamic Berhad ("Maybank Islamic"), a wholly-owned subsidiary of the Bank which provides Islamic banking financial services in Malaysia.

For regulatory reporting purposes, Maybank establishes two main levels of reporting namely at Maybank Group level, covering Maybank and its subsidiaries excluding the investments in insurance entities and associates; and at Maybank level, covering Maybank.

Information on subsidiaries and associates of the Group is available in the notes to the Financial Statements. The basis of consolidation for financial reporting is disclosed in the notes to the Financial Statements, which differs from that used for regulatory capital reporting purposes.

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Capital Management

Effective capital management is fundamental to the sustainability of the Group. The Group proactively manages its capital to meet the expectations of key stakeholders such as regulators, shareholders, investors, rating agencies and analysts whilst ensuring that the returns on capital commensurate with risks undertaken by respective business units. The effective capital management aims to:

- Maintain adequate capital ratios at levels sufficiently above the regulatory minimum requirements;
- Support the Group's strong credit ratings from local and international rating agencies;
- Deploy capital efficiently to businesses and optimise returns on capital;
- Remain flexible to take advantage of future opportunities; and
- Build and invest in businesses, even in a reasonably stressed environment.

Group Capital Management Framework

The Group formulated the Maybank Group Capital Management Framework ("Framework") to ensure integrated capital management and alignment of capital management policies and procedures across the Group.

The Framework, which is approved by the Board comprises the governance, policies and procedures which set out the requirements for effective management of capital at the Group level, its subsidiaries and overseas branches, including identification, assessment, monitoring, managing and escalation of any capital matters.

The Framework also contains principles for the development and usage of Risk Adjusted Performance Measurement ("RAPM") to measure and manage the return on capital across the Group. The RAPM tool is implemented to promote optimal capital levels for business sectors, subsidiaries and overseas branches, to reduce wastage, minimise cost of capital and optimise returns on capital.

Overall responsibility for the effective management of capital rests with the Board whilst Group EXCO is responsible for ensuring the effectiveness of capital management policies on an ongoing basis and for updating the Framework to reflect revisions and new developments.

Annual Group Capital and Funding Plan

The Annual Group Capital and Funding Plan ("Plan") aims to ensure robust monitoring of the Group's (inclusive of subsidiaries and overseas branches) capital position and adequate levels of capital and optimal capital mix to support business plans and strategic objectives during the financial year.

The Plan is updated on an annual basis and approved by the Board. It is comprehensively drawn up to cover at least a three-year horizon and takes into account, amongst others, the Group's strategic objectives and business plans, regulatory capital requirements, views from key stakeholders, capital benchmarking, development on capital guidelines and regulations both locally and overseas, available supply of capital and capital raising options, performance of business sectors based on RAPM approach, risks under Pillar 2 Internal Capital Adequacy Assessment Process as well as stress test results. Key issues pertaining to the capital position will be identified for discussion at the Board level and appropriate solutions are recommended for implementation.

Internal capital targets ("ICTs") are set for the Group as well as subsidiaries and overseas branches based on their respective risk profile and regulatory requirements at the jurisdictions in which they are based. The ICTs are reviewed annually to ensure adequate capital buffers to support their risk profiles and business growth.

Group Capital Contingency Plan

The Group Capital Contingency Plan is an extension of the Maybank Group Capital Management Framework that is approved by the Board and updated from time to time. The plan provides a comprehensive approach to the management and restoration of capital across the Group in the unlikely event of a capital crisis by:

- Establishing policies, procedures and governance for capital contingency planning;
- Providing early warning signals and establishing monitoring and escalation process;
- Establishing strategies and action plans to ensure that capital is managed promptly; and
- Serving as a reference guide for Maybank Group of companies.

The capital adequacy ratios of the Group including its subsidiaries and overseas branches are monitored actively by Senior Management and the relevant committees on a monthly basis. Appropriate trigger points and early warning indicators are established based on the capital adequacy ratios computed in accordance with BNM guidelines and other foreign regulators (where relevant) in order to facilitate monitoring and escalation, reporting, decision-making and action planning. The trigger points formalise the basis of escalation to the appropriate departments and committees and also provide clear action plans to ensure that capital is restored back to healthy levels in the event of a capital crisis.

Circumstances that could lead to deficiencies in capital position include, amongst others, economic environment, market and financial conditions.

Capital Structure

The Group places strong emphasis on the quality of its capital and, accordingly, holds a significant amount of its capital in the form of common equity which is permanent and has the highest loss absorption capability on a going concern basis.

Capital Management

The common equity capital of the Group comprises of share capital, reserves and retained profits. During the financial year, the Bank has issued about 104.5 million new ordinary shares amounting to about RM919 million pursuant to the Dividend Reinvestment Plan ("DRP").

The DRP scheme was announced by the Bank on 25 March 2010 to allow shareholders to reinvest their cash dividends into new shares in the Bank. Based on the DRPs implemented since its first implementation in 2010, the average reinvestment rates is at about 85%.

In addition to common equity, the Group maintains other types of capital instruments such as Additional Tier 1 and Tier 2 capital instruments in order to optimise its capital mix and lower its cost of capital.

Table 1 and 2 depict a summary of the Additional Tier 1 and Tier 2 capital instruments which the Group has issued, which are qualified in the capital computation in accordance with BNM's Capital Adequacy Framework (Capital Components) and Capital Adequacy Framework for Islamic Banks (Capital Components) issued on 2 February 2018. For further details of these capital instruments, please refer to Notes 34 and 35 of the Financial Statements.

Table 1: Additional Tier 1 Capital Instruments

Description	Issue Date	First Call Date (callable at the option of the Issuer)	Maturity Date	As at 31.12.18 RM'Million
RM3.5 billion 5.30% Basel III-compliant Additional Tier 1 Capital Securities	10 September 2014	10 September 2019	Perpetual	**3,531**

Table 2: Tier 2 Capital Instruments

Description	Issue Date	First Call Date (callable at the option of the Issuer)	Maturity Date	As at 31.12.18 RM'Million
RM2.1 billion 4.25% Subordinated Notes due in 2024 (12 non-call 7)	10 May 2012	10 May 2019	10 May 2024	**2,112**
RM1.6 billion 4.90% Basel III-compliant Subordinated Notes due in 2024 (10 non-call 5)	29 January 2014	29 January 2019	29 January 2024	**1,628**
RM1.5 billion 4.75% Basel III-compliant Subordinated Sukuk Murabahah due in 2024 (10 non-call 5)	7 April 2014	5 April 2019	5 April 2024	**809**
RM2.2 billion 4.90% Basel III-compliant Subordinated Notes due in 2025 (10 non-call 5)	19 October 2015	19 October 2020	17 October 2025	**2,222**
RM1.1 billion 4.90% Basel III-compliant Subordinated Notes due in 2025 (10 non-call 5)	27 October 2015	27 October 2020	27 October 2025	**1,109**
USD500 million 3.905% Basel III-compliant Subordinated Notes due in 2026 (10.5 non-call 5.5)	29 April 2016	29 October 2021	29 October 2026	**2,081**

Minimum Regulatory Capital Requirement

Table 3: Minimum Regulatory Capital Requirement [Applicable from 2018 to 2020]

From 1 January Minimum CAR	2018 %	2019 %	2020 %
CET1 (a)	4.500	4.500	4.500
CCB (b)	1.875	2.500	2.500
CET1 including CCB (a) + (b)	6.375	7.000	7.000
Tier 1 capital ratio	7.875	8.500	8.500
Total capital ratio	9.875	10.500	10.500

In addition to the CCB, BNM had also introduced the Countercyclical Capital Buffer ("CCyB") ranging between 0% – 2.5% of total RWA to be effective from 1 January 2016. The CCyB is intended to protect the banking sector as a whole from build-up of systemic risk during an economic upswing when aggregate credit growth tends to be excessive. The CCyB will be determined as the weighted-average of the prevailing CCyB rates applied in the jurisdictions in which a financial institution has credit exposures. BNM will communicate any decision on the CCyB rate by up to 12 months before the date from which the rate applies.

CAPITAL ADEQUACY RATIO

Table 4 and 5 depict the Capital Adequacy Ratios and Capital Adequacy Structure for the Group, the Bank and Maybank Islamic, respectively.

Table 4: Capital Adequacy Ratios for Maybank Group, Maybank and Maybank Islamic

	As at 31 December 2018			As at 31 December 2017		
Capital Adequacy Ratios	**Group**	**Maybank**	**Maybank Islamic**	**Group**	**Maybank**	**Maybank Islamic**
CET1 Capital Ratio[1]	**15.029%**	**13.757%**	**16.368%**	14.773%	15.853%	14.500%
Tier 1 Capital Ratio	**15.983%**	**14.871%**	**17.984%**	16.459%	17.950%	16.150%
Total Capital Ratio	**19.024%**	**18.266%**	**22.545%**	19.383%	19.313%	20.782%

Table 5: Capital Adequacy Structure for Maybank Group, Maybank and Maybank Islamic

As at 31.12.2018	**Group RM'000**	**Maybank RM'000**	**Maybank Islamic RM'000**
Total Capital	**71,263,950**	**41,018,052**	**13,952,095**
Credit RWA	**315,336,800**	**187,055,005**	**66,463,822**
Credit RWA absorbed by the parent and Investment Account Holders ("IAH")[2]	**–**	**–**	**(13,113,007)**
Market RWA	**17,476,305**	**13,726,342**	**1,152,312**
Operational RWA	**41,792,895**	**23,777,893**	**7,381,566**
Total RWA	**374,606,000**	**224,559,240**	**61,884,693**
As at 31.12.2017			
Total Capital	72,703,296	50,155,417	12,597,883
Credit RWA	320,652,491	225,053,211	69,043,049
Credit RWA absorbed by the parent and Investment Account Holders ("IAH")[2]	–	–	(15,855,390)
Market RWA	14,351,443	11,445,563	939,674
Operational RWA	40,075,835	23,197,842	6,490,748
Total RWA	375,079,769	259,696,616	60,618,081

Notes:
1. Before proposed final dividend for FYE 2018 and FYE 2017.
2. In accordance to BNM's Investment Account policy, credit and market risk-weighted assets funded by investment accounts shall be excluded from the calculation of capital adequacy ratio of the Islamic Financial Institution ("IFI").

The Total Capital Ratio of the Group as at 31 December 2018 stood at 19.024%, which is a decrease from the previous financial year's ratio of 19.383%. At entity level, the Bank's Total Capital Ratio remains strong at 18.266% and Maybank Islamic registered a healthy ratio of 22.545%.

The Group is poised to maintain healthy capital ratios above the minimum regulatory capital requirement under BNM's Capital Adequacy Framework (Capital Components), a testament of the Group's resilience and strength in meeting its obligations. With the continued conservation of capital from the DRP coupled with active capital management across the Group, CET1 capital ratio will be maintained comfortably well ahead of the minimum level of 7% (inclusive of capital conservation buffer) as required by 2019.

Table 6 discloses Capital Adequacy under IRB Approach for the Group, the Bank and Maybank Islamic, respectively.

Table 7 through 9 present the minimum regulatory capital requirement for credit risk under the IRB Approach for the Group, the Bank and Maybank Islamic, respectively. These tables tabulate the total RWA under the various exposure classes under the IRB approach and apply the minimum capital requirement at 8% as set by BNM to ascertain the minimum capital required for each of the portfolio assessed.

Please refer to Note 63 in the Financial Statements for detailed discussion on the Capital Adequacy Ratios.

Table 6: Disclosure on Capital Adequacy under IRB Approach

As at 31.12.2018	Group RM'000	Maybank RM'000	Maybank Islamic RM'000
CET1 Capital			
Paid-up share capital	**46,747,442**	**46,747,442**	**7,197,398**
Retained profits[1]	**19,905,842**	**14,410,042**	**2,970,618**
Other reserves[1]	**2,154,645**	**4,111,140**	**303,622**
Qualifying non-controlling interests	**133,264**	**–**	**–**
Less: Shares-held-in-trust	**–**	**–**	**–**
CET1 capital before regulatory adjustments	**68,941,193**	**65,268,624**	**10,471,638**
Less: Regulatory adjustments applied on CET1 Capital	**(12,640,727)**	**(34,374,944)**	**(342,549)**
Deferred tax assets	**(1,026,818)**	**(345,186)**	**(24,077)**
Goodwill	**(5,547,431)**	**(81,015)**	**–**
Other intangibles	**(1,011,272)**	**(279,850)**	**–**
Gains on financial instruments classified as 'fair value through other comprehensive income'	**(43,006)**	**(32,049)**	**(4,956)**
Regulatory reserve	**(2,127,290)**	**(1,778,997)**	**(313,516)**
Investment in ordinary shares of unconsolidated financial and insurance/takaful entities[3]	**(2,884,910)**	**(31,857,847)**	**–**
Total CET1 capital	**56,300,466**	**30,893,680**	**10,129,089**
Additional Tier 1 Capital			
Capital securities	**3,500,000**	**3,500,000**	**1,000,000**
Qualifying CET1 and additional Tier 1 capital instruments held by third parties	**71,182**	**–**	**–**
Less: Investment in capital instruments of unconsolidated financial and insurance/takaful entities[3]	**–**	**(1,000,000)**	**–**
Total Tier 1 capital	**59,871,648**	**33,393,680**	**11,129,089**
Tier 2 Capital			
Subordinated obligations	**9,066,767**	**9,066,767**	**2,500,000**
Qualifying CET1, additional Tier 1 and Tier 2 capital instruments held by third parties	**405,381**	**–**	**–**
General provisions[4]	**348,148**	**51,305**	**23,310**
Surplus of total eligible provision over total expected loss	**1,572,006**	**988,691**	**299,696**
Less: Investment in capital instruments of unconsolidated financial and insurance/takaful entities[3]	**–**	**(2,482,391)**	**–**
Total Tier 2 capital	**11,392,302**	**7,624,372**	**2,823,006**
Total Capital	**71,263,950**	**41,018,052**	**13,952,095**

Table 6: Disclosure on Capital Adequacy under IRB Approach (cont'd.)

As at 31.12.2017	Group RM'000	Maybank RM'000	Maybank Islamic RM'000
CET1 Capital			
Paid-up share capital	44,250,380	44,250,380	5,481,783
Retained profits[1]	20,451,568	13,582,048	3,351,547
Other reserves[1]	3,619,581	4,612,799	478,079
Qualifying non-controlling interests	137,081	–	–
Less: Shares-held-in-trust	(183,438)	(183,438)	–
CET1 capital before regulatory adjustments	68,275,172	62,261,789	9,311,409
Less: Regulatory adjustments applied on CET1 Capital	(12,864,771)	(21,091,369)	(521,603)
Deferred tax assets	(802,593)	(315,013)	(12,903)
Goodwill	(5,756,367)	(81,015)	–
Other intangibles	(855,056)	(487,015)	–
Cumulative gains of financial instruments classified as 'AFS' or 'designated at fair value (FVO)'	(17,922)	–	–
Regulatory reserve attributable to loans/financing	(2,747,285)	(2,233,563)	(508,700)
Investment in ordinary shares of unconsolidated financial and insurance/takaful entities[3]	(2,685,548)	(17,974,763)	–
Total CET1 capital	55,410,401	41,170,420	8,789,806
Additional Tier 1 Capital			
Capital securities	6,244,010	6,244,010	1,000,000
Qualifying CET1 and additional Tier 1 capital instruments held by third parties	80,195	–	–
Less: Investment in capital instruments of unconsolidated financial and insurance/takaful entities[3]	–	(800,000)	–
Total Tier 1 capital	61,734,606	46,614,430	9,789,806
Tier 2 Capital			
Subordinated obligations	9,271,613	9,271,613	2,500,000
Qualifying CET1, additional Tier 1 and Tier 2 capital instruments held by third parties	488,385	–	–
Collective allowance[2]	278,397	136,641	20,923
Surplus of total eligible provision over total expected loss	1,601,682	1,171,604	287,154
Less: Investment in capital instruments of unconsolidated financial and insurance/takaful entities[3]	(671,387)	(7,038,871)	–
Total Tier 2 capital	10,968,690	3,540,987	2,808,077
Total Capital	72,703,296	50,155,417	12,597,883

1 For the Group, the amount excludes retained profits and other reserves from insurance and takaful business. For the Bank, the amount includes retained profits and other reserves of Maybank International (L) Ltd.

2 Excludes collective allowance for impaired loans, advances and financing restricted from Tier 2 Capital of the Group and of the Bank.

3 For the Bank, the regulatory adjustment includes cost of investment in subsidiaries and associates, except for: (i) Myfin Berhad of RM18,994,000 as its business, assets and liabilities have been transferred to the Bank; (ii) Maybank International (L) Ltd. of RM10,289,000 and (iii) Maybank Agro Fund Sdn. Bhd. of RM10,845,000, as its assets are included in the Bank's RWA. For the Group, the regulatory adjustment includes carrying amount of associates and investment in insurance and takaful entities.

4 Refers to loss allowance measured at an amount equal to 12-month and lifetime expected credit losses and regulatory reserve, to the extent they are ascribed to non-credit impaired exposures, determined under Standardised Approach for credit risk.

Table 7: Disclosure on Capital Adequacy under IRB Approach for Maybank Group

Item	Exposure Class As at 31.12.2018	Gross Exposures/ EAD before CRM RM'000	Net Exposures/ EAD after CRM RM'000	Risk-Weighted Assets RM'000	Minimum Capital Requirement at 8% RM'000
1.0	**Credit Risk**				
1.1	**Exempted Exposures (Standardised Approach)**				
	On-Balance Sheet Exposures				
	Sovereigns/Central Banks	145,035,729	145,035,729	5,752,955	460,236
	Public Sector Entities	11,950,673	11,950,673	2,131,052	170,484
	Banks, Development Financial Institutions & MDBs	1,586,755	1,586,755	531,852	42,548
	Insurance Cos, Securities Firms & Fund Managers	245,923	245,923	245,923	19,674
	Corporates	19,128,985	19,064,786	15,706,396	1,256,512
	Regulatory Retail	32,342,910	32,122,351	21,333,194	1,706,656
	Residential Mortgages	1,653,247	1,653,247	624,868	49,989
	Higher Risk Assets	472,335	472,335	708,502	56,680
	Other Assets	10,199,326	10,199,326	3,458,714	276,697
	Securitisation Exposures	61,048	61,048	12,210	977
	Equity Exposures	248,303	248,303	254,115	20,329
	Defaulted Exposures	615,649	615,639	835,129	66,810
	Total On-Balance Sheet Exposures	223,540,883	223,256,115	51,594,910	4,127,592
	Off-Balance Sheet Exposures				
	OTC Derivatives	512,982	512,982	503,242	40,259
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	1,959,374	1,954,186	1,237,366	98,989
	Defaulted Exposures	1,033	1,033	361	30
	Total Off-Balance Sheet Exposures	2,473,389	2,468,201	1,740,969	139,278
	Total On and Off-Balance Sheet Exposures	226,014,272	225,724,316	53,335,879	4,266,870
1.2	**Exposures under the IRB Approach**				
	On-Balance Sheet Exposures				
	Public Sector Entities	9,920,995	9,920,995	68,729	5,498
	Banks, Development Financial Institutions & MDBs	46,546,755	46,546,755	11,826,221	946,098
	Corporate Exposures	234,378,727	234,378,727	159,288,299	12,743,064
	a) Corporates (excluding Specialised Lending and firm-size adjustment)	184,046,678	184,046,678	122,586,062	9,806,885
	b) Corporates (with firm-size adjustment)	50,332,049	50,332,049	36,702,237	2,936,179
	Retail Exposures	208,926,673	208,926,673	42,074,393	3,365,952
	a) Residential Mortgages	81,390,409	81,390,409	13,482,663	1,078,613
	b) Qualifying Revolving Retail Exposures	8,028,116	8,028,116	3,631,799	290,544
	c) Hire Purchase Exposures	48,428,722	48,428,722	10,837,807	867,025
	d) Other Retail Exposures	71,079,426	71,079,426	14,122,124	1,129,770
	Defaulted Exposures	11,029,133	11,029,133	1,893,503	151,480
	Total On-Balance Sheet Exposures	510,802,283	510,802,283	215,151,145	17,212,092
	Off-Balance Sheet Exposures				
	OTC Derivatives	16,949,642	16,949,642	5,473,810	437,905
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	65,213,496	65,213,496	26,362,879	2,109,030
	Defaulted Exposures	792,991	792,991	182,846	14,629
	Total Off-Balance Sheet Exposures	82,956,129	82,956,129	32,019,535	2,561,564
	Total On and Off-Balance Sheet Exposures	593,758,412	593,758,412	247,170,680	19,773,656
	Total IRB Approach after Scaling Factor of 1.06			262,000,921	20,960,075
	Total (Exposures under Standardised Approach & IRB Approach)	819,772,684	819,482,728	315,336,800	25,226,945
2.0	**Market Risk**				
	Interest Rate Risk			6,402,056	512,164
	Foreign Currency Risk			6,423,477	513,878
	Equity Risk			809,008	64,721
	Commodity Risk			28	2
	Option Risk			3,841,736	307,339
3.0	**Operational Risk**			41,792,895	3,343,432
4.0	**Total RWA and Capital Requirements**			374,606,000	29,968,481

Table 7: Disclosure on Capital Adequacy under IRB Approach for Maybank Group (cont'd.)

Item	Exposure Class As at 31.12.2017	Gross Exposures/ EAD before CRM RM'000	Net Exposures/ EAD after CRM RM'000	Risk-Weighted Assets RM'000	Minimum Capital Requirement at 8% RM'000
1.0	**Credit Risk**				
1.1	**Exempted Exposures (Standardised Approach)**				
	On-Balance Sheet Exposures				
	Sovereigns/Central Banks	122,775,998	122,775,998	4,155,310	332,425
	Public Sector Entities	22,840,791	22,840,791	3,096,301	247,704
	Banks, Development Financial Institutions & MDBs	3,269,679	3,269,679	861,384	68,911
	Insurance Cos, Securities Firms & Fund Managers	393,327	393,327	393,327	31,466
	Corporates	17,969,903	17,874,797	14,251,607	1,140,129
	Regulatory Retail	31,342,925	31,014,923	20,370,188	1,629,615
	Residential Mortgages	3,826,609	3,826,609	1,497,368	119,789
	Higher Risk Assets	400,619	400,619	600,929	48,074
	Other Assets	12,685,588	12,685,588	5,531,355	442,508
	Securitisation Exposures	61,467	61,467	12,293	983
	Equity Exposures	490,756	490,756	493,168	39,453
	Defaulted Exposures	497,353	497,344	676,462	54,117
	Total On-Balance Sheet Exposures	216,555,015	216,131,898	51,939,692	4,155,174
	Off-Balance Sheet Exposures				
	OTC Derivatives	537,335	537,335	325,049	26,004
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	2,044,951	2,023,850	1,429,528	114,362
	Defaulted Exposures	7,599	7,599	11,194	896
	Total Off-Balance Sheet Exposures	2,589,885	2,568,784	1,765,771	141,262
	Total On and Off-Balance Sheet Exposures	219,144,900	218,700,682	53,705,463	4,296,436
1.2	**Exposures under the IRB Approach**				
	On-Balance Sheet Exposures				
	Public Sector Entities	–	–	–	–
	Banks, Development Financial Institutions & MDBs	53,881,944	53,881,944	16,931,736	1,354,539
	Corporate Exposures	235,961,877	235,961,877	162,576,828	13,006,146
	a) Corporates (excluding Specialised Lending and firm-size adjustment)	191,813,872	191,813,872	129,301,560	10,344,125
	b) Corporates (with firm-size adjustment)	44,148,005	44,148,005	33,275,268	2,662,021
	Retail Exposures	191,152,691	191,152,691	40,669,216	3,253,538
	a) Residential Mortgages	75,237,737	75,237,737	13,895,446	1,111,636
	b) Qualifying Revolving Retail Exposures	7,349,137	7,349,137	3,394,285	271,543
	c) Hire Purchase Exposures	42,012,215	42,012,215	9,202,952	736,236
	d) Other Retail Exposures	66,553,602	66,553,602	14,176,533	1,134,123
	Defaulted Exposures	9,334,882	9,334,882	1,845,672	147,654
	Total On-Balance Sheet Exposures	490,331,394	490,331,394	222,023,452	17,761,877
	Off-Balance Sheet Exposures				
	OTC Derivatives	6,439,476	6,439,476	2,766,645	221,332
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	55,701,969	55,701,968	26,985,502	2,158,840
	Defaulted Exposures	533,456	533,456	61,220	4,898
	Total Off-Balance Sheet Exposures	62,674,901	62,674,900	29,813,367	2,385,070
	Total On and Off-Balance Sheet Exposures	553,006,295	553,006,294	251,836,819	20,146,947
	Total IRB Approach after Scaling Factor of 1.06			266,947,028	21,355,764
	Total (Exposures under Standardised Approach & IRB Approach)	772,151,195	771,706,976	320,652,491	25,652,200
2.0	**Market Risk**				
	Interest Rate Risk			7,013,055	561,044
	Foreign Currency Risk			4,582,449	366,596
	Equity Risk			1,835,837	146,867
	Commodity Risk			20	2
	Option Risk			920,082	73,607
3.0	**Operational Risk**			40,075,835	3,206,067
4.0	**Total RWA and Capital Requirements**			375,079,769	30,006,383

Total RWA for the Group, the Bank and Maybank Islamic reduced in 2018 predominantly due to a reduction in CRWA. Apart from foreign currency movements, the key factor that contributed to the reduction in CRWA is enhancements to key risk parameters used for CRWA.

In 2018, the Group and the Bank recorded higher MRWA mainly due to increase in foreign currency risk and option risk, while Maybank Islamic reported higher MRWA due to an increase in foreign exchange risk.

Table 8: Disclosure on Capital Adequacy under IRB Approach for Maybank

Item	Exposure Class As at 31.12.2018	Gross Exposures/ EAD before CRM RM'000	Net Exposures/ EAD after CRM RM'000	Risk-Weighted Assets RM'000	Minimum Capital Requirement at 8% RM'000
1.0	**Credit Risk**				
1.1	**Exempted Exposures (Standardised Approach)**				
	On-Balance Sheet Exposures				
	Sovereigns/Central Banks	**83,595,999**	**83,595,999**	**2,442,250**	**195,380**
	Public Sector Entities	**11,172,661**	**11,172,661**	**1,870,549**	**149,644**
	Banks, Development Financial Institutions & MDBs	**403,626**	**403,626**	**–**	**–**
	Insurance Cos, Securities Firms & Fund Managers	**55,094**	**55,094**	**55,094**	**4,407**
	Corporates	**12,641,356**	**12,640,114**	**11,317,388**	**905,391**
	Regulatory Retail	**5,255,010**	**5,244,985**	**3,183,150**	**254,652**
	Residential Mortgages	**574,955**	**574,955**	**208,808**	**16,705**
	Higher Risk Assets	**173,744**	**173,744**	**260,616**	**20,849**
	Other Assets	**6,942,048**	**6,942,047**	**2,107,356**	**168,588**
	Securitisation Exposures	**61,048**	**61,048**	**12,210**	**977**
	Equity Exposures	**142,110**	**142,110**	**147,533**	**11,803**
	Defaulted Exposures	**120,700**	**120,700**	**140,772**	**11,262**
	Total On-Balance Sheet Exposures	**121,138,351**	**121,127,083**	**21,745,726**	**1,739,658**
	Off-Balance Sheet Exposures				
	OTC Derivatives	**310,700**	**310,700**	**29,081**	**2,327**
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	**926,894**	**921,751**	**498,247**	**39,859**
	Defaulted Exposures	**77**	**77**	**94**	**8**
	Total Off-Balance Sheet Exposures	**1,237,671**	**1,232,528**	**527,422**	**42,194**
	Total On and Off-Balance Sheet Exposures	**122,376,022**	**122,359,611**	**22,273,148**	**1,781,852**
1.2	**Exposures under the IRB Approach**				
	On-Balance Sheet Exposures				
	Public Sector Entities	**2,316,725**	**2,316,725**	**57,800**	**4,624**
	Banks, Development Financial Institutions & MDBs	**50,897,366**	**50,897,366**	**12,424,212**	**993,937**
	Corporate Exposures	**165,282,637**	**165,282,637**	**108,417,042**	**8,673,364**
	a) Corporates (excluding Specialised Lending and firm-size adjustment)	**135,656,849**	**135,656,849**	**85,491,283**	**6,839,303**
	b) Corporates (with firm-size adjustment)	**29,625,788**	**29,625,788**	**22,925,759**	**1,834,061**
	Retail Exposures	**66,494,849**	**66,494,849**	**14,679,530**	**1,174,362**
	a) Residential Mortgages	**27,057,558**	**27,057,558**	**5,247,317**	**419,785**
	b) Qualifying Revolving Retail Exposures	**4,970,888**	**4,970,888**	**1,653,353**	**132,268**
	c) Hire Purchase Exposures	**9,708,304**	**9,708,304**	**2,196,282**	**175,703**
	d) Other Retail Exposures	**24,758,099**	**24,758,099**	**5,582,578**	**446,606**
	Defaulted Exposures	**5,796,839**	**5,796,839**	**–**	**–**
	Total On-Balance Sheet Exposures	**290,788,416**	**290,788,416**	**135,578,584**	**10,846,287**
	Off-Balance Sheet Exposures				
	OTC Derivatives	**8,345,704**	**8,345,704**	**2,354,550**	**188,364**
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	**45,115,929**	**45,115,929**	**17,521,448**	**1,401,716**
	Defaulted Exposures	**330,041**	**330,041**	**–**	**–**
	Total Off-Balance Sheet Exposures	**53,791,674**	**53,791,674**	**19,875,998**	**1,590,080**
	Total On and Off-Balance Sheet Exposures	**344,580,090**	**344,580,090**	**155,454,582**	**12,436,367**
	Total IRB Approach after Scaling Factor of 1.06			**164,781,857**	**13,182,549**
	Total (Exposures under Standardised Approach & IRB Approach)	**466,956,112**	**466,939,701**	**187,055,005**	**14,964,401**
2.0	**Market Risk**				
	Interest Rate Risk			**5,764,188**	**461,135**
	Foreign Currency Risk			**4,485,630**	**358,850**
	Option Risk			**3,476,524**	**278,122**
3.0	**Operational Risk**			**23,777,893**	**1,902,231**
4.0	**Total RWA and Capital Requirements**			**224,559,240**	**17,964,739**

Table 8: Disclosure on Capital Adequacy under IRB Approach for Maybank (cont'd.)

Item	Exposure Class As at 31.12.2017	Gross Exposures/ EAD before CRM RM'000	Net Exposures/ EAD after CRM RM'000	Risk-Weighted Assets RM'000	Minimum Capital Requirement at 8% RM'000
1.0	**Credit Risk**				
1.1	**Exempted Exposures (Standardised Approach)**				
	On-Balance Sheet Exposures				
	Sovereigns/Central Banks	83,932,589	83,932,589	1,833,785	146,703
	Public Sector Entities	13,194,608	13,194,608	2,964,483	237,159
	Banks, Development Financial Institutions & MDBs	–	–	–	–
	Insurance Cos, Securities Firms & Fund Managers	–	–	–	–
	Corporates	11,201,506	11,192,669	9,072,526	725,802
	Regulatory Retail	13,934,026	13,849,757	9,905,057	792,405
	Residential Mortgages	437,944	437,944	158,283	12,663
	Higher Risk Assets	128,604	128,604	192,906	15,432
	Other Assets	9,775,160	9,775,160	3,778,290	302,263
	Securitisation Exposures	61,467	61,467	12,293	983
	Equity Exposures	323,725	323,725	325,748	26,060
	Defaulted Exposures	131,004	131,004	157,117	12,569
	Total On-Balance Sheet Exposures	133,120,633	133,027,527	28,400,488	2,272,039
	Off-Balance-Sheet Exposures				
	OTC Derivatives	451,625	451,625	288,182	23,055
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	1,386,154	1,376,822	1,086,261	86,901
	Defaulted Exposures	7,470	7,470	11,003	880
	Total Off-Balance Sheet Exposures	1,845,249	1,835,917	1,385,446	110,836
	Total On and Off-Balance Sheet Exposures	134,965,882	134,863,444	29,785,934	2,382,875
1.2	**Exposures under the IRB Approach**				
	On-Balance Sheet Exposures				
	Public Sector Entities	–	–	–	–
	Banks, Development Financial Institutions & MDBs	63,692,418	63,692,418	19,180,849	1,534,468
	Corporate Exposures	183,807,840	183,807,840	120,725,911	9,658,073
	a) Corporates (excluding Specialised Lending and firm-size adjustment)	155,058,924	155,058,924	98,654,601	7,892,368
	b) Corporates (with firm-size adjustment)	28,748,916	28,748,916	22,071,310	1,765,705
	Retail Exposures	107,574,829	107,574,829	20,139,933	1,611,195
	a) Residential Mortgages	46,991,971	46,991,971	7,280,546	582,444
	b) Qualifying Revolving Retail Exposures	5,737,571	5,737,571	2,066,698	165,336
	c) Hire Purchase Exposures	15,641,790	15,641,790	3,099,897	247,992
	d) Other Retail Exposures	39,203,497	39,203,497	7,692,792	615,423
	Defaulted Exposures	5,684,672	5,684,671	726,609	58,129
	Total On-Balance Sheet Exposures	360,759,759	360,759,758	160,773,302	12,861,865
	Off-Balance Sheet Exposures				
	OTC Derivatives	4,315,808	4,315,808	2,215,119	177,210
	Off balance sheet exposures other than OTC derivatives or credit derivatives	46,936,830	46,936,830	21,217,678	1,697,414
	Defaulted Exposures	58,540	58,540	8,313	665
	Total Off-Balance Sheet Exposures	51,311,178	51,311,178	23,441,110	1,875,289
	Total On and Off-Balance Sheet Exposures	412,070,937	412,070,936	184,214,412	14,737,154
	Total IRB Approach after Scaling Factor of 1.06			195,267,277	15,621,382
	Total (Exposures under Standardised Approach & IRB Approach)	547,036,819	546,934,380	225,053,211	18,004,257
2.0	**Market Risk**				
	Interest Rate Risk			6,396,084	511,687
	Foreign Currency Risk			4,172,484	333,799
	Option Risk			876,995	70,160
3.0	**Operational Risk**			23,197,842	1,855,827
4.0	**Total RWA and Capital Requirements**			259,696,616	20,775,730

Table 9: Disclosure on Capital Adequacy under IRB Approach for Maybank Islamic

Item	Exposure Class As at 31.12.2018	Gross Exposures/ EAD before CRM RM'000	Net Exposures/ EAD after CRM RM'000	Risk-Weighted Assets RM'000	Risk-Weighted Assets Absorbed by PSIA RM'000	Total Risk-Weighted Assets after effects of PSIA RM'000	Minimum Capital Requirement at 8% RM'000
1.0	**Credit Risk**						
1.1	**Exempted Exposures (Standardised Approach)**						
	On-Balance Sheet Exposures						
	Sovereigns/Central Banks	35,589,622	35,589,622	8,464	–	8,464	677
	Public Sector Entities	6,650,512	6,650,512	1,457,314	(1,196,810)	260,504	20,840
	Banks, Development Financial Institutions & MDBs	1	1	–	–	–	–
	Insurance Cos, Securities Firms & Fund Managers	4,235	4,235	4,235	–	4,235	339
	Corporates	1,496,300	1,496,300	1,243,329	(184,218)	1,059,111	84,729
	Regulatory Retail	3,956,709	3,956,709	2,608,559	(864,968)	1,743,591	139,487
	Residential Mortgages	548,658	548,658	223,138	–	223,138	17,851
	Higher Risk Assets	1,286	1,286	1,929	–	1,929	154
	Other Assets	486,584	486,584	57,224	–	57,224	4,578
	Defaulted Exposures	19,370	19,370	18,438	–	18,438	1,475
	Total On-Balance Sheet Exposures	48,753,277	48,753,277	5,622,630	(2,245,996)	3,376,634	270,130
	Off-Balance Sheet Exposures						
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	66,424	66,424	24,909	–	24,909	1,993
	Total Off-Balance Sheet Exposures	66,424	66,424	24,909	–	24,909	1,993
	Total On and Off-Balance Sheet Exposures	48,819,701	48,819,701	5,647,539	(2,245,996)	3,401,543	272,123
1.2	**Exposures under the IRB Approach**						
	On-Balance Sheet Exposures						
	Public Sector Entities	7,604,270	7,604,270	10,929	–	10,929	874
	Banks, Development Financial Institutions & MDBs	5,862,475	5,862,475	703,304	–	703,304	56,264
	Corporate Exposures	44,551,826	44,551,826	24,655,450	(6,312,453)	18,342,997	1,467,440
	a) Corporates (excluding Specialised Lending and firm-size adjustment)	31,792,673	31,792,673	17,100,768	(6,312,453)	10,788,315	863,065
	b) Corporates (with firm-size adjustment)	12,759,153	12,759,153	7,554,682	–	7,554,682	604,375
	Retail Exposures	112,626,846	112,626,846	23,667,986	(3,939,445)	19,728,541	1,578,284
	a) Residential Mortgages	32,254,603	32,254,603	6,338,072	(1,236,623)	5,101,449	408,116
	b) Qualifying Revolving Retail Exposures	1,140,868	1,140,868	389,560	–	389,560	31,165
	c) Hire Purchase Exposures	31,419,617	31,419,617	7,392,306	(544,021)	6,848,285	547,863
	d) Other Retail Exposures	47,811,758	47,811,758	9,548,048	(2,158,801)	7,389,247	591,140
	Defaulted Exposures	1,998,820	1,998,820	660,195	–	660,195	52,816
	Total On-Balance Sheet Exposures	172,644,237	172,644,237	49,697,864	(10,251,898)	39,445,966	3,155,678
	Off-Balance Sheet Exposures						
	OTC Derivatives	7,644,160	7,644,160	2,898,296	–	2,898,296	231,864
	Off-balance sheet exposures other than OTC derivatives or credit derivatives	8,257,157	8,257,157	4,774,256	–	4,774,256	381,940
	Defaulted Exposures	9,330	9,330	3,436	–	3,436	275
	Total Off-Balance Sheet Exposures	15,910,647	15,910,647	7,675,988	–	7,675,988	614,079
	Total On and Off-Balance Sheet Exposures	188,554,884	188,554,884	57,373,852	(10,251,898)	47,121,954	3,769,757
	Total IRB Approach after Scaling Factor of 1.06			60,816,283	(10,867,011)	49,949,272	3,995,942
	Total (Exposures under Standardised Approach & IRB Approach)	237,374,585	237,374,585	66,463,822	(13,113,007)	53,350,815	4,268,065
2.0	**Market Risk**						
	Bench Mark Rate Risk			390,953	–	390,953	31,276
	Foreign Exchange Risk			761,359	–	761,359	60,909
3.0	**Operational Risk**			7,381,566	–	7,381,566	590,525
4.0	**Total RWA and Capital Requirements**			74,997,700	(13,113,007)	61,884,693	4,950,775

Table 9: Disclosure on Capital Adequacy under IRB Approach for Maybank Islamic (cont'd.)

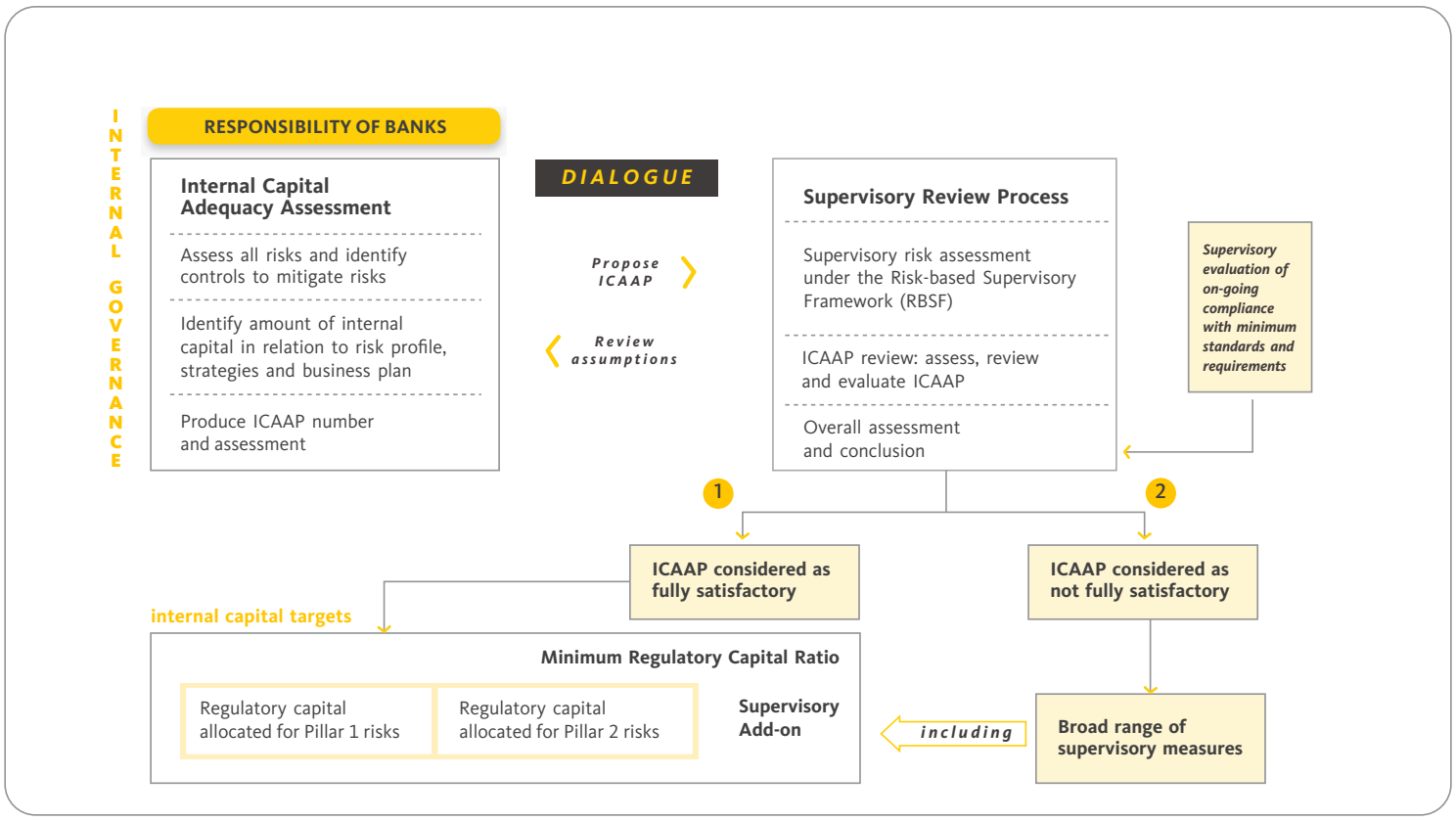
Item	Exposure Class As at 31.12.2017	Gross Exposures/ EAD before CRM RM'000	Net Exposures/ EAD after CRM RM'000	Risk-Weighted Assets RM'000	Risk-Weighted Assets Absorbed by PSIA RM'000	Total Risk-Weighted Assets after effects of PSIA RM'000	Minimum Capital Requirement at 8% RM'000
1.0	**Credit Risk**						
1.1	**Exempted Exposures (Standardised Approach)**						
	On-Balance Sheet Exposures						
	Sovereigns/Central Banks	27,310,794	27,310,794	8,283	–	8,283	663
	Public Sector Entities	14,945,783	14,945,783	2,341,818	(2,210,000)	131,818	10,545
	Banks, Development Financial Institutions & MDBs	1	1	–	–	–	–
	Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–
	Corporates	2,608,048	2,608,048	2,366,698	(355,180)	2,011,518	160,921
	Regulatory Retail	3,794,110	3,794,110	2,581,247	(902,317)	1,678,930	134,314
	Residential Mortgages	2,897,358	2,897,358	1,160,777	–	1,160,777	92,862
	Higher Risk Assets	36	36	54	–	54	4
	Other Assets	525,325	525,325	278,323	–	278,323	22,266
	Defaulted Exposures	17,028	17,028	21,517	–	21,517	1,721
	Total On-Balance Sheet Exposures	52,098,483	52,098,483	8,758,717	(3,467,497)	5,291,220	423,296
	Off-Balance Sheet Exposures						
	OTC Derivatives	61,054	61,054	12,211	–	12,211	977
	Off- balance sheet exposures other than OTC derivatives or credit derivatives	169,430	169,430	25,253	–	25,253	2,020
	Total Off-Balance Sheet Exposures	230,484	230,484	37,464	–	37,464	2,997
	Total On and Off-Balance Sheet Exposures	52,328,967	52,328,967	8,796,181	(3,467,497)	5,328,684	426,293
1.2	**Exposures under the IRB Approach**						
	On-Balance Sheet Exposures						
	Public Sector Entities	–	–	–	–	–	–
	Banks, Development Financial Institutions & MDBs	7,833,475	7,833,475	1,050,330	–	1,050,330	84,026
	Corporate Exposures	45,230,111	45,230,111	27,885,352	(7,017,253)	20,868,099	1,669,448
	a) Corporates (excluding Specialised Lending and firm-size adjustment)	29,831,022	29,831,022	16,681,395	(7,017,253)	9,664,142	773,131
	b) Corporates (with firm-size adjustment)	15,399,089	15,399,089	11,203,957	–	11,203,957	896,317
	Retail Exposures	100,100,113	100,100,113	22,970,647	(4,669,439)	18,301,208	1,464,097
	a) Residential Mortgages	27,570,620	27,570,620	6,604,798	(898,160)	5,706,638	456,531
	b) Qualifying Revolving Retail Exposures	948,984	948,984	339,323	–	339,323	27,146
	c) Hire Purchase Exposures	30,442,810	30,442,810	7,353,467	(1,581,960)	5,771,507	461,721
	d) Other Retail Exposures	41,137,699	41,137,699	8,673,059	(2,189,319)	6,483,740	518,699
	Defaulted Exposures	1,570,340	1,570,340	514,907	–	514,907	41,193
	Total On-Balance Sheet Exposures	154,734,039	154,734,039	52,421,236	(11,686,692)	40,734,544	3,258,764
	Off-Balance Sheet Exposures						
	OTC Derivatives	1,818,180	1,818,180	417,035	–	417,035	33,363
	Off- balance sheet exposures other than OTC derivatives or credit derivatives	7,045,847	7,045,847	3,995,660	–	3,995,660	319,653
	Defaulted Exposures	4,730	4,730	2,736	–	2,736	219
	Total Off-Balance Sheet Exposures	8,868,757	8,868,757	4,415,431	–	4,415,431	353,235
	Total On and Off-Balance Sheet Exposures	163,602,796	163,602,796	56,836,667	(11,686,692)	45,149,975	3,611,999
	Total IRB Approach after Scaling Factor of 1.06			60,246,868	(12,387,893)	47,858,975	3,828,719
	Total (Exposures under Standardised Approach & IRB Approach)	215,931,763	215,931,763	69,043,049	(15,855,390)	53,187,659	4,255,012
2.0	**Market Risk**						
	Bench Mark Rate Risk			332,317	–	332,317	26,585
	Foreign Exchange Risk			607,357	–	607,357	48,589
3.0	**Operational Risk**			6,490,748	–	6,490,748	519,260
4.0	**Total RWA and Capital Requirements**			76,473,471	(15,855,390)	60,618,081	4,849,446

INTERNAL CAPITAL ADEQUACY ASSESSMENT PROCESS ("ICAAP")

The Group's overall capital adequacy in relation to its risk profile is assessed through a process articulated in the Maybank Group ICAAP Policy ("ICAAP Policy"). The ICAAP Policy is designed to ensure that adequate levels of capital, including capital buffers, are held to support the Group's current and projected demand for capital under existing and stressed conditions. Regular ICAAP reports are submitted to the Group Executive Risk Committee ("ERC") and RMC for comprehensive review of all material risks faced by the Group and assessment of the adequacy of capital to support them. The ICAAP closely integrates the risk and capital planning and management processes.

Since March 2013, the Group has prepared a Board-approved ICAAP document to fulfil the requirements under the BNM Pillar 2 guideline, which came into effect on 31 March 2013. The document included an overview of ICAAP, current and projected financial and capital position, ICAAP governance, risk assessment models and processes, risk appetite and capital management, stress testing and capital planning and the use of ICAAP. Annually, the Group submits an update of the material changes made to the document to BNM.

Diagram 1: ICAAP and Supervisory Review Process



Supplementing the ICAAP reports is the Group Capital and Funding Plan, which is updated on an annual basis, where the internal capital targets are set and reviewed, among others are as part of a sound capital management.

Comprehensive Risk Assessment under ICAAP Policy

Under the Group's ICAAP methodology, the following risk types are identified and measured:

- Risks captured under Pillar 1 (credit risk, market risk and operational risk);
- Risks not fully captured under Pillar 1 (e.g. model risk);
- Risks not specifically addressed under Pillar 1 (e.g. interest rate risk/rate of return risk (both banking and trading book), liquidity risk, business and strategic risk, reputational risk, credit concentration risk, IT risk, cyber risk, regulatory risk, country risk, compliance risk, capital risk, profitability risk, Shariah non-compliance risk, information risk, conduct risk, workforce risk and data quality risk amongst others); and
- External factors, including changes in economic environment, regulations and accounting rules.

A key process emplaced within the Group provides for the identification of material risks that may arise through the introduction of new products and services. Material risks are defined as "risks which would materially impact the financial performance (profitability), capital adequacy, asset quality and/or reputation of the Group should the risk occur".

In the ICAAP Policy, the Material Risk Assessment Process ("MRAP") is designed to identify key risks from the Group's Risk Universe. Annually, a group-wide risk landscape survey is carried out as part of a robust risk management approach to identify and prioritise the key risks based on potential impact of the risks on earnings and capital facing the Group. The survey results provide a synthesis of perceptions of current and future market outlook, based on perspectives of the key stakeholders across retail, commercial, investment banking and insurance operations across the Group's major entities. In addition, the outcomes of the survey assist in identifying the major risk scenarios over the near term time horizon.

Risks deemed "material" are reported to the Group ERC and RMC via the ICAAP report. For each material risk identified, the Group will ensure appropriate risk mitigation is in place to address these key risks, which include regular risk monitoring through Enterprise Risk Dashboard reporting, stress testing, risk mitigation, capital planning and crisis management strategies.

Assessment of Pillar 1 and Pillar 2 Risks

In line with industry best practices, the Group quantifies its risks using methodologies that have been reasonably tested and determined to be fit-for-purpose.

Where risks may not be easily quantified due to the lack of commonly accepted risk measurement techniques, expert judgement is used to determine the size and materiality of risk. The Group's ICAAP would then focus on the qualitative controls in managing such material non-quantifiable risks. These qualitative measures include the following:

- Adequate governance process;
- Adequate systems, procedures and internal controls;
- Effective risk mitigation strategies; and
- Regular monitoring and reporting.

Regular and Robust Stress Testing

The Group's stress testing programme is embedded within the risk and capital management process of the Group and is a key function of capital and business planning processes. The programme serves as a forward-looking risk and capital management tool to understand the risk profile under extreme but plausible conditions. Such conditions may arise mainly from economic, political and environmental factors.

Under Maybank Group Stress Testing ("GST") Policy, the potential unfavourable effects of stress scenarios on the Group's profitability, asset quality, RWA, capital adequacy and ability to comply with the risk appetites set, are considered.

Specifically, the stress test programme is designed to:

- Highlight the dynamics of stress events and their potential implication on the Group's trading and banking book exposures, liquidity positions and likely reputational impacts;
- Proactively identify key strategies to mitigate the effects of stress events;
- Produce stress results as inputs into the Group Capital and Funding Plan in determining capital adequacy and capital targets;
- Produce scenario analysis for the Group's recovery planning to evaluate overall recovery capacity, identify preferred recovery strategies and ultimately link to risk appetite setting; and
- Provide insights on risk return profile by entity and by line of business under stress.

There are three types of stress tests conducted across the Group:

- Group stress tests – Using a common scenario approved by RMC of which the results are submitted to BNM. It also includes periodic industry-wide stress tests organised by BNM where the scenarios are specified by the Central Bank.
- Localised stress tests – Limited scope stress tests undertaken at portfolio, branch/sector or entity levels based on scenarios relevant to specific localities.
- Ad-hoc stress tests – Periodic stress tests conducted in response to emerging risk events.

Stress test themes reviewed by the Stress Test Working Group in the past include trade war, tightening of monetary policies, global economic turmoil, impact on liquidity risk due to cyber attack, digital disruption, impact of external geopolitical events on ASEAN and Asia, impact of weakening Malaysian ringgit and higher bond yields, Post-Brexit risk on ASEAN economies, the Perfect Storm: Impact of low oil price, weak currencies and slower Chinese GDP growth on ASEAN economies, Federal Reserve rate hike, idiosyncratic event's implication to the Group, oil price decline, intensified capital outflows from emerging markets including ASEAN, rising inflation and interest rate hikes in ASEAN, impact of Federal Reserve Quantitative Easing tapering, sovereign rating downgrades, slowing Chinese economy, a repeat of Asian Financial Crisis, US dollar depreciation, pandemic flu, asset price collapse, a global double-dip recession scenario, Japan disasters, crude oil price hike, the Eurozone and US debt crises, amongst others.

The Stress Test Working Group, which comprises of business and risk management teams, tables the stress test reports to the Senior Management and Board committees and discusses the results with the regulators on a regular basis.

Risk Management

RISK MANAGEMENT FRAMEWORK

The Group's risk management approach is underpinned by a sound and robust Integrated Risk Management Framework, which is constantly enhanced to remain relevant and resilient ahead of the versatile global risk landscape and changes in regulatory requirements, and leading practices in ensuring effective management of risk. The key principles are broadly described below:

Principles		Description
1	Establish risk appetite & strategy	The risk appetite is approved by the Board, which articulates the nature, type and level of risk the Group is willing to assume.
2	Assign adequate capital	The approach to capital management is driven by strategic objectives and accounts for the relevant regulatory, economic and commercial environment in which the Group operates.
3	Ensure proper governance and oversight function	There is a clear, effective and robust Group governance structure with well-defined, transparent and consistent lines of responsibility established within the Group.
4	Promote strong risk culture	Institutionalisation of a strong risk culture that supports and provides appropriate standards and incentives for professional and responsible behaviour.
5	Implement sound risk frameworks, policies and procedures	Implementation of integrated risk frameworks, policies and procedures to ensure that risk management practices and processes are effective at all levels.
6	Execute strong risk management practices and processes	Robust risk management processes are in place to actively identify, measure, control, monitor and report risks inherent in all products and activities undertaken by the Group.
7	Ensure sufficient resources and system infrastructure	Ensure sufficient resources, infrastructure and techniques are established to enable effective risk management.

RISK APPETITE

The Group's risk appetite is an integral component of the Group's robust risk management framework and is driven by both top-down Board leadership and bottom-up involvement of management at all levels. Our risk appetite enables the Board and Senior Management to communicate, understand and assess the types and levels of risk that the Group is willing to accept in pursuit of its business and strategic goals while taking into consideration constraints under stressed environment.

The risk appetite is integrated into the strategic planning process, and remains dynamic and responsive to the changing internal and external drivers such as market conditions, stakeholder's expectations and internal capabilities. In addition, the budgeting process is aligned to the risk appetite in ensuring that projected revenues arising from business transactions are consistent with the risk profile established. Our risk appetite also provides a consistent structure in understanding risk and is embedded in day-to-day business activities and decisions throughout the Group.

Guided by these principles, our risk appetite is articulated through a set of Risk Appetite Statements for all material risks across the Group to ultimately balance the strategic objectives of the Group.

RISK GOVERNANCE AND OVERSIGHT

The risk governance model provides a formalised, transparent and effective governance structure that promotes active involvement from the Board and Senior Management in the risk management process to ensure a uniform view of risk across the Group. The governance model aims to place accountability and ownership whilst facilitating an appropriate level of independence and segregation of duties between the three lines of defence.

The risk governance structure is premised on the three lines of defence and clearly defines the lines of authority, roles and responsibilities to efficiently manage risk across the Group.

The chart illustrating the risk governance structure of the Group can be found in the Group Risk write-up under the Corporate Book.

INDEPENDENT GROUP RISK FUNCTION

Group Risk provides oversight of risk management on an enterprise-wide level through the establishment of the Group's risk strategies, frameworks and policies with independent assessment and monitoring of all risks challenges.

The key pillars of Group Risk functions are as below:

- Provides close support and oversight within key businesses and countries in managing day-to-day risk.
- Drives and manages specific risk areas on an enterprise-wide level for a holistic risk view within the Group.
- Supports sustainable and quality asset growth with optimal returns.

In the continuous pursuit to drive efficiency, we have Centres of Excellence ("COEs"), which build on specialisation of risk professionals, providing value-added risk insights to support business decision-making. The identified COEs set consistent standards in relation to risk policies, risk reporting, risk modelling and specialisation in the management of specific risk areas within the Group.

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Credit Risk

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

REGULATORY CAPITAL REQUIREMENT

Amongst the various risk types the Group engages in, credit risk continues to attract the largest regulatory capital requirement.

MANAGEMENT OF CREDIT RISK

Corporate and institutional credit risks are assessed by business units, where each customer is assigned a credit rating based on the assessment of relevant qualitative and quantitative factors including the customer's financial position, future cash flows, types of facilities and securities offered. These credits are then evaluated and approved by a party independent of the originator.

Reviews are conducted at least once a year with updated information on the customer's financial position, market position, industry and economic conditions, and conduct of account. Corrective actions are taken when the accounts show signs of credit deterioration.

The Group manages its credit risk using a two-pronged approach:
- Managing the Credit Risk; and
- Managing the Credit Portfolio.

Retail credit exposures are managed on a programme basis. Credit programmes are assessed jointly between credit risk and business units. Reviews on the credit programmes are conducted at least once a year to assess the performances of the portfolios.

Group-wide hierarchy of credit approving authorities and committee structures are in place to ensure appropriate underwriting standards are enforced consistently throughout the Group.

Management of Concentration Risk

Concentration risk can materialise from excessive exposures to a single counterparty and persons connected to it, a particular instrument or a particular market segment/ sector. In managing large exposures and to avoid undue concentration of credit risk in its loans and financing portfolio, the Group has emplaced, amongst others, limits and related lending guidelines for:
- Countries;
- Business segments;
- Economic sectors;
- Single customer groups;
- Banks and Non-Bank Financial Institutions ("NBFIs");
- Counterparties;
- Collaterals; and
- Connected parties.

Reviews of the said limits and related lending guidelines are undertaken on a periodic basis, whereupon any emerging concentration risks are addressed accordingly. Any exception to the limits and lending guidelines would be subject to approvals from higher credit authorities.

Asset Quality Management

The Group has dedicated teams to effectively manage vulnerable corporate, institutional and consumer credits. Special attention is given to these vulnerable credits where more frequent and intensive reviews are performed in order to prevent further deterioration or, where necessary, accelerate remedial actions.

The Group's credit approving process encompasses pre-approval evaluation, approval and post-approval evaluation. Group Risk is responsible for developing, enhancing and communicating effective and consistent credit risk management policies, tools and methodologies across the Group, to ensure appropriate standards are in place to identify, measure, control, monitor and report such risks.

In view that the authority limits are directly related to the risk levels of the borrower and the transaction, a Risk-Based Authority Limit structure is implemented based on the Expected Loss principle and internally-developed Credit Risk Rating System.

Tables 10 through 12 present the geographic analysis and distribution of credit exposures under both the Standardised Approach and IRB Approach for the Group, the Bank and Maybank Islamic, respectively.

Tables 13 through 15 present the Disclosure on credit risk exposures by various industries for the Group, the Bank and Maybank Islamic, respectively.

Tables 16 through 18 present the credit risk exposures by maturity periods of one year or less, one to five years and over five years for the Group, the Bank and Maybank Islamic, respectively.

Table 10: Disclosure on Credit Risk Exposure – Geographical Analysis for Maybank Group

Exposure Class	Malaysia RM'000	Singapore RM'000	Indonesia RM'000	Other Overseas Units RM'000	Total RM'000
As at 31.12.2018					
Exempted Exposures (Standardised Approach)					
Sovereigns/Central Banks	87,966,465	36,414,094	7,168,221	14,178,184	145,726,964
Public Sector Entities	9,157,782	2,683,100	–	–	11,840,882
Banks, Development Financial Institutions & MDBs	1,541,646	39,732	–	5,377	1,586,755
Insurance Cos, Securities Firms & Fund Managers	59,328	186,595	–	–	245,923
Corporates	7,313,222	5,710,995	4,599,777	2,923,997	20,547,991
Regulatory Retail	8,209,490	12,499,403	6,632,309	6,029,873	33,371,075
Residential Mortgages	816,672	1,648	90,048	751,988	1,660,356
Higher Risk Assets	468,055	46,540	9,843	1,210	525,648
Other Assets	4,860,331	1,793,781	2,793,065	752,150	10,199,327
Securitisation Exposures	61,048	–	–	–	61,048
Equity Exposures	247,935	–	368	–	248,303
Total Standardised Approach	120,701,974	59,375,888	21,293,631	24,642,779	226,014,272
Exposures under the IRB Approach					
Public Sector Entities	10,343,368	–	–	–	10,343,368
Banks, Development Financial Institutions & MDBs	18,204,891	24,321,945	1,788,037	15,763,813	60,078,686
Corporate Exposures	152,692,299	76,171,056	21,296,341	42,007,055	292,166,751
a) Corporates (excluding Specialised Lending and firm-size adjustment)	125,529,361	42,263,391	21,296,341	42,007,055	231,096,148
b) Corporates (with firm-size adjustment)	27,162,938	33,907,665	–	–	61,070,603
Retail Exposures	168,067,482	52,975,345	10,126,780	–	231,169,607
a) Residential Mortgages	53,801,815	23,808,485	4,595,973	–	82,206,273
b) Qualifying Revolving Retail Exposures	10,740,801	6,342,978	1,158,601	–	18,242,380
c) Hire Purchase Exposures	39,103,597	7,235,255	4,372,206	–	50,711,058
d) Other Retail Exposures	64,421,269	15,588,627	–	–	80,009,896
Total IRB Approach	349,308,040	153,468,346	33,211,158	57,770,868	593,758,412
Total Standardised and IRB Approaches	470,010,014	212,844,234	54,504,789	82,413,647	819,772,684
As at 31.12.2017					
Exempted Exposures (Standardised Approach)					
Sovereigns/Central Banks	72,412,745	30,003,400	7,891,548	12,731,839	123,039,532
Public Sector Entities	20,736,645	2,480,791	–	–	23,217,436
Banks, Development Financial Institutions & MDBs	3,259,863	40,828	–	9,703	3,310,394
Insurance Cos, Securities Firms & Fund Managers	–	393,327	–	–	393,327
Corporates	7,870,631	4,452,154	3,582,474	2,241,633	18,146,892
Regulatory Retail	9,598,564	11,296,178	6,922,317	5,655,684	33,472,742
Residential Mortgages	3,167,265	559	143,231	522,012	3,833,066
Higher Risk Assets	436,799	46,507	10,137	256	493,700
Other Assets	5,959,511	1,813,811	2,773,539	2,138,727	12,685,588
Securitisation Exposures	61,467	–	–	–	61,467
Equity Exposures	490,756	–	–	–	490,756
Total Standardised Approach	123,994,246	50,527,555	21,323,246	23,299,854	219,144,900
Exposures under the IRB Approach					
Public Sector Entities	–	–	–	–	–
Banks, Development Financial Institutions & MDBs	22,119,432	14,368,658	2,310,510	18,698,625	57,497,226
Corporate Exposures	150,569,731	71,886,815	20,229,853	41,198,260	283,884,659
a) Corporates (excluding Specialised Lending and firm-size adjustment)	100,413,888	71,886,815	20,229,853	41,198,260	233,728,816
b) Corporates (with firm-size adjustment)	50,155,843	–	–	–	50,155,843
Retail Exposures	149,160,400	52,631,073	9,832,937	–	211,624,410
a) Residential Mortgages	49,313,345	21,621,756	4,633,281	–	75,568,382
b) Qualifying Revolving Retail Exposures	9,639,130	6,038,303	1,147,232	–	16,824,667
c) Hire Purchase Exposures	33,286,702	6,624,661	4,052,424	–	43,963,785
d) Other Retail Exposures	56,921,223	18,346,353	–	–	75,267,576
Total IRB Approach	321,849,563	138,886,546	32,373,300	59,896,885	553,006,295
Total Standardised and IRB Approaches	445,843,809	189,414,101	53,696,546	83,196,739	772,151,195

Table 11: Disclosure on Credit Risk Exposure – Geographical Analysis for Maybank

Exposure Class	Malaysia RM'000	Singapore RM'000	Other Overseas Units RM'000	Total RM'000
As at 31.12.2018				
Exempted Exposures (Standardised Approach)				
Sovereigns/Central Banks	**51,884,390**	**21,865,388**	**10,503,983**	**84,253,761**
Public Sector Entities	**8,501,154**	**2,683,100**	**–**	**11,184,254**
Banks, Development Financial Institutions & MDBs	**364,006**	**39,620**	**–**	**403,626**
Insurance Cos, Securities Firms & Fund Managers	**55,094**	**–**	**–**	**55,094**
Corporates	**5,677,383**	**4,688,048**	**2,892,981**	**13,258,412**
Regulatory Retail	**4,875,927**	**1,269**	**439,988**	**5,317,184**
Residential Mortgages	**265,800**	**–**	**310,679**	**576,479**
Higher Risk Assets	**182,008**	**–**	**–**	**182,008**
Other Assets	**6,331,977**	**450,101**	**159,968**	**6,942,046**
Securitisation Exposures	**61,048**	**–**	**–**	**61,048**
Equity Exposures	**142,110**	**–**	**–**	**142,110**
Total Standardised Approach	**78,340,897**	**29,727,526**	**14,307,599**	**122,376,022**
Exposures under the IRB Approach				
Public Sector Entities	**2,517,438**	**–**	**–**	**2,517,438**
Banks, Development Financial Institutions & MDBs	**38,213,143**	**10,023,763**	**14,178,691**	**62,415,597**
Corporate Exposures	**106,823,958**	**59,735,228**	**38,137,566**	**204,696,752**
a) Corporates (excluding Specialised Lending and firm-size adjustment)	**96,362,726**	**34,293,774**	**38,137,566**	**168,794,066**
b) Corporates (with firm-size adjustment)	**10,461,232**	**25,441,454**	**–**	**35,902,686**
Retail Exposures	**74,950,303**	**–**	**–**	**74,950,303**
a) Residential Mortgages	**27,343,829**	**–**	**–**	**27,343,829**
b) Qualifying Revolving Retail Exposures	**8,729,816**	**–**	**–**	**8,729,816**
c) Hire Purchase Exposures	**9,762,355**	**–**	**–**	**9,762,355**
d) Other Retail Exposures	**29,114,303**	**–**	**–**	**29,114,303**
Total IRB Approach	**222,504,842**	**69,758,991**	**52,316,257**	**344,580,090**
Total Standardised and IRB Approaches	**300,845,739**	**99,486,517**	**66,623,856**	**466,956,112**
As at 31.12.2017				
Exempted Exposures (Standardised Approach)				
Sovereigns/Central Banks	44,686,088	29,693,681	9,816,247	84,196,016
Public Sector Entities	10,864,141	2,480,791	–	13,344,932
Banks, Development Financial Institutions & MDBs	–	40,715	–	40,715
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–
Corporates	5,430,343	3,822,577	2,148,826	11,401,746
Regulatory Retail	6,421,704	8,119,949	630,114	15,171,767
Residential Mortgages	268,016	559	170,472	439,047
Higher Risk Assets	181,283	30,023	–	211,306
Other Assets	7,407,513	1,063,534	1,304,114	9,775,161
Securitisation Exposures	61,467	–	–	61,467
Equity Exposures	323,725	–	–	323,725
Total Standardised Approach	75,644,280	45,251,829	14,069,773	134,965,882
Exposures under the IRB Approach				
Public Sector Entities	–	–	–	–
Banks, Development Financial Institutions & MDBs	34,063,156	13,788,080	18,149,952	66,001,188
Corporate Exposures	113,167,573	71,886,815	37,273,991	222,328,379
a) Corporates (excluding Specialised Lending and firm-size adjustment)	78,410,818	71,886,815	37,273,991	187,571,624
b) Corporates (with firm-size adjustment)	34,756,755	–	–	34,756,755
Retail Exposures	71,110,297	52,631,073	–	123,741,370
a) Residential Mortgages	25,444,610	21,621,756	–	47,066,366
b) Qualifying Revolving Retail Exposures	7,964,488	6,038,303	–	14,002,791
c) Hire Purchase Exposures	9,017,129	6,624,661	–	15,641,790
d) Other Retail Exposures	28,684,070	18,346,353	–	47,030,423
Total IRB Approach	218,341,026	138,305,968	55,423,943	412,070,937
Total Standardised and IRB Approaches	293,985,306	183,557,797	69,493,716	547,036,819

Table 12: Disclosure on Credit Risk Exposure – Geographical Analysis for Maybank Islamic

Exposure Class	As at 31.12.2018 Total RM'000	As at 31.12.2017 Total RM'000
Exposures under Standardised Approach		
Sovereigns/Central Banks	**35,589,632**	27,310,900
Public Sector Entities	**6,529,128**	15,172,104
Banks, Development Financial Institutions & MDBs	**1**	1
Insurance Cos, Securities Firms & Fund Managers	**4,235**	–
Corporates	**1,680,769**	2,608,048
Regulatory Retail	**3,977,188**	3,802,927
Residential Mortgages	**550,872**	2,899,249
Higher Risk Assets	**1,292**	10,413
Other Assets	**486,583**	525,325
Total Standardised Approach	**48,819,700**	52,328,967
Exposures under IRB Approach		
Public Sector Entities	**7,825,930**	–
Banks, Development Financial Institutions & MDBs	**6,655,917**	8,839,203
Corporate Exposures	**59,459,668**	52,803,996
a) Corporates (excluding Specialised Lending and firm-size adjustment)	**42,757,962**	37,404,907
b) Corporates (with firm-size adjustment)	**16,701,706**	15,399,089
Retail Exposures	**114,613,370**	101,959,597
a) Residential Mortgages	**32,505,184**	27,676,591
b) Qualifying Revolving Retail Exposures	**2,010,985**	1,674,643
c) Hire Purchase Exposures	**31,565,634**	30,583,616
d) Other Retail Exposures	**48,531,567**	42,024,747
Total IRB Approach	**188,554,885**	163,602,796
Total Standardised and IRB Approaches	**237,374,585**	215,931,763

Table 13: Disclosure on Credit Risk Exposure – Industry Analysis for Maybank Group

Exposure Class	Agriculture RM'000	Mining & Quarrying RM'000	Manufacturing RM'000	Construction RM'000	Electricity, Gas & Water Supply RM'000	Wholesale, Retail Trade, Restaurants & Hotels RM'000	Finance, Insurance, Real Estate & Business RM'000	Transport, Storage & Communication RM'000	Education, Health & Others RM'000	Household RM'000	Others RM'000	Total RM'000
As at 31.12.2018												
Exempted Exposures (Standardised Approach)												
Sovereigns/Central Banks	687	–	–	–	11	434	105,324,026	60	2,511,560	6,902,724	30,987,462	145,726,964
Public Sector Entities	2,373,575	–	–	1,262,148	–	38	1,539,153	–	286,168	–	6,379,800	11,840,882
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	1,416,152	–	–	–	170,603	1,586,755
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–	245,923	–	–	–	–	245,923
Corporates	42,581	294,918	1,657,193	1,605,894	3,356,666	185,440	6,605,291	158,745	24,477	4,600,786	2,016,000	20,547,991
Regulatory Retail	–	–	–	–	–	–	–	–	–	33,371,075	–	33,371,075
Residential Mortgages	–	–	–	–	–	–	–	–	–	1,660,356	–	1,660,356
Higher Risk Assets	–	–	–	–	–	–	41,585	–	–	238,391	245,672	525,648
Other Assets	–	–	–	–	–	–	1,078,141	689	14,378	760,603	8,345,516	10,199,327
Securitisation Exposures	–	–	–	–	–	–	61,048	–	–	–	–	61,048
Equity Exposures	–	–	–	–	–	–	–	–	–	368	247,935	248,303
Total Standardised Approach	2,416,843	294,918	1,657,193	2,868,042	3,356,677	185,912	116,311,319	159,494	2,836,583	47,534,303	48,392,988	226,014,272
Exposures under the IRB Approach												
Public Sector Entities	370,426	–	–	–	307	1,648	9,793,879	831	3,255	–	173,022	10,343,368
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	58,315,571	–	–	1,763,115	–	60,078,686
Corporate Exposures	9,382,103	7,235,439	30,399,745	31,244,986	8,669,090	28,830,554	66,972,390	16,003,921	4,697,274	21,034,033	67,697,216	292,166,751
a) Corporates (excluding Specialised Lending and firm-size adjustment)	9,279,721	7,231,974	30,243,901	30,848,427	8,570,749	28,672,827	60,870,036	15,546,039	4,684,254	21,034,033	14,114,187	231,096,148
b) Corporates (with firm-size adjustment)	102,382	3,465	155,844	396,559	98,341	157,727	6,102,354	457,882	13,020	–	53,583,029	61,070,603
Retail Exposures	–	–	–	–	–	–	–	–	–	231,169,607	–	231,169,607
a) Residential Mortgages	–	–	–	–	–	–	–	–	–	82,206,273	–	82,206,273
b) Qualifying Revolving Retail Exposures	–	–	–	–	–	–	–	–	–	18,242,380	–	18,242,380
c) Hire Purchase Exposures	–	–	–	–	–	–	–	–	–	50,711,058	–	50,711,058
d) Other Retail Exposures	–	–	–	–	–	–	–	–	–	80,009,896	–	80,009,896
Total IRB Approach	9,752,529	7,235,439	30,399,745	31,244,986	8,669,397	28,832,202	135,081,840	16,004,752	4,700,529	253,966,755	67,870,238	593,758,412
Total Standardised and IRB Approaches	12,169,372	7,530,357	32,056,938	34,113,028	12,026,074	29,018,114	251,393,159	16,164,246	7,537,112	301,501,058	116,263,226	819,772,684
As at 31.12.2017												
Exempted Exposures (Standardised Approach)												
Sovereigns/Central Banks	591	–	–	–	8,182	891	115,163,685	–	203,140	7,473,794	189,249	123,039,532
Public Sector Entities	3,331,422	75	74	7,951,093	–	1,871	10,959,151	662	947,135	–	25,953	23,217,436
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	1,440,700	–	–	–	1,869,694	3,310,394
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–	56,634	–	–	–	336,693	393,327
Corporates	30,733	1,100,343	636,181	343,914	23,027	416,542	1,397,422	5,070	78,325	4,778,592	9,336,743	18,146,892
Regulatory Retail	116,162	16,588	180,257	206,441	41,250	1,508,454	3,392,895	528,881	581,857	10,034,752	16,865,205	33,472,742
Residential Mortgages	1,934	–	3,971	647	–	49,604	174,435	–	5,052	3,595,843	1,580	3,833,066
Higher Risk Assets	–	–	–	–	–	–	60,773	–	–	20,550	412,377	493,700
Other Assets	–	–	–	–	–	–	2,827,618	710	282,313	7,925,454	1,649,493	12,685,588
Securitisation Exposures	–	–	–	–	–	–	61,467	–	–	–	–	61,467
Equity Exposures	–	–	–	11,814	53,971	–	4,045	–	–	253,889	167,037	490,756
Total Standardised Approach	3,480,842	1,117,006	820,483	8,513,909	126,430	1,977,362	135,538,825	535,323	2,097,822	34,082,874	30,854,024	219,144,900
Exposures under the IRB Approach												
Public Sector Entities	–	–	–	–	–	–	–	–	–	–	–	–
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	55,219,070	–	–	2,278,154	–	57,497,224
Corporate Exposures	9,186,585	4,363,685	24,918,344	22,296,823	12,289,764	28,263,269	82,758,571	15,191,247	9,328,527	20,003,658	55,284,186	283,884,659
a) Corporates (excluding Specialised Lending and firm-size adjustment)	8,856,530	4,339,138	24,362,447	20,780,194	12,045,709	27,140,972	80,848,753	15,045,926	8,992,622	20,003,658	11,312,867	233,728,816
b) Corporates (with firm-size adjustment)	330,055	24,547	555,897	1,516,629	244,055	1,122,297	1,909,818	145,321	335,905	–	43,971,319	50,155,843
Retail Exposures	678,708	81,354	2,388,468	1,989,832	56,967	7,613,688	4,718,838	1,021,508	912,754	153,597,997	38,564,296	211,624,410
a) Residential Mortgages	–	–	–	–	–	–	–	–	–	75,568,382	–	75,568,382
b) Qualifying Revolving Retail Exposures	–	–	–	–	–	–	–	–	–	16,824,667	–	16,824,667
c) Hire Purchase Exposures	–	–	–	–	–	–	–	–	–	43,963,785	–	43,963,785
d) Other Retail Exposures	678,708	81,354	2,388,468	1,989,832	56,967	7,613,688	4,718,838	1,021,508	912,754	17,241,163	38,564,296	75,267,576
Total IRB Approach	9,865,293	4,445,039	27,306,812	24,286,655	12,346,731	35,876,957	142,696,479	16,212,755	10,241,281	175,879,809	93,848,482	553,006,293
Total Standardised and IRB Approaches	13,346,135	5,562,045	28,127,295	32,800,564	12,473,161	37,854,319	278,235,304	16,748,078	12,339,103	209,962,683	124,702,506	772,151,193

Table 14: Disclosure on Credit Risk Exposure – Industry Analysis for Maybank

Exposure Class	Agriculture RM'000	Mining & Quarrying RM'000	Manufacturing RM'000	Construction RM'000	Electricity, Gas & Water Supply RM'000	Wholesale, Retail Trade, Restaurants & Hotels RM'000	Finance, Insurance, Real Estate & Business RM'000	Transport, Storage & Communication RM'000	Education, Health & Others RM'000	Household RM'000	Others RM'000	Total RM'000
As at 31.12.2018												
Exempted Exposures (Standardised Approach)												
Sovereigns/Central Banks	687	–	–	–	11	434	76,142,912	60	2,511,560	–	5,598,097	84,253,761
Public Sector Entities	2,372,793	–	–	1,060,958	–	–	7,169,377	–	285,741	–	295,385	11,184,254
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	403,626	–	–	–	–	403,626
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–	55,094	–	–	–	–	55,094
Corporates	34,358	294,288	1,641,131	1,526,503	3,075,830	111,465	6,042,926	30,886	16,650	1,009	483,366	13,258,412
Regulatory Retail	–	–	–	–	–	–	–	–	–	5,317,184	–	5,317,184
Residential Mortgages	–	–	–	–	–	–	–	–	–	576,479	–	576,479
Higher Risk Assets	–	–	–	–	–	–	–	–	–	182,008	–	182,008
Other Assets	–	–	–	–	–	–	482,600	–	1,647	311,066	6,146,733	6,942,046
Securitisation Exposures	–	–	–	–	–	–	61,048	–	–	–	–	61,048
Equity Exposures	–	–	–	–	–	–	–	–	–	–	142,110	142,110
Total Standardised Approach	2,407,838	294,288	1,641,131	2,587,461	3,075,841	111,899	90,357,583	30,946	2,815,598	6,387,746	12,665,691	122,376,022
Exposures under the IRB Approach												
Public Sector Entities	285,267	–	–	–	307	1,648	2,096,472	831	149	–	132,764	2,517,438
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	62,415,597	–	–	–	–	62,415,597
Corporate Exposures	6,078,754	7,188,053	23,015,285	19,652,768	4,793,257	24,113,675	68,384,517	13,108,031	3,630,943	32	34,731,437	204,696,752
a) Corporates (excluding Specialised Lending and firm-size adjustment)	6,067,619	7,184,932	22,994,823	19,595,261	4,793,257	24,001,727	63,666,884	13,094,672	3,622,410	32	3,772,449	168,794,066
b) Corporates (with firm-size adjustment)	11,135	3,121	20,462	57,507	–	111,948	4,717,633	13,359	8,533	–	30,958,988	35,902,686
Retail Exposures	–	–	–	–	–	–	–	–	–	74,950,303	–	74,950,303
a) Residential Mortgages	–	–	–	–	–	–	–	–	–	27,343,829	–	27,343,829
b) Qualifying Revolving Retail Exposures	–	–	–	–	–	–	–	–	–	8,729,816	–	8,729,816
c) Hire Purchase Exposures	–	–	–	–	–	–	–	–	–	9,762,355	–	9,762,355
d) Other Retail Exposures	–	–	–	–	–	–	–	–	–	29,114,303	–	29,114,303
Total IRB Approach	6,364,021	7,188,053	23,015,285	19,652,768	4,793,564	24,115,323	132,896,586	13,108,862	3,631,092	74,950,335	34,864,201	344,580,090
Total Standardised and IRB Approaches	8,771,859	7,482,341	24,656,416	22,240,229	7,869,405	24,227,222	223,254,169	13,139,808	6,446,690	81,338,081	47,529,892	466,956,112
As at 31.12.2017												
Exempted Exposures (Standardised Approach)												
Sovereigns/Central Banks	591	–	–	–	8,182	891	83,973,212	–	203,140	–	10,000	84,196,016
Public Sector Entities	3,245,763	–	74	1,749,868	–	1,817	7,583,127	662	737,817	–	25,804	13,344,932
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	40,715	–	–	–	–	40,715
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–	–	–	–	–	–	–
Corporates	30,733	1,100,343	600,981	333,324	17,536	361,471	903,033	2,007	73,854	–	7,978,464	11,401,746
Regulatory Retail	–	461	4,382	2,322	–	21,775	147,603	–	3,262	5,269	14,986,693	15,171,767
Residential Mortgages	–	–	–	–	–	–	170,472	–	–	268,575	–	439,047
Higher Risk Assets	–	–	–	–	–	–	4,588	–	–	–	206,718	211,306
Other Assets	–	–	–	–	–	–	2,212,093	–	416	7,400,129	162,523	9,775,161
Securitisation Exposures	–	–	–	–	–	–	61,467	–	–	–	–	61,467
Equity Exposures	–	–	–	11,814	53,971	–	4,045	–	–	253,889	6	323,725
Total Standardised Approach	3,277,087	1,100,804	605,437	2,097,328	79,689	385,954	95,100,355	2,669	1,018,489	7,927,862	23,370,208	134,965,882
Exposures under the IRB Approach												
Public Sector Entities	–	–	–	–	–	–	–	–	–	–	–	–
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	66,001,188	–	–	–	–	66,001,188
Corporate Exposures	6,775,211	3,424,016	19,614,195	15,168,212	11,125,279	24,936,157	74,280,355	13,110,538	8,548,116	–	45,346,300	222,328,379
a) Corporates (excluding Specialised Lending and firm-size adjustment)	6,775,211	3,424,016	19,614,195	15,168,212	11,125,279	24,936,157	74,280,355	13,110,538	8,548,116	–	10,589,545	187,571,624
b) Corporates (with firm-size adjustment)	–	–	–	–	–	–	–	–	–	–	34,756,755	34,756,755
Retail Exposures	340,191	33,878	949,662	842,639	19,776	3,457,929	2,015,534	509,265	396,502	76,710,947	38,465,047	123,741,370
a) Residential Mortgages	–	–	–	–	–	–	–	–	–	47,066,366	–	47,066,366
b) Qualifying Revolving Retail Exposures	–	–	–	–	–	–	–	–	–	14,002,791	–	14,002,791
c) Hire Purchase Exposures	–	–	–	–	–	–	–	–	–	15,641,790	–	15,641,790
d) Other Retail Exposures	340,191	33,878	949,662	842,639	19,776	3,457,929	2,015,534	509,265	396,502	–	38,465,047	47,030,423
Total IRB Approach	7,115,402	3,457,894	20,563,857	16,010,851	11,145,055	28,394,086	142,297,077	13,619,803	8,944,618	76,710,947	83,811,347	412,070,937
Total Standardised and IRB Approaches	10,392,489	4,558,698	21,169,294	18,108,179	11,224,744	28,780,040	237,397,432	13,622,472	9,963,107	84,638,809	107,181,555	547,036,819

Credit Risk

Table 15: Disclosure on Credit Risk Exposure – Industry Analysis for Maybank Islamic

Exposure Class	Agriculture RM'000	Mining & Quarrying RM'000	Manufacturing RM'000	Construction RM'000	Electricity, Gas & Water Supply RM'000	Wholesale, Retail Trade, Restaurants & Hotels RM'000	Finance, Insurance, Real Estate & Business RM'000	Transport, Storage & Communication RM'000	Education, Health & Others RM'000	Household RM'000	Others RM'000	Total RM'000
As at 31.12.2018												
Exempted Exposures (Standardised Approach)												
Sovereigns/Central Banks	–	–	–	–	–	–	24,523,140	–	–	–	11,066,492	35,589,632
Public Sector Entities	783	–	–	201,191	–	38	242,276	–	427	–	6,084,413	6,529,128
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	1	–	–	–	–	1
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–	4,235	–	–	–	–	4,235
Corporates	8,223	630	15,216	79,021	276,359	49,421	17,422	127,859	7,828	–	1,098,790	1,680,769
Regulatory Retail	–	–	–	–	–	–	–	–	–	3,977,188	–	3,977,188
Residential Mortgages	–	–	–	–	–	–	–	–	–	550,872	–	550,872
Higher Risk Assets	–	–	–	–	–	–	–	–	–	–	1,292	1,292
Other Assets	–	–	–	–	–	–	–	–	–	–	486,583	486,583
Total Standardised Approach	9,006	630	15,216	280,212	276,359	49,459	24,787,074	127,859	8,255	4,528,060	18,737,570	48,819,700
Exposures under the IRB Approach												
Public Sector Entities	85,159	–	–	–	–	–	7,697,407	–	3,106	–	40,258	7,825,930
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	6,655,917	–	–	–	–	6,655,917
Corporate Exposures	3,228,194	45,351	6,784,632	11,328,168	3,517,863	3,400,516	11,122,250	2,769,016	976,986	–	16,286,692	59,459,668
a) Corporates (excluding Specialised Lending and firm-size adjustment)	3,136,947	45,008	6,649,250	10,989,117	3,419,522	3,354,737	9,737,529	2,324,493	972,500	–	2,128,859	42,757,962
b) Corporates (with firm-size adjustment)	91,247	343	135,382	339,051	98,341	45,779	1,384,721	444,523	4,486	–	14,157,833	16,701,706
Retail Exposures	–	–	–	–	–	–	–	–	–	114,613,370	–	114,613,370
a) Residential Mortgages	–	–	–	–	–	–	–	–	–	32,505,184	–	32,505,184
b) Qualifying Revolving Retail Exposures	–	–	–	–	–	–	–	–	–	2,010,985	–	2,010,985
c) Hire Purchase Exposures	–	–	–	–	–	–	–	–	–	31,565,634	–	31,565,634
d) Other Retail Exposures	–	–	–	–	–	–	–	–	–	48,531,567	–	48,531,567
Total IRB Approach	3,313,353	45,351	6,784,632	11,328,168	3,517,863	3,400,516	25,475,574	2,769,016	980,092	114,613,370	16,326,950	188,554,885
Total Standardised and IRB Approaches	3,322,359	45,981	6,799,848	11,608,380	3,794,222	3,449,975	50,262,648	2,896,875	988,347	119,141,430	35,064,520	237,374,585
As at 31.12.2017												
Exempted Exposures (Standardised Approach)												
Sovereigns/Central Banks	–	–	–	–	–	–	27,310,900	–	–	–	–	27,310,900
Public Sector Entities	85,660	75	–	6,201,224	–	53	3,376,025	–	209,318	–	5,299,749	15,172,104
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	1	–	–	–	–	1
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	–	–	2,982	–	1,469,348	1,135,718	2,608,048
Regulatory Retail	–	–	–	–	–	–	–	–	–	3,802,927	–	3,802,927
Residential Mortgages	–	–	–	–	–	–	–	–	–	2,899,249	–	2,899,249
Higher Risk Assets	–	–	–	–	–	–	–	–	–	10,413	–	10,413
Other Assets	–	–	–	–	–	–	–	–	–	525,325	–	525,325
Total Standardised Approach	85,660	75	–	6,201,224	–	53	30,686,926	2,982	209,318	8,707,262	6,435,467	52,328,967
Exposures under the IRB Approach												
Public Sector Entities	–	–	–	–	–	–	–	–	–	–	–	–
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–	8,839,203	–	–	–	–	8,839,203
Corporate Exposures	2,298,437	900,773	4,817,708	6,872,006	754,410	2,007,747	7,948,038	1,973,170	623,198	–	24,608,509	52,803,996
a) Corporates (excluding Specialised Lending and firm-size adjustment)	1,968,382	876,226	4,261,811	5,355,377	510,355	885,450	6,038,220	1,827,849	287,293	–	15,393,944	37,404,907
b) Corporates (with firm-size adjustment)	330,055	24,547	555,897	1,516,629	244,055	1,122,297	1,909,818	145,321	335,905	–	9,214,565	15,399,089
Retail Exposures	338,517	47,476	1,438,806	1,147,192	37,190	4,155,759	2,703,304	512,244	516,252	90,963,607	99,250	101,959,597
a) Residential Mortgages	–	–	–	–	–	–	–	–	–	27,676,591	–	27,676,591
b) Qualifying Revolving Retail Exposures	–	–	–	–	–	–	–	–	–	1,674,643	–	1,674,643
c) Hire Purchase Exposures	–	–	–	–	–	–	–	–	–	30,583,616	–	30,583,616
d) Other Retail Exposures	338,517	47,476	1,438,806	1,147,192	37,190	4,155,759	2,703,304	512,244	516,252	31,028,757	99,250	42,024,747
Total IRB Approach	2,636,954	948,249	6,256,514	8,019,198	791,600	6,163,506	19,490,545	2,485,414	1,139,450	90,963,607	24,707,759	163,602,796
Total Standardised and IRB Approaches	2,722,614	948,324	6,256,514	14,220,422	791,600	6,163,559	50,177,471	2,488,396	1,348,768	99,670,869	31,143,226	215,931,763

Table 16: Disclosure on Credit Risk Exposure – Maturity Analysis for Maybank Group

Exposure Class	One year or less RM'000	One to five years RM'000	Over five years RM'000	Total RM'000
As at 31.12.2018				
Exempted Exposures (Standardised Approach)				
Sovereigns/Central Banks	60,369,930	31,442,853	53,914,181	145,726,964
Public Sector Entities	2,077,991	7,359,911	2,402,980	11,840,882
Banks, Development Financial Institutions & MDBs	900,240	686,515	–	1,586,755
Insurance Cos, Securities Firms & Fund Managers	–	245,923	–	245,923
Corporates	5,485,001	12,816,617	2,246,373	20,547,991
Regulatory Retail	9,309,811	9,150,933	14,910,331	33,371,075
Residential Mortgages	34,441	115,990	1,509,925	1,660,356
Higher Risk Assets	51,466	432,662	41,520	525,648
Other Assets	996,653	2,534,836	6,667,838	10,199,327
Securitisation Exposures	10,044	51,004	–	61,048
Equity Exposures	–	237,458	10,845	248,303
Total Standardised Approach	79,235,577	65,074,702	81,703,993	226,014,272
Exposures under the IRB Approach				
Public Sector Entities	2,077,660	458,040	7,807,668	10,343,368
Banks, Development Financial Institutions & MDBs	38,191,865	19,468,532	2,418,289	60,078,686
Corporate Exposures	104,524,966	107,093,547	80,548,238	292,166,751
a) Corporates (excluding Specialised Lending and firm-size adjustment)	100,228,876	93,211,214	37,656,058	231,096,148
b) Corporates (with firm-size adjustment)	4,296,090	13,882,333	42,892,180	61,070,603
Retail Exposures	9,482,980	49,664,567	172,022,060	231,169,607
a) Residential Mortgages	419,471	4,094,925	77,691,877	82,206,273
b) Qualifying Revolving Retail Exposures	2,030,596	15,555,902	655,882	18,242,380
c) Hire Purchase Exposures	1,010,322	21,867,723	27,833,013	50,711,058
d) Other Retail Exposures	6,022,591	8,146,017	65,841,288	80,009,896
Total IRB Approach	154,277,471	176,684,686	262,796,255	593,758,412
Total Standardised and IRB Approaches	233,513,048	241,759,388	344,500,248	819,772,684
As at 31.12.2017				
Exempted Exposures (Standardised Approach)				
Sovereigns/Central Banks	48,596,474	28,980,667	45,462,391	123,039,532
Public Sector Entities	6,818,984	8,688,987	7,709,465	23,217,436
Banks, Development Financial Institutions & MDBs	1,399,984	1,910,410	–	3,310,394
Insurance Cos, Securities Firms & Fund Managers	–	393,327	–	393,327
Corporates	3,874,607	11,847,971	2,424,314	18,146,892
Regulatory Retail	10,317,578	15,864,963	7,290,201	33,472,742
Residential Mortgages	19,528	138,668	3,674,870	3,833,066
Higher Risk Assets	95,662	362,798	35,240	493,700
Other Assets	1,506,974	2,246,522	8,932,092	12,685,588
Securitisation Exposures	–	61,467	–	61,467
Equity Exposures	–	490,756	–	490,756
Total Standardised Approach	72,629,791	70,986,536	75,528,573	219,144,900
Exposures under the IRB Approach				
Public Sector Entities	–	–	–	–
Banks, Development Financial Institutions & MDBs	42,927,300	7,849,603	6,720,323	57,497,226
Corporate Exposures	95,261,469	102,869,853	85,753,337	283,884,659
a) Corporates (excluding Specialised Lending and firm-size adjustment)	93,935,962	92,336,888	47,455,966	233,728,816
b) Corporates (with firm-size adjustment)	1,325,507	10,532,965	38,297,371	50,155,843
Retail Exposures	7,589,845	41,328,999	162,705,566	211,624,410
a) Residential Mortgages	383,501	4,099,596	71,085,285	75,568,382
b) Qualifying Revolving Retail Exposures	818,316	15,073,270	933,081	16,824,667
c) Hire Purchase Exposures	918,921	14,036,907	29,007,957	43,963,785
d) Other Retail Exposures	5,469,107	8,119,226	61,679,243	75,267,576
Total IRB Approach	145,778,614	152,048,455	255,179,226	553,006,295
Total Standardised and IRB Approaches	218,408,405	223,034,991	330,707,799	772,151,195

Table 17: Disclosure on Credit Risk Exposure – Maturity Analysis for Maybank

Exposure Class	One year or less RM'000	One to five years RM'000	Over five years RM'000	Total RM'000
As at 31.12.2018				
Exempted Exposures (Standardised Approach)				
Sovereigns/Central Banks	24,109,707	21,645,597	38,498,457	84,253,761
Public Sector Entities	22,785	8,916,651	2,244,818	11,184,254
Banks, Development Financial Institutions & MDBs	372,478	31,148	–	403,626
Insurance Cos, Securities Firms & Fund Managers	–	55,094	–	55,094
Corporates	1,832,539	11,072,881	352,992	13,258,412
Regulatory Retail	3,965,157	492,230	859,797	5,317,184
Residential Mortgages	7,606	20,253	548,620	576,479
Higher Risk Assets	7,990	173,960	58	182,008
Other Assets	55,932	581,859	6,304,255	6,942,046
Securitisation Exposures	10,044	51,004	–	61,048
Equity Exposures	–	131,265	10,845	142,110
Total Standardised Approach	30,384,238	43,171,942	48,819,842	122,376,022
Exposures under the IRB Approach				
Public Sector Entities	310,948	401,927	1,804,563	2,517,438
Banks, Development Financial Institutions & MDBs	42,736,147	14,741,103	4,938,347	62,415,597
Corporate Exposures	66,364,277	79,210,257	59,122,218	204,696,752
a) Corporates (excluding Specialised Lending and firm-size adjustment)	66,364,277	79,210,257	23,219,532	168,794,066
b) Corporates (with firm-size adjustment)	–	–	35,902,686	35,902,686
Retail Exposures	3,775,670	17,371,172	53,803,461	74,950,303
a) Residential Mortgages	361,481	920,522	26,061,826	27,343,829
b) Qualifying Revolving Retail Exposures	582,986	8,085,960	60,870	8,729,816
c) Hire Purchase Exposures	158,382	3,654,810	5,949,163	9,762,355
d) Other Retail Exposures	2,672,821	4,709,880	21,731,602	29,114,303
Total IRB Approach	113,187,042	111,724,459	119,668,589	344,580,090
Total Standardised and IRB Approaches	143,571,280	154,896,401	168,488,431	466,956,112
As at 31.12.2017				
Exempted Exposures (Standardised Approach)				
Sovereigns/Central Banks	26,193,849	22,063,963	35,938,204	84,196,016
Public Sector Entities	682,342	8,267,373	4,395,217	13,344,932
Banks, Development Financial Institutions & MDBs	–	40,715	–	40,715
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–
Corporates	1,134,575	9,420,789	846,382	11,401,746
Regulatory Retail	6,163,397	5,116,301	3,892,069	15,171,767
Residential Mortgages	1,201	18,697	419,149	439,047
Higher Risk Assets	53,629	129,440	28,237	211,306
Other Assets	71,663	1,297,953	8,405,545	9,775,161
Securitisation Exposures	–	61,467	–	61,467
Equity Exposures	–	323,725	–	323,725
Total Standardised Approach	34,300,656	46,740,423	53,924,803	134,965,882
Exposures under the IRB Approach				
Public Sector Entities	–	–	–	–
Banks, Development Financial Institutions & MDBs	44,446,178	15,641,279	5,913,731	66,001,188
Corporate Exposures	60,763,256	95,946,050	65,619,073	222,328,379
a) Corporates (excluding Specialised Lending and firm-size adjustment)	60,763,256	95,946,050	30,862,318	187,571,624
b) Corporates (with firm-size adjustment)	–	–	34,756,755	34,756,755
Retail Exposures	3,673,250	26,259,616	93,808,504	123,741,370
a) Residential Mortgages	341,083	1,114,605	45,610,678	47,066,366
b) Qualifying Revolving Retail Exposures	393,017	12,736,328	873,446	14,002,791
c) Hire Purchase Exposures	288,806	7,415,823	7,937,161	15,641,790
d) Other Retail Exposures	2,650,344	4,992,860	39,387,219	47,030,423
Total IRB Approach	108,882,684	137,846,945	165,341,308	412,070,937
Total Standardised and IRB Approaches	143,183,340	184,587,368	219,266,111	547,036,819

Table 18: Disclosure on Credit Risk Exposure – Maturity Analysis for Maybank Islamic

Exposure Class	One year or less RM'000	One to five years RM'000	Over five years RM'000	Total RM'000
As at 31.12.2018				
Exempted Exposures (Standardised Approach)				
Sovereigns/Central Banks	20,691,012	4,423,842	10,474,778	35,589,632
Public Sector Entities	2,055,205	353,261	4,120,662	6,529,128
Banks, Development Financial Institutions & MDBs	–	1	–	1
Insurance Cos, Securities Firms & Fund Managers	–	4,235	–	4,235
Corporates	82,128	543,925	1,054,716	1,680,769
Regulatory Retail	734,279	1,447,570	1,795,339	3,977,188
Residential Mortgage	979	23,015	526,878	550,872
Higher Risk Assets	–	1,250	42	1,292
Other Assets	21,599	–	464,984	486,583
Total Standardised Approach	23,585,202	6,797,099	18,437,399	48,819,700
Exposures under the IRB Approach				
Public Sector Entities	1,766,712	56,112	6,003,106	7,825,930
Banks, Development Financial Institutions & MDBs	6,184,172	366,158	105,587	6,655,917
Corporate Exposures	26,620,224	16,316,401	16,523,043	59,459,668
a) Corporates (excluding Specialised Lending and firm-size adjustment)	24,731,734	4,792,712	13,233,516	42,757,962
b) Corporates (with firm-size adjustment)	1,888,490	11,523,689	3,289,527	16,701,706
Retail Exposures	3,851,346	16,155,837	94,606,187	114,613,370
a) Residential Mortgages	24,896	495,943	31,984,345	32,505,184
b) Qualifying Revolving Retail Exposures	220,180	1,735,045	55,760	2,010,985
c) Hire Purchase Exposures	275,264	10,651,259	20,639,111	31,565,634
d) Other Retail Exposures	3,331,006	3,273,590	41,926,971	48,531,567
Total IRB Approach	38,422,454	32,894,508	117,237,923	188,554,885
Total Standardised and IRB Approaches	62,007,656	39,691,607	135,675,322	237,374,585
As at 31.12.2017				
Exempted Exposures (Standardised Approach)				
Sovereigns/Central Banks	16,814,029	2,392,569	8,104,302	27,310,900
Public Sector Entities	6,136,642	421,613	8,613,849	15,172,104
Banks, Development Financial Institutions & MDBs	–	1	–	1
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–
Corporates	80,832	1,345,208	1,182,008	2,608,048
Regulatory Retail	644,323	1,519,184	1,639,420	3,802,927
Residential Mortgage	859	44,334	2,854,056	2,899,249
Higher Risk Assets	2,588	822	7,003	10,413
Other Assets	1,361	–	523,964	525,325
Total Standardised Approach	23,680,634	5,723,731	22,924,602	52,328,967
Exposures under the IRB Approach				
Public Sector Entities	–	–	–	–
Banks, Development Financial Institutions & MDBs	7,626,287	1,134,011	78,905	8,839,203
Corporate Exposures	22,734,087	15,531,324	14,538,585	52,803,996
a) Corporates (excluding Specialised Lending and firm-size adjustment)	21,408,580	4,998,359	10,997,968	37,404,907
b) Corporates (with firm-size adjustment)	1,325,507	10,532,965	3,540,617	15,399,089
Retail Exposures	3,120,789	14,452,556	84,386,252	101,959,597
a) Residential Mortgages	19,395	395,841	27,261,355	27,676,591
b) Qualifying Revolving Retail Exposures	12,548	1,644,771	17,324	1,674,643
c) Hire Purchase Exposures	270,083	9,285,578	21,027,955	30,583,616
d) Other Retail Exposures	2,818,763	3,126,366	36,079,618	42,024,747
Total IRB Approach	33,481,163	31,117,891	99,003,742	163,602,796
Total Standardised and IRB Approaches	57,161,797	36,841,622	121,928,344	215,931,763

CREDIT IMPAIRMENT POLICY AND CLASSIFICATION AND IMPAIRMENT PROVISIONS FOR LOANS, ADVANCES AND FINANCING

Refer to Note 2.3 to Note 2.5 and Note 3.4 of the Financial Statements for the accounting policies and accounting estimates on impairment assessment for loans, advances and financing. The disclosures on reconciliation of impairment/allowance can be found in Note 15(12) for loans, Note 13(3) for Financial Investments at Amortised Cost, Note 11(3) for Financial Investment at FVOCI, etc. of the Financial Statements. This credit impairment policy is applicable to the Group.

Table 19 (a) to 19 (f) provide details on impaired loans, advances and financing for the Group, the Bank and Maybank Islamic, respectively.

Table 19 (a): Impaired and Past Due Loans, Advances and Financing and Allowances – Industry Analysis for Maybank Group

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	[2]Specific Provision RM'000	[1]General Provision RM'000	Specific Provision Charges/ Write Back RM'000	Specific Provision Write-Offs RM'000
As at 31.12.2018						
Agriculture	152,995	601,922	70,143	201,545	54,510	(19,179)
Mining & quarrying	502,474	6,590	335,430	70,456	217,763	(118,702)
Manufacturing	884,189	627,551	613,170	439,847	276,837	(87,593)
Construction	1,322,675	246,967	735,528	313,316	396,498	(99,241)
Electricity, gas & water supply	1,843,096	100,246	547,060	123,740	16,398	(78,749)
Wholesale, retail trade, restaurants & hotels	1,912,933	1,024,984	822,558	480,482	671,064	(285,106)
Finance, insurance, real estate & business	1,721,194	785,624	1,094,452	866,193	434,332	(324,325)
Transport, storage & communication	2,108,341	336,123	1,135,449	232,300	(320,889)	(218,074)
Education, health & others	319,533	405,478	105,816	139,098	403,574	(24,353)
Household	1,703,787	9,937,932	605,718	1,278,025	510,891	(347,035)
Others	15,203	1,963,924	23,675	201,012	(175,041)	(950,798)
Total	12,486,420	16,037,341	6,088,999	4,346,014	2,485,937	(2,553,155)

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	Individual Allowance RM'000	Collective Allowance RM'000	IA Charges/ write Back RM'000	IA Write-Offs RM'000
As at 31.12.2017						
Agriculture	85,760	123,833	23,237	93,260	8,658	(85,684)
Mining & quarrying	380,252	13,152	248,278	33,720	74,196	(135,393)
Manufacturing	1,279,606	367,539	402,759	692,296	87,306	(168,788)
Construction	821,101	452,369	233,596	464,140	66,230	(38,309)
Electricity, gas & water supply	447,444	18,723	284,372	55,830	139,469	(37,408)
Wholesale, retail trade, restaurants & hotels	1,856,751	885,885	609,528	658,584	219,030	(184,305)
Finance, insurance, real estate & business	2,584,452	1,443,530	1,247,159	986,324	287,480	(52,707)
Transport, storage & communication	2,543,342	283,085	1,006,851	320,656	603,165	(143,564)
Education, health & others	32,454	152,445	1,018	51,691	(10,129)	–
Household	1,344,443	17,322,087	58,737	582,518	26,299	(12,388)
Others	174,298	737,232	4,996	201,174	2,328	–
Total	11,549,903	21,799,880	4,120,531	4,140,193	1,504,032	(858,546)

Notes:
1 General provision refers to loss allowance measured at an amount equal to 12-month expected credit losses (Stage 1) and lifetime expected credit losses for non-credit impaired (Stage 2).
2 Specific provision refers to loss allowance measured at an amount equal to lifetime expected credit losses for credit-impaired exposures (Stage 3).

Table 19 (b): Impaired and Past Due Loans, Advances and Financing and Allowances – Industry Analysis for Maybank

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	[2]Specific Provision RM'000	[1]General Provision RM'000	Specific Provision Charges/ Write Back RM'000	Specific Provision Write-Offs RM'000
As at 31.12.2018						
Agriculture	**53,801**	**37,139**	**31,371**	**86,024**	**34,512**	**(18,756)**
Mining & quarrying	**43,400**	**799**	**125,309**	**37,421**	**92,825**	**–**
Manufacturing	**325,699**	**93,413**	**180,093**	**278,845**	**28,965**	**(76,786)**
Construction	**919,725**	**69,295**	**576,263**	**170,671**	**302,516**	**(72,861)**
Electricity, gas & water supply	**1,803,293**	**7,948**	**531,086**	**28,176**	**65,090**	**(71,482)**
Wholesale, retail trade, restaurants & hotels	**1,260,865**	**146,056**	**518,265**	**262,172**	**269,247**	**(125,411)**
Finance, insurance, real estate & business	**1,448,487**	**156,439**	**962,934**	**476,554**	**158,140**	**(12,840)**
Transport, storage & communication	**1,325,138**	**84,584**	**672,612**	**173,998**	**56,906**	**(185,839)**
Education, health & others	**241,313**	**21,347**	**84,028**	**48,795**	**383,558**	**(7,277)**
Household	**629,897**	**3,287,357**	**237,268**	**454,612**	**168,393**	**(175,232)**
Others	**3,371**	**464,515**	**14,570**	**32,025**	**(267,829)**	**(925,489)**
Total	**8,054,989**	**4,368,892**	**3,933,799**	**2,049,293**	**1,292,323**	**(1,671,973)**

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	Individual Allowance RM'000	Collective Allowance RM'000	IA Charges/ write Back RM'000	IA Write-Offs RM'000
As at 31.12.2017						
Agriculture	50,850	69,964	13,241	50,855	5,534	(4,872)
Mining & quarrying	43,218	8,495	41,476	21,128	32,778	–
Manufacturing	912,283	241,077	325,411	457,611	16,627	(74,450)
Construction	682,670	280,620	218,868	337,715	61,099	(38,309)
Electricity, gas & water supply	253,586	3,868	214,386	19,607	64,610	–
Wholesale, retail trade, restaurants & hotels	1,349,902	547,929	448,879	421,379	101,935	(53,515)
Finance, insurance, real estate & business	2,280,798	529,872	1,133,847	805,769	267,569	(19,284)
Transport, storage & communication	1,702,644	197,824	603,759	274,206	445,498	(127,296)
Education, health & others	13,873	66,537	–	40,821	–	–
Household	763,610	6,967,372	2,753	319,025	2,842	–
Others	17,407	5,552	–	86,554	1,004	–
Total	8,070,841	8,919,110	3,002,620	2,834,670	999,496	(317,726)

Table 19 (c): Impaired and Past Due Loans, Advances and Financing and Allowances – Industry Analysis for Maybank Islamic

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	[2]Specific Provision RM'000	[1]General Provision RM'000	Specific Provision Charges/ Write Back RM'000	Specific Provision Write-Offs RM'000
As at 31.12.2018						
Agriculture	**33,189**	**77,010**	**10,826**	**89,465**	**2,742**	**(302)**
Mining & quarrying	**296,632**	**3,800**	**130,714**	**29,215**	**84,850**	**(92,079)**
Manufacturing	**96,713**	**83,969**	**51,787**	**79,831**	**12,162**	**(6,158)**
Construction	**333,584**	**92,541**	**137,171**	**108,364**	**93,342**	**(13,843)**
Electricity, gas & water supply	**20,346**	**36,319**	**11,579**	**75,342**	**10,704**	**(61)**
Wholesale, retail trade, restaurants & hotels	**171,093**	**155,263**	**74,403**	**114,638**	**286,433**	**(49,841)**
Finance, insurance, real estate & business	**96,484**	**216,921**	**40,872**	**179,389**	**36,822**	**(129,088)**
Transport, storage & communication	**488,122**	**33,085**	**351,051**	**18,848**	**(407,768)**	**(28,996)**
Education, health & others	**15,516**	**27,705**	**4,687**	**45,765**	**1,009**	**(1,106)**
Household	**542,341**	**4,522,393**	**242,568**	**594,483**	**234,478**	**(89,688)**
Others	**86**	**1,479,037**	**154**	**163,852**	**92,488**	**(21,496)**
Total	**2,094,106**	**6,728,043**	**1,055,812**	**1,499,192**	**447,262**	**(432,658)**

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	Individual Allowance RM'000	Collective Allowance RM'000	IA Charges/ write Back RM'000	IA Write-Offs RM'000
As at 31.12.2017						
Agriculture	23,072	42,588	3,359	33,353	3,206	–
Mining & quarrying	228,539	2,027	141,009	7,847	(34,259)	–
Manufacturing	71,881	100,379	13,460	100,650	14,322	(7,433)
Construction	97,736	125,748	10,288	104,073	2,841	–
Electricity, gas & water supply	712	12,387	–	19,522	–	–
Wholesale, retail trade, restaurants & hotels	166,371	188,496	56,821	170,372	391	(2,815)
Finance, insurance, real estate & business	204,002	243,687	100,658	121,228	6,935	–
Transport, storage & communication	539,245	42,377	335,204	28,567	79,636	(14,182)
Education, health & others	12,404	69,912	379	6,373	379	–
Household	358,972	10,207,505	–	204,332	–	–
Others	7,599	5,381	–	24,866	–	–
Total	1,710,533	11,040,487	661,178	821,183	73,451	(24,430)

Table 19 (d): Impaired and Past Due Loans, Advances and Financing and Allowances – Geographical Analysis for Maybank Group

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	[2]Specific Provision RM'000	[1]General Provision RM'000	Specific Provision Charges/ Write Back RM'000	Specific Provision Write-Offs RM'000
As at 31.12.2018						
Malaysia	**5,756,438**	**11,070,607**	**3,193,770**	**2,957,320**	**1,029,663**	**(1,000,240)**
Singapore	**4,425,988**	**1,840,898**	**1,711,408**	**589,827**	**675,120**	**(244,360)**
Indonesia	**1,472,115**	**2,674,421**	**637,682**	**426,132**	**645,676**	**(349,450)**
Others Overseas Unit	**831,879**	**451,415**	**546,139**	**372,735**	**135,478**	**(959,105)**
Total	**12,486,420**	**16,037,341**	**6,088,999**	**4,346,014**	**2,485,937**	**(2,553,155)**

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	Individual Allowance RM'000	Collective Allowance RM'000	IA Charges/ write Back RM'000	IA Write-Offs RM'000
As at 31.12.2017						
Malaysia	5,619,324	17,880,667	1,724,584	2,622,845	267,236	(239,329)
Singapore	2,931,842	2,048,224	867,371	731,590	701,257	(82,792)
Indonesia	1,417,698	1,410,066	326,431	364,792	386,319	(488,395)
Others Overseas Unit	1,581,039	460,923	1,202,145	420,966	149,220	(48,030)
Total	11,549,903	21,799,880	4,120,531	4,140,193	1,504,032	(858,546)

Table 19 (e): Impaired and Past Due Loans, Advances and Financing and Allowances – Geographical Analysis for Maybank

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	[2]Specific Provision RM'000	[1]General Provision RM'000	Specific Provision Charges/ Write Back RM'000	Specific Provision Write-Offs RM'000
As at 31.12.2018						
Malaysia	**3,652,980**	**4,341,509**	**2,129,419**	**1,457,780**	**582,398**	**(564,560)**
Singapore	**3,842,394**	**7,611**	**1,441,172**	**345,070**	**628,479**	**(205,378)**
Indonesia	**–**	**–**	**–**	**–**	**–**	**–**
Others Overseas Unit	**559,615**	**19,772**	**363,208**	**246,443**	**81,446**	**(902,035)**
Total	**8,054,989**	**4,368,892**	**3,933,799**	**2,049,293**	**1,292,323**	**(1,671,973)**

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	Individual Allowance RM'000	Collective Allowance RM'000	IA Charges/ write Back RM'000	IA Write-Offs RM'000
As at 31.12.2017						
Malaysia	3,896,008	6,838,942	1,051,832	1,801,020	187,810	(208,895)
Singapore	2,897,765	2,048,224	862,033	731,590	698,780	(82,792)
Indonesia	–	–	–	–	–	–
Others Overseas Unit	1,277,068	31,944	1,088,755	302,060	112,906	(26,039)
Total	8,070,841	8,919,110	3,002,620	2,834,670	999,496	(317,726)

Table 19 (f): Impaired and Past Due Loans, Advances and Financing and Allowances – Geographical Analysis for Maybank Islamic

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	[2]Specific Provision RM'000	[1]General Provision RM'000	Specific Provision Charges/ Write Back RM'000	Specific Provision Write-Offs RM'000
As at 31.12.2018						
Malaysia	**2,094,106**	**6,728,043**	**1,055,812**	**1,499,192**	**447,262**	**(432,658)**
Others Overseas Unit	**–**	**–**	**–**	**–**	**–**	**–**
Total	**2,094,106**	**6,728,043**	**1,055,812**	**1,499,192**	**447,262**	**(432,658)**

	Impaired Loans, Advances and Financing RM'000	Past Due Loans RM'000	Individual Allowance RM'000	Collective Allowance RM'000	IA Charges/ write Back RM'000	IA Write-Offs RM'000
As at 31.12.2017						
Malaysia	1,710,533	11,040,487	661,178	821,183	73,451	(24,430)
Others Overseas Unit	–	–	–	–	–	–
Total	1,710,533	11,040,487	661,178	821,183	73,451	(24,430)

Credit Risk

BASEL II REQUIREMENTS

The Group has obtained BNM's approval to use internal credit models for evaluating the majority of its credit risk exposures. For the RWA computation of Corporate and Bank portfolios, the Group adopts the FIRB Approach, which relies on its own internal PD estimates and applies supervisory estimates of LGD and EAD, while the Retail and Retail-Small and Medium Enterprises ("RSME") portfolios adopt the AIRB Approach relying on internal estimates of PD, LGD, and EAD.

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

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

  PD represents the probability of a borrower defaulting within the next 12 months. The first level estimation is based on portfolio's Observed Default Rate of the more recent years' data. The average long-run default experience covering crisis periods including the major Asian crisis in 1997 is reflected through Central Tendency calibration for the Basel estimated PD.

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

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

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

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

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

  Internal experience during crisis period is being taken into consideration for EAD estimations and where there is a material difference in EAD during downturn period as compared to normal period, downturn EAD would be used in RWA computation.

Application of Internal Ratings

Since the development and implementation of the Group's internal rating models, internal ratings are used in the following areas:

- **Credit Approval**

  The level of approval for a loan application is determined based on the internal rating of the borrower and the quantum of exposure being requested.

- **Policy**

  Policy is formulated to fast track loan application processing for low risk borrowers. Additionally for the Review Policy, borrowers with higher risk grades are subjected to additional semi-annual reviews to ensure close monitoring and tracking of these borrowers.

- **Reporting**

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

- **Capital Management**

  The Group has emplaced risk-based capital management, ICAAP programme and uses regulatory capital charge for decision making and budgeting process.

- **Risk Governance**

  Internal ratings are used for various risk governance activities such as the setting of group exposure limits under the Maybank Group Sectoral ("MGS") Policy, threshold limit for Credit Review Committee ("CRC") review, sectoral limit policy, sampling methodology for credit review and policy breach.

- **Pricing Decision**

  Internal ratings are being used as a basis for pricing credit facilities.

NON-RETAIL PORTFOLIO

Non-retail exposures comprise of Corporate, Commercial, Small Business, Real Estate, NBFIs and Special Purpose Vehicles, while, for bank exposures, they include Commercial, Investment, Savings and Co-operative Banks apart from the Development Financial Institutions ("DFIs") portfolios.

The general approach adopted by the Group can be categorised into the following three categories:

- **Default History Based ("Good-Bad" analysis)**

  This approach is adopted when the Group has sufficient default data. Under this approach, statistical method is employed to determine the likelihood of default on existing exposures. Scorecards under the Group's CRRS models were developed using this approach.

- **Shadow Rating Approach**

  This approach is usually applied when there are few or no default data available or also known as "low default portfolio" category. The objective of this methodology is to replicate the risk ranking applied by the external rating agency. The Group's Bank Risk Rating Scorecards ("BRRS") were developed using this approach.

- **Experts Judgement Approach**

  The default experience for some exposures, for example Holding Companies and Specialised Lending is insufficient for the Group to perform the required analyses to develop a robust statistical model. Hence, another approach known as experts' judgement approach is opted to develop the scorecard. Under this approach, the qualitative, quantitative and factor weights are determined by the Group's credit experts.

Credit Risk Models and Tools

Credit Risk Rating System ("CRRS")

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

For reference, each grade can be mapped to external agency ratings, such as Standard & Poor's ("S&P"), as illustrated in Table 20 below that contains mapping of internal rating grades of corporate borrowers with S&P's and Rating Agency of Malaysia's ("RAM") rating grades.

Table 20: Rating Grades

Risk Category	Rating Grade	S&P equivalent	RAM Equivalent
Very Low	1-5	AAA to BBB+	AAA to AA1
Low	6-10	BBB+ to BB+	AA1 to A3
Medium	11-15	BB+ to B+	A3 to BB1
High	16-21	B+ to C	BB1 to C

International Risk Rating Scorecard ("IRRS")

IRRS is used to rate Corporate and Commercial borrowers of the Group's branches and subsidiaries, incorporated outside Malaysia, Singapore and Indonesia.

Bank Risk Rating Scorecard ("BRRS")

The Group has developed BRRS to risk grade the bank counterparties. As the Group's bank portfolio fall under low default portfolio category, the shadow-bond rating technique is used in developing the scorecards.

A different masterscale known as Global Masterscale is used to map the PD generated from BRRS to the scale. There are altogether 17 performing grades in the BRRS Masterscale with Grade 1 being the best performing grade and Grade 17 being the worst performing grade. For defaulted borrowers, the applicable grade is Grade 18. The BRRS Global Masterscale and its mapping to S&P's and RAM's ratings are shown in Table 21 below:

Table 21: BRRS Global Masterscale

Rating Grade	S&P equivalent	RAM Equivalent
1-4	AAA to AA-	AAA
5-8	A+ to BBB+	AAA to AA
9-12	BBB to BB	AA to BBB
13-17	BB- to CCC	BBB to C

Tables 22 through 24 show the exposures by PD bands for Non-Retail Portfolios of the Group, the Bank and Maybank Islamic, respectively. A summary of the PD distribution of these exposures is also provided.

Table 22: Disclosure on Exposure by PD Band (IRB Approach) for Non-Retail for Maybank Group

PD Range (%)	EAD Post CRM RM'000	Exposure Weighted Average LGD (%)	Exposure Weighted Average Risk Weight (%)	Undrawn Commitments RM'000	RWA RM'000
As at 31.12.2018					
Non-Retail Exposures					
Bank					
0.0000-0.0470	**8,339,212**	**44.96**	**10.11**	**16**	**843,285**
0.0470-0.1460	**43,101,003**	**45.06**	**18.06**	**67,631**	**7,781,996**
0.1460-0.9280	**6,349,385**	**44.99**	**48.01**	**850**	**3,048,260**
0.9280-100	**2,289,087**	**38.72**	**122.29**	**623**	**2,799,272**
100	**–**	**–**	**–**	**–**	**–**
Total for Bank Exposures	**60,078,687**			**69,120**	**14,472,813**
Public Sector Entities					
0.0000-0.1200	**9,618,177**	**44.78**	**0.68**	**–**	**65,577**
0.1200-0.6440	**353,380**	**43.38**	**42.34**	**75,000**	**149,615**
0.6440-3.4650	**1,129**	**44.84**	**94.10**	**–**	**1,063**
3.4650-100	**370,682**	**45.00**	**0.17**	**–**	**630**
100	**–**	**–**	**–**	**–**	**–**
Total for Public Sector Entities	**10,343,368**			**75,000**	**216,885**
Corporate (excluding Specialised Lending and firm-size adjustment)					
0.0000-0.1200	**33,023,107**	**42.41**	**19.21**	**3,371,332**	**6,344,731**
0.1200-0.6440	**102,704,285**	**43.57**	**50.70**	**7,741,631**	**52,066,628**
0.6440-3.4650	**77,372,733**	**41.41**	**90.69**	**2,487,221**	**70,168,166**
3.4650-100	**10,723,004**	**42.08**	**151.60**	**381,831**	**16,256,476**
100	**7,273,019**	**43.59**	**0.10**	**186,081**	**7,088**
Total for Corporate (excluding Specialised Lending and firm-size adjustment)	**231,096,148**			**14,168,096**	**144,843,089**
Corporate (with firm-size adjustment)					
0.0000-0.1200	**2,682,584**	**40.07**	**21.02**	**35,110**	**563,828**
0.1200-0.6440	**23,855,525**	**39.62**	**48.02**	**314,744**	**11,454,682**
0.6440-3.4650	**26,939,566**	**39.18**	**74.06**	**837,506**	**19,951,591**
3.4650-100	**6,058,025**	**37.69**	**124.38**	**147,059**	**7,535,155**
100	**1,534,903**	**39.88**	**–**	**423**	**–**
Total for Corporate (with firm-size adjustment)	**61,070,603**			**1,334,842**	**39,505,256**
Total Non-Retail Exposures	**362,588,806**			**15,647,058**	**199,038,043**
As at 31.12.2017					
Non-Retail Exposures					
Bank					
0.0000-0.0470	1,751,496	45.58	17.09	3	299,333
0.0470-0.1460	37,855,525	53.62	18.15	39,278	6,869,277
0.1460-0.9280	15,450,182	53.95	52.30	63,207	8,080,189
0.9280-100	2,440,021	48.29	116.68	11,672	2,847,020
100	–	–	–	–	–
Total for Bank Exposures	57,497,224			114,160	18,095,819
Public Sector Entities					
0.0000-0.1200	–	–	–	–	–
0.1200-0.6440	–	–	–	–	–
0.6440-3.0000	–	–	–	–	–
3.0000-100	–	–	–	–	–
100	–	–	–	–	–
Total for Public Sector Entities	–			–	–
Corporate (excluding Specialised Lending and firm-size adjustment)					
0.0000-0.1200	28,008,648	44.08	21.37	3,779,300	5,986,137
0.1200-0.6440	103,396,022	44.00	50.81	6,356,518	52,536,778
0.6440-3.0000	82,336,019	43.66	94.63	3,343,125	77,917,862
3.0000-100	11,660,365	42.12	155.87	586,540	18,174,506
100	8,327,762	43.60	–	85,155	–
Total for Corporate (excluding Specialised Lending and firm-size adjustment)	233,728,816			14,150,638	154,615,283
Corporate (with firm-size adjustment)					
0.0000-0.1200	2,584,401	41.33	21.35	26,362	551,646
0.1200-0.6440	15,700,959	41.03	46.09	417,410	7,237,333
0.6440-3.0000	25,179,676	38.08	75.85	333,508	19,099,730
3.0000-100	5,208,999	36.66	122.61	94,300	6,386,559
100	1,481,809	42.24	–	2,029	–
Total for Corporate (with firm-size adjustment)	50,155,844			873,609	33,275,268
Total Non-Retail Exposures	341,381,884			15,138,407	205,986,370

Table 23: Disclosure on Exposure by PD Band (IRB Approach) for Non-Retail for Maybank

PD Range (%)	EAD Post CRM RM'000	Exposure Weighted Average LGD (%)	Exposure Weighted Average Risk Weight (%)	Undrawn Commitments RM'000	RWA RM'000
As at 31.12.2018					
Non-Retail Exposures					
Bank					
0.0000-0.0470	**6,519,018**	**44.69**	**11.08**	**16**	**722,067**
0.0470-0.1460	**45,717,187**	**45.44**	**18.75**	**56,073**	**8,573,366**
0.1460-0.9280	**8,082,205**	**44.98**	**45.71**	**307**	**3,694,022**
0.9280-100	**2,097,187**	**44.45**	**126.85**	**624**	**2,660,297**
100	**–**	**–**	**–**	**–**	**–**
Total for Bank Exposures	**62,415,597**			**57,020**	**15,649,752**
Public Sector Entities					
0.0000-0.1200	**1,995,951**	**45.00**	**1.10**	**–**	**21,860**
0.1200-0.6440	**235,105**	**45.00**	**45.33**	**–**	**106,575**
0.6440-3.4650	**1,129**	**44.68**	**94.10**	**–**	**1,063**
3.4650-100	**285,253**	**45.00**	**–**	**–**	**–**
100	**–**	**–**	**–**	**–**	**–**
Total for Public Sector Entities	**2,517,438**			**–**	**129,498**
Corporate (excluding Specialised Lending and firm-size adjustment)					
0.0000-0.1200	**24,563,805**	**41.98**	**20.10**	**2,678,553**	**4,937,521**
0.1200-0.6440	**82,413,489**	**43.17**	**50.48**	**4,311,943**	**41,599,532**
0.6440-3.4650	**51,924,928**	**42.33**	**87.94**	**1,471,441**	**45,664,000**
3.4650-100	**5,260,163**	**40.56**	**149.71**	**126,641**	**7,875,231**
100	**4,631,681**	**42.96**	**0.03**	**185,530**	**1,465**
Total for Corporate (excluding Specialised Lending and firm-size adjustment)	**168,794,066**			**8,774,108**	**100,077,749**
Corporate (with firm-size adjustment)					
0.0000-0.1200	**1,651,383**	**40.89**	**20.42**	**24,962**	**337,209**
0.1200-0.6440	**13,847,851**	**39.90**	**50.09**	**207,321**	**6,936,360**
0.6440-3.4650	**15,686,143**	**38.75**	**71.94**	**343,474**	**11,284,814**
3.4650-100	**3,566,754**	**35.97**	**122.45**	**96,660**	**4,367,376**
100	**1,150,555**	**40.65**	**–**	**266**	**–**
Total for Corporate (with firm-size adjustment)	**35,902,686**			**672,683**	**22,925,759**
Total Non-Retail Exposures	**269,629,787**			**9,503,811**	**138,782,758**
As at 31.12.2017					
Non-Retail Exposures					
Bank					
0.0000-0.0470	1,659,364	47.88	17.10	3	283,710
0.0470-0.1460	47,589,136	45.31	19.72	20,328	9,383,295
0.1460-0.9280	14,489,720	44.95	52.78	61,543	7,648,249
0.9280-100	2,262,968	45.00	115.88	4,172	2,622,340
100	–	–	–	–	–
Total for Bank Exposures	66,001,188			86,046	19,937,594
Public Sector Entities					
0.0000-0.1200	–	–	–	–	–
0.1200-0.6440	–	–	–	–	–
0.6440-3.0000	–	–	–	–	–
3.0000-100	–	–	–	–	–
100	–	–	–	–	–
Total for Public Sector Entities	–			–	–
Corporate (excluding Specialised Lending and firm-size adjustment)					
0.0000-0.1200	22,827,455	44.58	21.44	2,670,330	4,894,952
0.1200-0.6440	90,275,324	42.85	50.05	4,214,312	45,184,316
0.6440-3.0000	60,830,330	43.18	92.16	2,378,740	56,063,630
3.0000-100	7,640,005	40.95	158.96	381,531	12,144,833
100	5,998,510	43.10	–	83,686	–
Total for Corporate (excluding Specialised Lending and firm-size adjustment)	187,571,624			9,728,599	118,287,731
Corporate (with firm-size adjustment)					
0.0000-0.1200	1,742,713	39.41	20.58	22,085	358,572
0.1200-0.6440	11,065,963	39.93	45.45	289,547	5,029,742
0.6440-3.0000	17,171,956	38.33	72.49	261,879	12,448,600
3.0000-100	3,555,645	35.47	119.09	72,226	4,234,396
100	1,220,478	41.18	–	1,976	–
Total for Corporate (with firm-size adjustment)	34,756,755			647,713	22,071,310
Total Non-Retail Exposures	288,329,567			10,462,358	160,296,635

Table 24: Disclosure on Exposure by PD Band (IRB Approach) for Non-Retail for Maybank Islamic

PD Range (%)	EAD Post CRM RM'000	Exposure Weighted Average LGD (%)	Exposure Weighted Average Risk Weight (%)	Undrawn Commitments RM'000	RWA RM'000
As at 31.12.2018					
Non-Retail Exposures					
Bank					
0.0000-0.0470	–	–	–	–	–
0.0470-0.1460	6,598,918	44.99	13.68	11,559	902,818
0.1460-0.9280	56,999	45.00	74.05	–	42,207
0.9280-100	–	–	–	–	–
100	–	–	–	–	–
Total for Bank Exposures	6,655,917			11,559	945,025
Public Sector Entities					
0.0000-0.1200	7,622,226	44.55	0.57	–	43,717
0.1200-0.6440	118,275	41.76	36.39	75,000	43,040
0.6440-3.4650	–	–	–	–	–
3.4650-100	85,429	45.00	0.74	–	630
100	–	–	–	–	–
Total for Public Sector Entities	7,825,930			75,000	87,387
Corporate (excluding Specialised Lending and firm-size adjustment)					
0.0000-0.1200	9,309,942	37.32	17.30	692,779	1,610,698
0.1200-0.6440	19,202,288	44.09	48.28	3,370,161	9,270,076
0.6440-3.4650	11,064,208	34.21	70.63	825,469	7,815,076
3.4650-100	1,911,846	40.25	139.26	129,665	2,662,391
100	1,269,678	41.82	0.44	5	5,623
Total for Corporate (excluding Specialised Lending and firm-size adjustment)	42,757,962			5,018,079	21,363,864
Corporate (with firm-size adjustment)					
0.0000-0.1200	900,282	38.17	22.07	7,077	198,735
0.1200-0.6440	7,026,124	40.75	42.40	98,844	2,979,285
0.6440-3.4650	6,970,426	38.97	74.78	399,580	5,212,374
3.4650-100	1,510,874	36.61	130.21	19,050	1,967,306
100	294,000	42.29	–	158	–
Total for Corporate (with firm-size adjustment)	16,701,706			524,709	10,357,700
Total Non-Retail Exposures	73,941,515			5,629,347	32,753,976
As at 31.12.2017					
Non-Retail Exposures					
Bank					
0.0000-0.0470	–	–	–	–	–
0.0470-0.1460	8,234,154	45.00	13.34	17,223	1,098,347
0.1460-0.9280	597,171	45.00	43.21	–	258,060
0.9280-100	7,878	30.72	31.86	7,500	2,510
100	–	–	–	–	–
Total for Bank Exposures	8,839,203			24,723	1,358,917
Public Sector Entities					
0.0000-0.1200	–	–	–	–	–
0.1200-0.6440	–	–	–	–	–
0.6440-3.0000	–	–	–	–	–
3.0000-100	–	–	–	–	–
100	–	–	–	–	–
Total for Public Sector Entities	–			–	–
Corporate (excluding Specialised Lending and firm-size adjustment)					
0.0000-0.1200	9,923,684	44.80	22.70	1,108,970	2,253,046
0.1200-0.6440	16,946,240	44.56	49.47	2,141,663	8,382,812
0.6440-3.0000	8,013,206	44.56	101.84	868,076	8,160,429
3.0000-100	1,102,797	44.14	154.84	14,450	1,707,625
100	1,418,980	43.72	–	1,469	–
Total for Corporate (excluding Specialised Lending and firm-size adjustment)	37,404,907			4,134,628	20,503,912
Corporate (with firm-size adjustment)					
0.0000-0.1200	841,688	43.24	22.94	4,277	193,074
0.1200-0.6440	4,634,996	42.12	47.63	127,863	2,207,590
0.6440-3.0000	8,007,720	37.83	83.06	71,629	6,651,130
3.0000-100	1,653,355	37.86	130.17	22,074	2,152,163
100	261,330	43.31	–	53	–
Total for Corporate (with firm-size adjustment)	15,399,089			225,896	11,203,957
Total Non-Retail Exposures	61,643,199			4,385,247	33,066,786

RETAIL PORTFOLIO

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

Separate PD, EAD and LGD statistical models are developed at the respective retail portfolio level, with each model covering borrowers with fundamentally similar risk profiles in a portfolio. The estimates derived from such models are used as input for RWA calculations.

AIRB Coverage for Retail Portfolios

Currently the following material retail portfolios are under Retail IRB:

Basel II Retail Sub-portfolio category	Maybank Retail Portfolios
Residential Mortgage	• Housing Loan (Malaysia, Singapore and Indonesia) • Other Property Based Loan (Malaysia) • Staff Housing Loan (Malaysia) • Equity Term Loan (Singapore)
Qualifying Revolving Retail Exposure ("QRRE")	• Credit Card (Malaysia, Singapore and Indonesia)
Other Retail	• Auto Loan (Malaysia, Singapore and Indonesia) • Unit Trust Loan (Malaysia) • Commercial Property Loan (Malaysia)

Retail Small and Medium Enterprises ("RSME") Portfolio

Legal entities that carry a maximum exposure of RM5 million and are eligible for treatment as 'retail' exposure, are rated under the RSME scorecard. Similar to retail portfolios, separate PD, EAD and LGD statistical models are developed at the portfolio level; each model covering borrowers with fundamentally similar risk profiles in a portfolio.

Retail and RSME Masterscale

A retail and RSME masterscale with mapping to PD is used to promote a common risk language across the Group's retail portfolios as shown in the table below:

Table 25: Retail and RSME Masterscale

Rating Grade	PD range
R1 to R2	0.25% to 0.44%
R3 to R5	0.79% to 2.50%
R6 to R8	4.45% to 14.06%
R9 to R11	25% to 79.06%

Risk Measurement for Retail Portfolio

Application and behaviour scorecards are part of Basel II Retail IRB models and are used to estimate the probability that a customer will fail to make full and timely repayment of credit obligations. Business decisions and strategies are then built around the scores.

Application Scorecard

With application scorecards, at the point of time when an applicant applies for the credit facility, each applicant is assigned a score that corresponds to the probability of future repayment. Scores are designed to rank-order the riskiness of the applicants, whereby higher score represents lower risk.

Application scorecards benefit both risk management and business acquisition process through:

- Consistency in credit risk assessment;
- Improved turnaround time;
- Better management control of the portfolios; and
- Improved revenue and profit through the identification and acceptance of additional business.

Currently, application scorecards are deployed for all major retail portfolios in Malaysia, Singapore and Indonesia.

Behaviour Scorecard

The Credit Card product is subject to variable utilisation and payment patterns; a customer is able to utilise any portion of the granted limit and pay any amount of the outstanding balance. Due to the volatile nature of the product, a more robust risk measurement tool is required to manage the portfolio.

Behavioural Scorecards are therefore developed for Credit Card portfolios both in Malaysia and Singapore. Behaviour score measures the borrower's riskiness based on transaction information and behavioural pattern of customer's utilisation and payment of the credit card. The scores are generated on a monthly basis and amongst others, are being used for the following purposes:

- Collection Strategies;
- Limit Management; and
- Transaction Authorisation.

With the use of Behaviour score, the Credit Card portfolio is able to be closely managed to reduce defaulters, increase collection and ultimately increase profitability.

Tables 26 through 28 show the exposures by PD bands for Retail Portfolios of the Group, the Bank and Maybank Islamic, respectively. A summary of the PD distribution of these exposures are also provided.

Table 26: Disclosure on Exposures by PD band (IRB Approach) for Retail for Maybank Group

PD Range (%)	EAD Post CRM RM'000	Exposure Weighted Average LGD (%)	Exposure Weighted Average Risk Weight (%)	Undrawn Commitments RM'000	RWA RM'000
As at 31.12.2018					
Retail Exposures					
Residential Mortgages					
0.0000-0.5900	**46,187,077**	**13.48**	**8.84**	**33,715**	**4,081,629**
0.5900-3.3330	**29,774,601**	**14.32**	**20.75**	**30,704**	**6,177,829**
3.3330-18.7500	**4,394,101**	**14.58**	**55.11**	**11,492**	**2,421,626**
18.7500-100	**1,123,139**	**13.23**	**73.69**	**612**	**827,610**
100	**727,355**	**36.07**	**87.57**	**1,145**	**636,934**
Total for Residential Mortgages Exposures	**82,206,273**			**77,668**	**14,145,628**
Qualifying Revolving Retail Exposures					
0.0000-0.5900	**8,718,032**	**71.16**	**11.54**	**5,723,512**	**1,006,021**
0.5900-3.3330	**7,525,885**	**71.16**	**34.75**	**3,536,859**	**2,614,972**
3.3330-18.7500	**1,486,963**	**71.16**	**109.49**	**341,609**	**1,628,128**
18.7500-100	**409,930**	**71.16**	**196.33**	**68,231**	**804,801**
100	**101,570**	**71.16**	**133.82**	**5,406**	**135,924**
Total for Qualifying Revolving Retail Exposures	**18,242,380**			**9,675,617**	**6,189,846**
Hire Purchase Exposures					
0.0000-0.5900	**40,591,320**	**41.85**	**16.74**	**–**	**6,795,123**
0.5900-3.3330	**5,766,007**	**40.00**	**45.13**	**–**	**2,602,452**
3.3330-18.7500	**1,712,834**	**39.38**	**62.22**	**–**	**1,065,684**
18.7500-100	**358,560**	**39.51**	**104.46**	**–**	**374,548**
100	**2,282,337**	**79.32**	**58.25**	**–**	**1,329,458**
Total Hire Purchase Exposures	**50,711,058**			**–**	**12,167,265**
Other Retail Exposures					
0.0000-0.5900	**23,764,903**	**20.00**	**11.52**	**2,447,560**	**2,737,547**
0.5900-3.3330	**35,975,186**	**17.83**	**22.00**	**5,245,293**	**7,913,087**
3.3330-18.7500	**16,886,640**	**14.30**	**20.67**	**311,367**	**3,491,011**
18.7500-100	**2,555,615**	**43.46**	**46.09**	**34,905**	**1,177,925**
100	**827,552**	**35.51**	**37.50**	**11,023**	**310,328**
Total Other Retail Exposures	**80,009,896**			**8,050,148**	**15,629,898**
Total Retail Exposures	**231,169,607**			**17,803,433**	**48,132,637**
As at 31.12.2017					
Retail Exposures					
Residential Mortgages					
0.0000-0.5900	39,565,929	13.73	8.75	25,422	3,460,897
0.5900-3.3330	29,205,603	15.38	22.21	36,866	6,486,324
3.3330-18.7500	4,934,269	16.64	59.74	16,295	2,947,493
18.7500-100	1,341,093	14.01	76.20	1,754	1,021,941
100	521,488	37.66	91.52	711	477,264
Total for Residential Mortgages Exposures	75,568,382			81,048	14,393,919
Qualifying Revolving Retail Exposures					
0.0000-0.5900	8,456,166	68.26	11.93	5,703,279	1,008,903
0.5900-3.3330	6,532,996	67.71	34.82	2,984,162	2,274,650
3.3330-18.7500	1,509,084	65.83	109.32	252,468	1,649,777
18.7500-100	282,600	63.18	199.78	46,914	564,582
100	43,821	75.56	118.12	9,060	51,760
Total for Qualifying Revolving Retail Exposures	16,824,667			8,995,883	5,549,672
Hire Purchase Exposures					
0.0000-0.5900	33,968,055	42.95	15.22	–	5,169,005
0.5900-3.3330	5,585,375	40.82	43.37	–	2,422,480
3.3330-18.7500	1,983,018	40.32	61.22	–	1,214,004
18.7500-100	411,204	39.96	96.66	–	397,464
100	2,016,133	81.58	46.17	–	930,925
Total Hire Purchase Exposures	43,963,785			–	10,133,878
Other Retail Exposures					
0.0000-0.5900	22,837,743	20.77	11.41	2,982,642	2,605,800
0.5900-3.3330	37,491,078	18.59	22.34	4,711,507	8,375,429
3.3330-18.7500	11,886,910	15.44	25.92	579,744	3,081,125
18.7500-100	2,298,769	24.56	57.15	49,904	1,313,856
100	753,076	43.24	52.69	6,952	396,770
Total Other Retail Exposures	75,267,576			8,330,749	15,772,980
Total Retail Exposures	211,624,410			17,407,680	45,850,449

Table 27: Disclosure on Exposures by PD band (IRB Approach) for Retail for Maybank

PD Range (%)	EAD Post CRM RM'000	Exposure Weighted Average LGD (%)	Exposure Weighted Average Risk Weight (%)	Undrawn Commitments RM'000	RWA RM'000
As at 31.12.2018					
Retail Exposures					
Residential Mortgages					
0.0000-0.5900	**11,011,845**	**13.62**	**8.81**	**26,779**	**969,796**
0.5900-3.3330	**13,755,467**	**14.80**	**21.06**	**19,014**	**2,896,559**
3.3330-18.7500	**1,838,231**	**15.18**	**55.93**	**9,737**	**1,028,136**
18.7500-100	**508,038**	**12.70**	**71.83**	**493**	**364,905**
100	**230,248**	**44.36**	**82.19**	**643**	**189,252**
Total for Residential Mortgages Exposures	**27,343,829**			**56,666**	**5,448,648**
Qualifying Revolving Retail Exposures					
0.0000-0.5900	**4,448,097**	**61.74**	**8.28**	**2,392,823**	**368,145**
0.5900-3.3330	**3,353,568**	**61.74**	**31.10**	**1,146,822**	**1,043,076**
3.3330-18.7500	**640,280**	**61.74**	**86.68**	**117,100**	**554,986**
18.7500-100	**238,825**	**61.74**	**177.95**	**53,137**	**424,997**
100	**49,046**	**61.74**	**140.81**	**–**	**69,061**
Total for Qualifying Revolving Retail Exposures	**8,729,816**			**3,709,882**	**2,460,265**
Hire Purchase Exposure					
0.0000-0.5900	**8,441,421**	**46.33**	**17.98**	**–**	**1,518,076**
0.5900-3.3330	**900,359**	**43.66**	**46.48**	**–**	**418,491**
3.3330-18.7500	**301,362**	**41.51**	**63.27**	**–**	**190,681**
18.7500-100	**65,162**	**41.28**	**105.94**	**–**	**69,034**
100	**54,051**	**82.23**	**216.64**	**–**	**117,098**
Total Hire Purchase Exposures	**9,762,355**			**–**	**2,313,380**
Other Retail Exposures					
0.0000-0.5900	**6,343,526**	**22.99**	**14.14**	**357,543**	**896,995**
0.5900-3.3330	**16,777,644**	**20.75**	**22.74**	**3,293,045**	**3,815,782**
3.3330-18.7500	**4,793,544**	**14.66**	**23.21**	**218,843**	**1,112,799**
18.7500-100	**876,118**	**23.25**	**55.90**	**22,352**	**489,743**
100	**323,471**	**47.60**	**41.49**	**4,652**	**134,212**
Total Other Retail Exposures	**29,114,303**			**3,896,435**	**6,449,531**
Total Retail Exposures	**74,950,303**			**7,662,983**	**16,671,824**
As at 31.12.2017					
Retail Exposures					
Residential Mortgages					
0.0000-0.5900	27,976,664	12.95	8.09	22,583	2,262,260
0.5900-3.3330	15,684,367	14.36	20.36	35,199	3,193,686
3.3330-18.7500	2,475,476	14.80	54.64	14,515	1,352,610
18.7500-100	658,197	13.08	74.67	1,616	491,508
100	271,662	30.37	105.65	482	287,014
Total for Residential Mortgages Exposures	47,066,366			74,395	7,587,078
Qualifying Revolving Retail Exposures					
0.0000-0.5900	7,644,629	74.78	12.34	5,350,639	943,031
0.5900-3.3330	5,172,424	73.67	33.72	2,633,533	1,744,025
3.3330-18.7500	992,313	69.92	101.27	237,158	1,004,883
18.7500-100	169,054	64.62	186.77	39,884	315,748
100	24,371	89.38	122.63	4,006	29,886
Total for Qualifying Revolving Retail Exposures	14,002,791			8,265,220	4,037,573
Hire Purchase Exposure					
0.0000-0.5900	13,412,684	40.84	15.40	–	2,065,889
0.5900-3.3330	1,629,509	38.90	41.50	–	676,255
3.3330-18.7500	454,395	39.62	60.92	–	276,817
18.7500-100	80,637	39.23	100.37	–	80,936
100	64,565	80.53	215.04	–	138,841
Total Hire Purchase Exposures	15,641,790			–	3,238,738
Other Retail Exposures					
0.0000-0.5900	17,435,879	16.80	10.09	2,878,329	1,759,486
0.5900-3.3330	23,866,699	19.37	21.36	4,350,874	5,097,580
3.3330-18.7500	4,373,744	17.71	28.74	414,945	1,256,986
18.7500-100	947,404	28.78	69.79	28,701	661,156
100	406,697	43.09	68.65	3,984	279,179
Total Other Retail Exposures	47,030,423			7,676,833	9,054,387
Total Retail Exposures	123,741,370			16,016,448	23,917,776

Table 28: Disclosure on Exposures by PD band (IRB Approach) for Retail for Maybank Islamic

PD Range (%)	EAD Post CRM RM'000	Exposure Weighted Average LGD (%)	Exposure Weighted Average Risk Weight (%)	Undrawn Commitments RM'000	RWA RM'000
As at 31.12.2018					
Retail Exposures					
Residential Mortgages					
0.0000-0.5900	**13,251,084**	**14.00**	**9.61**	**285**	**1,273,626**
0.5900-3.3330	**16,815,542**	**15.34**	**21.96**	**3,655**	**3,693,177**
3.3330-18.7500	**1,774,040**	**15.74**	**58.22**	**1,291**	**1,032,771**
18.7500-100	**431,275**	**14.18**	**81.15**	**120**	**349,991**
100	**233,243**	**46.10**	**93.39**	**502**	**217,818**
Total for Residential Mortgages Exposures	**32,505,184**			**5,853**	**6,567,383**
Qualifying Revolving Retail Exposures					
0.0000-0.5900	**816,688**	**61.74**	**7.90**	**399,239**	**64,487**
0.5900-3.3330	**955,845**	**61.74**	**31.37**	**404,434**	**299,877**
3.3330-18.7500	**170,013**	**61.74**	**84.58**	**44,248**	**143,805**
18.7500-100	**55,252**	**61.74**	**170.88**	**9,238**	**94,416**
100	**13,187**	**61.74**	**147.40**	**–**	**19,439**
Total for Qualifying Revolving Retail Exposures	**2,010,985**			**857,159**	**622,024**
Hire Purchase Exposures					
0.0000-0.5900	**26,370,183**	**45.13**	**17.94**	**–**	**4,731,576**
0.5900-3.3330	**3,486,671**	**42.43**	**45.37**	**–**	**1,581,876**
3.3330-18.7500	**1,290,820**	**40.74**	**61.81**	**–**	**797,847**
18.7500-100	**271,943**	**40.24**	**103.33**	**–**	**281,008**
100	**146,017**	**82.72**	**224.44**	**–**	**327,727**
Total Hire Purchase Exposures	**31,565,634**			**–**	**7,720,034**
Other Retail Exposures					
0.0000-0.5900	**7,117,744**	**23.70**	**14.69**	**102,313**	**1,045,889**
0.5900-3.3330	**22,279,440**	**18.98**	**21.33**	**213,236**	**4,752,924**
3.3330-18.7500	**17,015,672**	**11.69**	**18.40**	**27,730**	**3,131,235**
18.7500-100	**1,677,321**	**17.11**	**40.74**	**12,296**	**683,354**
100	**441,390**	**37.08**	**21.98**	**3,691**	**97,033**
Total Other Retail Exposures	**48,531,567**			**359,266**	**9,710,435**
Total Retail Exposures	**114,613,370**			**1,222,278**	**24,619,876**
As at 31.12.2017					
Retail Exposures					
Residential Mortgages					
0.0000-0.5900	9,347,644	14.50	9.94	2,839	928,792
0.5900-3.3330	15,522,435	16.39	24.44	1,668	3,794,248
3.3330-18.7500	2,241,619	18.47	66.28	1,780	1,485,786
18.7500-100	465,345	14.94	85.46	137	397,662
100	99,548	44.94	91.43	229	91,018
Total for Residential Mortgages Exposures	27,676,591			6,653	6,697,506
Qualifying Revolving Retail Exposures					
0.0000-0.5900	690,252	61.74	7.96	352,640	54,955
0.5900-3.3330	797,179	61.74	31.19	350,629	248,603
3.3330-18.7500	149,310	61.74	87.34	15,309	130,402
18.7500-100	37,836	61.74	179.72	7,029	68,000
100	66	61.74	118.62	–	79
Total for Qualifying Revolving Retail Exposures	1,674,643			725,607	502,039
Hire Purchase Exposures					
0.0000-0.5900	25,119,407	45.05	17.99	–	4,517,898
0.5900-3.3330	3,589,239	42.74	45.55	–	1,634,967
3.3330-18.7500	1,451,514	41.02	62.37	–	905,362
18.7500-100	282,650	40.68	104.45	–	295,241
100	140,806	82.62	219.42	–	308,956
Total Hire Purchase Exposures	30,583,616			–	7,662,424
Other Retail Exposures					
0.0000-0.5900	5,401,864	24.75	15.67	104,313	846,313
0.5900-3.3330	23,965,075	17.80	20.53	360,633	4,919,839
3.3330-18.7500	10,960,064	13.17	21.64	64,799	2,371,470
18.7500-100	1,351,365	20.35	48.30	21,203	652,700
100	346,379	43.38	33.95	2,968	117,591
Total Other Retail Exposures	42,024,747			553,916	8,907,913
Total Retail Exposures	101,959,597			1,286,176	23,769,882

INDEPENDENT MODEL VALIDATION

The use of models will give rise to model risk, which is defined as the risk of a model not performing the tasks or able to capture the risks it was designed to. Any model not performing in line with expectations may potentially result in financial loss, incorrect business decisions, misstatement of external financial disclosures, or damage to the reputation.

To manage this risk, model validation is performed to assess whether the model is performing according to expectations. The model validation function at the Group is distinct from the model development function and model users, with the objective to provide the required independence in performing the function. In line with regulatory requirements, all credit IRB models used for capital calculation and finance models for FRS 9 are subject to independent validation by the Model Validation team. Additionally, as part of best practices, other significant models such as market risk models used for valuation and pricing are also subject to validation. Approval and oversight of model validation are governed by the technical committee and the relevant risk committees. The technical committee known as Model Validation and Acceptance Committee ("MVAC") meets regularly and its membership is drawn from Risk and Business stakeholders.

Scope and Frequency of Model Validation

Validation techniques include both quantitative and qualitative analysis to test the appropriateness and robustness of the models used. Validation of the models covers activities that evaluate and examine the rating system and the estimation process and methods for deriving the risk components. For instance, for credit risk models the risk components are known as PD, LGD and EAD. The process involves validating whether the risk models are capable of discriminating ('discriminatory or rank ordering power') and are giving consistent and predictive estimates ('calibration') of the relevant risk parameters.

Model validation is conducted at two stages:

- Pre-implementation model validation which is conducted prior to launch of the model; and
- Post-implementation validation which is performed at least on an annual basis for models used for IRB capital calculation. For other types of models which are deemed less risky and not subject to regulatory requirements, post-implementation validation may be performed on a less frequent basis.

In addition to annual review, frequent monitoring are performed by the model owners to ensure that the models are performing as expected, and that the assumptions used in model development remain appropriate.

As part of overall governance, validation processes are also subject to regular independent review by Internal Audit.

CREDIT RISK MITIGATION

The Group takes a holistic approach when granting credit facilities and will be based on the repayment capacity of the borrower, rather than placing the credit risk mitigation as a primary source of repayment. As a fundamental credit principle, the Group generally does not grant facilities solely on the basis of collaterals provided. Credit facilities are granted based on the credit standing of the borrower, source of repayment and debt servicing ability.

Depending on a customer's credit standing and the type of product, facilities may be provided on an unsecured basis. Nevertheless, collateral is taken whenever possible to mitigate the credit risk assumed. The Group's general policy is to promote the use of credit risk mitigation, justified by commercial prudence and good practice as well as capital efficiency. The value of collateral taken is also monitored periodically. The frequency of valuation depends on the type, liquidity and volatility of the collateral value. The main types of collateral taken by the Group include cash, marketable securities, real estate, equipment, inventory and trade receivables. For IRB purposes, personal guarantees are not recognised as an eligible credit risk protection.

Corporate guarantees are often obtained when the borrower's credit worthiness is not sufficient to accommodate an extension of credit. To recognise the effects of guarantees under the FIRB approach, the Group adopts the Probability of Default substitution approach whereby exposures guaranteed by an eligible guarantor will utilise the PD of the guarantor in the computation of its capital requirement.

As a general rule-of-thumb, the following eligibility criteria must be met before the collateral can be accepted for IRB purposes:

- **Legal Certainty**

  The documentation must be legally binding and enforceable in all relevant jurisdictions.
- **Material Positive Correlation**

  The value of the collateral must not be significantly affected by the deterioration of the borrower's credit worthiness.
- **Third-party Custodian**

  The collateral that is held by a third party custodian must be segregated from the custodian's own assets.

Tables 29 through 31 show the credit risk mitigation analysis under the Standardised Approach for the Group, the Bank and Maybank Islamic, respectively, whilst Tables 32 through 34 show the credit risk mitigation analysis under the IRB Approach.

Table 29: Disclosure on Credit Risk Mitigation Analysis (Standardised approach) for Maybank Group

Exposure Class	Exposures before CRM RM'000	Exposures Covered by Guarantees/ Credit Derivatives RM'000	Exposures Covered by Eligible Financial Collateral RM'000	Exposures Covered by Other Eligible Collateral RM'000
As at 31.12.2018				
On-Balance Sheet Exposures				
Sovereigns/Central Banks	**145,035,729**	**–**	**–**	**–**
Public Sector Entities	**11,950,673**	**6,156,269**	**1,177,220**	**–**
Banks, Development Financial Institutions & MDBs	**1,586,755**	**–**	**–**	**–**
Insurance Cos, Securities Firms & Fund Managers	**245,923**	**–**	**–**	**–**
Corporates	**19,128,985**	**96,531**	**1,785,314**	**5,262**
Regulatory Retail	**32,342,910**	**–**	**4,950,838**	**53,006**
Residential Mortgages	**1,653,247**	**–**	**–**	**814,401**
Higher Risk Assets	**472,335**	**–**	**–**	**–**
Other Assets	**10,199,326**	**–**	**–**	**–**
Securitisation Exposures	**61,048**	**–**	**–**	**–**
Equity Exposures	**248,303**	**–**	**–**	**–**
Defaulted Exposures	**615,649**	**–**	**3,867**	**10,253**
Total On-Balance Sheet Exposures	**223,540,883**	**6,252,800**	**7,917,239**	**882,922**
Off-Balance Sheet Exposures				
OTC Derivatives	**512,982**	**–**	**–**	**–**
Off-balance sheet exposures other than OTC derivatives or credit derivatives	**1,959,374**	**–**	**37,802**	**535**
Defaulted Exposures	**1,033**	**–**	**–**	**–**
Total for Off-Balance Sheet Exposures	**2,473,389**	**–**	**37,802**	**535**
Total On and Off-Balance Sheet Exposures	**226,014,272**	**6,252,800**	**7,955,041**	**883,457**
As at 31.12.2017				
On-Balance Sheet Exposures				
Sovereigns/Central Banks	122,775,998	–	–	–
Public Sector Entities	22,840,791	16,629,816	756,640	–
Banks, Development Financial Institutions & MDBs	3,269,679	–	–	–
Insurance Cos, Securities Firms & Fund Managers	393,327	–	–	–
Corporates	17,969,903	32,258	766,657	18,596
Regulatory Retail	31,342,925	–	5,378,788	2,897,358
Residential Mortgages	3,826,609	–	–	407,873
Higher Risk Assets	400,619	–	–	–
Other Assets	12,685,588	–	–	–
Securitisation Exposures	61,467	–	–	–
Equity Exposures	490,756	–	–	–
Defaulted Exposures	497,352	–	5,929	2,993
Total On-Balance Sheet Exposures	216,555,014	16,662,074	6,908,014	3,326,820
Off-Balance Sheet Exposures				
OTC Derivatives	537,335	–	–	–
Off-balance sheet exposures other than OTC derivatives or credit derivatives	2,044,952	–	30,663	2,831
Defaulted Exposures	7,599	–	–	–
Total for Off-Balance Sheet Exposures	2,589,886	–	30,663	2,831
Total On and Off-Balance Sheet Exposures	219,144,900	16,662,074	6,938,677	3,329,651

Table 30: Disclosure on Credit Risk Mitigation Analysis (Standardised approach) for Maybank

Exposure Class	Exposures before CRM RM'000	Exposures Covered by Guarantees/ Credit Derivatives RM'000	Exposures Covered by Eligible Financial Collateral RM'000	Exposures Covered by Other Eligible Collateral RM'000
As at 31.12.2018				
On-Balance Sheet Exposures				
Sovereigns/Central Banks	**83,595,999**	**–**	**–**	**–**
Public Sector Entities	**11,172,661**	**5,762,802**	**1,175,689**	**–**
Banks, Development Financial Institutions & MDBs	**403,626**	**–**	**–**	**–**
Insurance Cos, Securities Firms & Fund Managers	**55,094**	**–**	**–**	**–**
Corporates	**12,641,356**	**75,250**	**16,411**	**–**
Regulatory Retail	**5,255,010**	**–**	**1,288,965**	**–**
Residential Mortgages	**574,955**	**–**	**–**	**264,276**
Higher Risk Assets	**173,744**	**–**	**–**	**–**
Other Assets	**6,942,048**	**–**	**–**	**–**
Securitisation Exposures	**61,048**	**–**	**–**	**–**
Equity Exposures	**142,110**	**–**	**–**	**–**
Defaulted Exposures	**120,700**	**–**	**3,564**	**1,524**
Total On-Balance Sheet Exposures	**121,138,351**	**5,838,052**	**2,484,629**	**265,800**
Off-Balance Sheet Exposures				
OTC Derivatives	**310,700**	**–**	**–**	**–**
Off-balance sheet exposures other than OTC derivatives or credit derivatives	**926,894**	**–**	**34,524**	**–**
Defaulted Exposures	**77**	**–**	**–**	**–**
Total for Off-Balance Sheet Exposures	**1,237,671**	**–**	**34,524**	**–**
Total On and Off-Balance Sheet Exposures	**122,376,022**	**5,838,052**	**2,519,153**	**265,800**
As at 31.12.2017				
On-Balance Sheet Exposures				
Sovereigns/Central Banks	83,932,589	–	–	–
Public Sector Entities	13,194,608	7,193,958	752,207	–
Banks, Development Financial Institutions & MDBs	–	–	–	–
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–
Corporates	11,201,506	32,258	16,427	236
Regulatory Retail	13,934,026	–	1,683,499	–
Residential Mortgages	437,944	–	–	267,473
Higher Risk Assets	128,604	–	–	–
Other Assets	9,775,160	–	–	–
Securitisation Exposures	61,467	–	–	–
Equity Exposures	323,725	–	–	–
Defaulted Exposures	131,004	–	5,929	1,102
Total On-Balance Sheet Exposures	133,120,633	7,226,216	2,458,062	268,811
Off-Balance Sheet Exposures				
OTC Derivatives	451,625	–	–	–
Off-balance sheet exposures other than OTC derivatives or credit derivatives	1,386,154	–	30,663	1
Defaulted Exposures	7,470	–	–	–
Total for Off-Balance Sheet Exposures	1,845,249	–	30,663	1
Total On and Off-Balance Sheet Exposures	134,965,882	7,226,216	2,488,725	268,812

Table 31: Disclosure on Credit Risk Mitigation Analysis (Standardised approach) for Maybank Islamic

Exposure Class	Exposures before CRM RM'000	Exposures Covered by Guarantees/ Credit Derivatives RM'000	Exposures Covered by Eligible Financial Collateral RM'000	Exposures Covered by Other Eligible Collateral RM'000
As at 31.12.2018				
On-Balance Sheet Exposures				
Sovereigns/Central Banks	**35,589,622**	**–**	**–**	**–**
Public Sector Entities	**6,650,512**	**393,467**	**1,530**	**–**
Banks, Development Financial Institutions & MDBs	**1**	**–**	**–**	**–**
Insurance Cos, Securities Firms & Fund Managers	**4,235**	**–**	**–**	**–**
Corporates	**1,496,300**	**21,281**	**–**	**2,876**
Regulatory Retail	**3,956,709**	**–**	**889,212**	**–**
Residential Mortgages	**548,658**	**–**	**–**	**548,658**
Higher Risk Assets	**1,286**	**–**	**–**	**–**
Other Assets	**486,584**	**–**	**–**	**–**
Defaulted Exposures	**19,370**	**–**	**293**	**2,214**
Total On-Balance Sheet Exposures	**48,753,277**	**414,748**	**891,035**	**553,748**
Off-Balance Sheet Exposures				
OTC Derivatives	**–**	**–**	**–**	**–**
Off-balance sheet exposures other than OTC derivatives or credit derivatives	**66,424**	**–**	**–**	**–**
Total for Off-Balance Sheet Exposures	**66,424**	**–**	**–**	**–**
Total On and Off-Balance Sheet Exposures	**48,819,701**	**414,748**	**891,035**	**553,748**
As at 31.12.2017				
On-Balance Sheet Exposures				
Sovereigns/Central Banks	27,310,794	–	–	–
Public Sector Entities	14,945,783	9,435,858	4,433	–
Banks, Development Financial Institutions & MDBs	1	–	–	–
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–
Corporates	2,608,048	–	–	2,876
Regulatory Retail	3,794,110	–	795,889	2,897,358
Residential Mortgages	2,897,358	–	–	–
Higher Risk Assets	36	–	–	–
Other Assets	525,325	–	–	–
Defaulted Exposures	17,028	–	–	1,891
Total On-Balance Sheet Exposures	52,098,483	9,435,858	800,322	2,902,125
Off-Balance Sheet Exposures				
OTC Derivatives	61,054	–	–	–
Off-balance sheet exposures other than OTC derivatives or credit derivatives	169,430	–	–	–
Total for Off-Balance Sheet Exposures	230,484	–	–	–
Total On and Off-Balance Sheet Exposures	52,328,967	9,435,858	800,322	2,902,125

Table 32: Disclosure on Credit Risk Mitigation Analysis (IRB Approach) for Maybank Group

Exposure Class	Exposures before CRM RM'000	Exposures Covered by Guarantees/ Credit Derivatives RM'000	Exposures Covered by Eligible Financial Collateral RM'000	Exposures Covered by Other Eligible Collateral RM'000
As at 31.12.2018				
On-Balance Sheet Exposures				
Public Sector Entities	**9,920,995**	**9,766,960**	**–**	**36,429**
Banks, Development Financial Institutions & MDBs	**46,546,755**	**–**	**–**	**–**
Corporate Exposures	**234,378,727**	**7,035,052**	**3,297,494**	**21,412,959**
a) Corporates (excluding Specialised Lending and firm-size adjustment)	**184,046,678**	**5,533,943**	**2,511,542**	**19,061,503**
b) Corporates (with firm-size adjustment)	**50,332,049**	**1,501,109**	**785,952**	**2,351,456**
Retail Exposures	**208,926,673**	**–**	**–**	**–**
a) Residential Mortgages	**81,390,409**	**–**	**–**	**–**
b) Qualifying Revolving Retail Exposures	**8,028,116**	**–**	**–**	**–**
c) Hire Purchase Exposures	**48,428,722**	**–**	**–**	**–**
d) Other Retail Exposures	**71,079,426**	**–**	**–**	**–**
Defaulted Exposures	**11,029,133**	**23,177**	**17,036**	**1,146,714**
Total On-Balance Sheet Exposures	**510,802,283**	**16,825,189**	**3,314,530**	**22,596,102**
Off-Balance Sheet Exposures				
OTC Derivatives	**16,949,642**	**–**	**219,268**	**–**
Off-balance sheet exposures other than OTC derivatives or credit derivatives	**65,213,496**	**80,028**	**372,281**	**1,335,055**
Defaulted Exposures	**792,991**	**–**	**1,088**	**36,608**
Total for Off-Balance Sheet Exposures	**82,956,129**	**80,028**	**592,637**	**1,371,663**
Total On and Off-Balance Sheet Exposures	**593,758,412**	**16,905,217**	**3,907,167**	**23,967,765**
As at 31.12.2017				
On-Balance Sheet Exposures				
Public Sector Entities	–	–	–	–
Banks, Development Financial Institutions & MDBs	53,881,944	–	523,783	–
Corporate Exposures	235,961,877	4,359,947	3,943,687	24,080,916
a) Corporates (excluding Specialised Lending and firm-size adjustment)	191,813,872	4,359,947	3,943,687	24,080,916
b) Corporates (with firm-size adjustment)	44,148,005	–	–	–
Retail Exposures	191,152,691	–	–	–
a) Residential Mortgages	75,237,737	–	–	–
b) Qualifying Revolving Retail Exposures	7,349,137	–	–	–
c) Hire Purchase Exposures	42,012,215	–	–	–
d) Other Retail Exposures	66,553,602	–	–	–
Defaulted Exposures	9,334,882	–	56,916	839,915
Total On-Balance Sheet Exposures	490,331,394	4,359,947	4,524,386	24,920,831
Off-Balance Sheet Exposures				
OTC Derivatives	6,439,476	–	–	–
Off-balance sheet exposures other than OTC derivatives or credit derivatives	55,701,968	15,732	409,944	1,026,011
Defaulted Exposures	533,456	–	338	2,800
Total for Off-Balance Sheet Exposures	62,674,900	15,732	410,282	1,028,811
Total On and Off-Balance Sheet Exposures	553,006,294	4,375,679	4,934,668	25,949,642

Table 33: Disclosure on Credit Risk Mitigation Analysis (IRB Approach) for Maybank

Exposure Class	Exposures before CRM RM'000	Exposures Covered by Guarantees/ Credit Derivatives RM'000	Exposures Covered by Eligible Financial Collateral RM'000	Exposures Covered by Other Eligible Collateral RM'000
As at 31.12.2018				
On-Balance Sheet Exposures				
Public Sector Entities	**2,316,725**	**2,206,235**	**–**	**–**
Banks, Development Financial Institutions & MDBs	**50,897,366**	**–**	**–**	**–**
Corporate Exposures	**165,282,637**	**3,771,921**	**2,593,337**	**17,887,827**
a) Corporates (excluding Specialised Lending and firm-size adjustment)	**135,656,849**	**2,304,681**	**2,014,731**	**17,887,827**
b) Corporates (with firm-size adjustment)	**29,625,788**	**1,467,240**	**578,606**	**–**
Retail Exposures	**66,494,849**	**–**	**–**	**–**
a) Residential Mortgages	**27,057,558**	**–**	**–**	**–**
b) Qualifying Revolving Retail Exposures	**4,970,888**	**–**	**–**	**–**
c) Hire Purchase Exposures	**9,708,304**	**–**	**–**	**–**
d) Other Retail Exposures	**24,758,099**	**–**	**–**	**–**
Defaulted Exposures	**5,796,839**	**7,528**	**15,747**	**639,348**
Total On-Balance Sheet Exposures	**290,788,416**	**5,985,684**	**2,609,084**	**18,527,175**
Off-Balance Sheet Exposures				
OTC Derivatives	**8,345,704**	**–**	**214,267**	**–**
Off-balance sheet exposures other than OTC derivatives or credit derivatives	**45,115,929**	**57,398**	**317,222**	**1,265,219**
Defaulted Exposures	**330,041**	**–**	**649**	**29,361**
Total for Off-Balance Sheet Exposures	**53,791,674**	**57,398**	**532,138**	**1,294,580**
Total On and Off-Balance Sheet Exposures	**344,580,090**	**6,043,082**	**3,141,222**	**19,821,755**
As at 31.12.2017				
On-Balance Sheet Exposures				
Public Sector Entities	–	–	–	–
Banks, Development Financial Institutions & MDBs	63,692,418	–	518,782	–
Corporate Exposures	183,807,840	3,538,362	3,050,842	23,786,178
a) Corporates (excluding Specialised Lending and firm-size adjustment)	155,058,924	3,538,362	3,050,842	23,786,178
b) Corporates (with firm-size adjustment)	28,748,916	–	–	–
Retail Exposures	107,574,829	–	–	–
a) Residential Mortgages	46,991,971	–	–	–
b) Qualifying Revolving Retail Exposures	5,737,571	–	–	–
c) Hire Purchase Exposures	15,641,790	–	–	–
d) Other Retail Exposures	39,203,497	–	–	–
Defaulted Exposures	5,684,671	–	56,122	473,815
Total On-Balance Sheet Exposures	360,759,758	3,538,362	3,625,746	24,259,993
Off-Balance Sheet Exposures				
OTC Derivatives	4,315,808	–	–	–
Off-balance sheet exposures other than OTC derivatives or credit derivatives	46,936,830	15,732	410,008	1,028,843
Defaulted Exposures	58,540	–	178	1,341
Total for Off-Balance Sheet Exposures	51,311,178	15,732	410,186	1,030,184
Total On and Off-Balance Sheet Exposures	412,070,936	3,554,094	4,035,932	25,290,177

Table 34: Disclosure on Credit Risk Mitigation Analysis (IRB Approach) for Maybank Islamic

Exposure Class	Exposures before CRM RM'000	Exposures Covered by Guarantees/ Credit Derivatives RM'000	Exposures Covered by Eligible Financial Collateral RM'000	Exposures Covered by Other Eligible Collateral RM'000
As at 31.12.2018				
On-Balance Sheet Exposures				
Public Sector Entities	**7,604,270**	**7,560,724**	**–**	**36,429**
Banks, Development Financial Institutions & MDBs	**5,862,475**	**–**	**–**	**–**
Corporate Exposures	**44,551,826**	**3,229,262**	**418,958**	**1,140,831**
a) Corporates (excluding Specialised Lending and firm-size adjustment)	**31,792,673**	**3,229,262**	**418,958**	**1,140,831**
b) Corporates (with firm-size adjustment)	**12,759,153**	**–**	**–**	**–**
Retail Exposures	**112,626,846**	**–**	**–**	**–**
a) Residential Mortgages	**32,254,603**	**–**	**–**	**–**
b) Qualifying Revolving Retail Exposures	**1,140,868**	**–**	**–**	**–**
c) Hire Purchase Exposures	**31,419,617**	**–**	**–**	**–**
d) Other Retail Exposures	**47,811,758**	**–**	**–**	**–**
Defaulted Exposures	**1,998,820**	**15,649**	**1,217**	**442,872**
Total On-Balance Sheet Exposures	**172,644,237**	**10,805,635**	**420,175**	**1,620,132**
Off-Balance Sheet Exposures				
OTC Derivatives	**7,644,160**	**–**	**5,001**	**–**
Off-balance sheet exposures other than OTC derivatives or credit derivatives	**8,257,157**	**22,630**	**–**	**17,219**
Defaulted Exposures	**9,330**	**–**	**438**	**4,324**
Total for Off-Balance Sheet Exposures	**15,910,647**	**22,630**	**5,439**	**21,543**
Total On and Off-Balance Sheet Exposures	**188,554,884**	**10,828,265**	**425,614**	**1,641,675**
As at 31.12.2017				
On-Balance Sheet Exposures				
Public Sector Entities	–	–	–	–
Banks, Development Financial Institutions & MDBs	7,833,475	–	5,001	–
Corporate Exposures	45,230,111	821,585	164,329	294,738
a) Corporates (excluding Specialised Lending and firm-size adjustment)	29,831,022	821,585	164,329	294,738
b) Corporates (with firm-size adjustment)	15,399,089	–	–	–
Retail Exposures	100,100,113	–	–	–
a) Residential Mortgages	27,570,620	–	–	–
b) Qualifying Revolving Retail Exposures	948,984	–	–	–
c) Hire Purchase Exposures	30,442,810	–	–	–
d) Other Retail Exposures	41,137,699	–	–	–
Defaulted Exposures	1,570,340	–	762	363,269
Total On-Balance Sheet Exposures	154,734,039	821,585	170,092	658,007
Off-Balance Sheet Exposures				
OTC Derivatives	1,818,180	–	–	–
Off-balance sheet exposures other than OTC derivatives or credit derivatives	7,045,847	–	–	–
Defaulted Exposures	4,730	–	160	237
Total for Off-Balance Sheet Exposures	8,868,757	–	160	237
Total On and Off-Balance Sheet Exposures	163,602,796	821,585	170,252	658,244

SECURITISATION EXPOSURES

The Group does not actively engage in securitisation activities which are driven by strategic considerations including credit risk transfer. As such, the Group currently does not securitise its own or third-party originated assets, nor does it provide facilities and services for securitisation. Instead, the Group is involved in the investment of securities which include the purchase of securitised bonds in the secondary markets. These are primarily legacy exposures that are being held in the banking book. Similar to non-securitised assets, these securitisation exposures are governed by and managed in accordance to credit risk and market risk policies. The valuation of our investment in securitisation exposures mainly focuses on quotations from external parties.

Table 35 shows the securitisation exposures under the Standardised Approach for the Group and the Bank.

Table 35: Disclosure on Securitisation under the Standardised Approach for Maybank Group and Maybank

Type of Securitisation Exposures	Exposure after CRM RM'000	Risk Weights of Securitisation Exposures 20%	Risk Weighted Asset RM'000
As at 31.12.2018			
Originated by Third Party			
On Balance Sheet Exposure	**61,048**	**61,048**	**12,210**
Total (Traditional Securitisation)	**61,048**	**61,048**	**12,210**
As at 31.12.17			
Originated by Third Party			
On Balance Sheet Exposure	61,467	61,467	12,293
Total (Traditional Securitisation)	61,467	61,467	12,293

CREDIT EXPOSURES SUBJECT TO STANDARDISED APPROACH

The Standardised Approach is applied to portfolios that are classified as permanently exempted from the IRB Approach, and those portfolios that are currently in transition to the IRB Approach.

The Standardised Approach measures credit risk pursuant to fixed risk-weights and is the least sophisticated of the capital calculation methodologies. The risk-weights applied under Standardised Approach are prescribed by BNM and is based on the asset class to which the exposure is assigned. For exposures subject to Standardised Approach, approved External Credit Assessment Agencies ("ECAI") ratings and the prescribed risk-weights based on asset classes are used in the computation of regulatory capital.

The ECAI used by the Group include Fitch Ratings, Moody's Investor Services, S&P, RAM, Malaysia Rating Corporation ("MARC") and Rating & Investment Inc. Assessments provided by approved ECAIs are mapped to credit quality grades prescribed by the regulator.

Table 36 shows the risk-weights applicable for Banking Institutions and Corporates under the Standardised Approach.

Table 36: Risk Weights under Standardised Approach

Rating Category	S&P	Moody's	Fitch	RAM	MARC	Rating & Investment Inc
1	AAA to AA-	Aaa to Aa3	AAA to AA-	AAA to AA3	AAA to AA-	AAA to AA-
2	A+ to A-	A1 to A3	A+ to A-	A+ to A3	A+ to A-	A+ to A-
3	BBB+ to BB-	Baa1 to Ba3	BBB+ to BB-	BBB1 to BB3	BBB+ to BB-	BBB+ to BB-
4	B+ and below	B1 to below	B+ and below	B1 and below	B+ and below	B+ and below
5	Unrated					

Table 37 shows the risk-weights applicable for Banking Institutions and Corporates under the Standardised Approach for Short-term ratings.

Table 37: Risk Weights under Standardised Approach for Short-Term Ratings

Rating Category	S&P	Moody's	Fitch	RAM	MARC	Rating & Investment Inc
1	A-1	P-1	F1+, F1	P-1	MARC-1	a-1+, a-1
2	A-2	P-2	F2	P-2	MARC-2	a-2
3	A-3	P-3	F3	P-3	MARC-3	a-3
4	Others	Others	B to D	NP	MARC-4	b, c
5	Unrated					

Tables 38 through 40 show the disclosure on risk-weights under Standardised Approach for the Group, the Bank and Maybank Islamic, respectively. Tables 41 through 43 further show the rated exposures by ECAIs for the Group, the Bank and Maybank Islamic, respectively.

Table 38: Disclosure on Credit Risk-Disclosure on Risk-Weights under the Standardised Approach for Maybank Group

Risk weights	Exposures after Netting and Credit Risk Mitigation											Total Exposures after Netting & Credit Risk Mitigation* RM'000	Total Risk Weighted Assets* RM'000
	Sovereigns & Central Banks RM'000	PSEs RM'000	Banks, MDBs & FDIs RM'000	Insurance Cos, Securities Firms & Fund Managers RM'000	Corporates RM'000	Regulatory Retail RM'000	Residental Mortgages RM'000	Higher Risk Assets RM'000	Other Assets RM'000	Securitisation RM'000	Equity RM'000		
As at 31.12.2018													
0%	**134,962,237**	**7,333,513**	**69,113**	**–**	**2,536,484**	**4,777,576**	**–**	**–**	**5,908,554**		**–**	**155,587,477**	**–**
20%	**4,593,465**	**3,084,235**	**756,564**	**–**	**2,077,247**	**–**	**–**	**–**	**892,381**		**–**	**11,403,892**	**2,280,778**
35%	**–**	**–**	**–**	**–**	**–**	**–**	**1,460,211**	**–**	**–**		**–**	**1,460,211**	**511,074**
50%	**2,618,480**	**119,003**	**761,078**	**–**	**240,335**	**22,226**	**128,240**	**–**	**240,057**		**–**	**4,129,419**	**2,064,710**
75%	**–**	**–**	**–**	**–**	**–**	**23,691,754**	**68,889**	**–**	**–**		**–**	**23,760,643**	**17,820,482**
100%	**3,552,782**	**1,304,131**	**–**	**245,923**	**13,932,073**	**4,242,434**	**3,016**	**–**	**3,154,589**		**236,679**	**26,671,627**	**26,671,627**
150%	**–**	**–**	**–**	**–**	**1,693,750**	**415,231**	**–**	**525,648**	**3,746**		**11,624**	**2,649,999**	**3,974,998**
Total	**145,726,964**	**11,840,882**	**1,586,755**	**245,923**	**20,479,889**	**33,149,221**	**1,660,356**	**525,648**	**10,199,327**	**61,048**	**248,303**	**225,663,268***	**53,323,669***
As at 31.12.2017													
0%	116,278,500	17,386,456	366,098	–	2,160,253	5,082,304	–	–	5,866,005		–	147,139,616	–
20%	1,854,329	3,254,836	2,035,881	–	1,942,611	–	–	–	1,612,267		–	10,699,924	2,139,985
35%	–	–	–	–	–	–	2,820,354	–	–		–	2,820,354	987,124
50%	2,168,098	121,102	908,415	–	300,225	9,493	978,668	–	–		–	4,486,001	2,243,000
75%	–	–	–	–	–	22,746,153	28,411	–	–		–	22,774,564	17,080,923
100%	2,738,605	2,455,042	–	393,327	13,503,581	4,885,729	5,634	–	5,204,145		485,932	29,671,995	29,671,995
150%	–	–	–	–	134,728	410,339	–	493,699	3,171		4,824	1,046,761	1,570,143
Total	123,039,532	23,217,436	3,310,394	393,327	18,041,398	33,134,018	3,833,067	493,699	12,685,588	61,467	490,756	218,639,215*	53,693,170*

* Total Exposures after netting & credit risk mitigation and risk-weighted assets do not include securitisation.

Table 39: Disclosure on Credit Risk-Disclosure on Risk-Weights under the Standardised Approach for Maybank

Risk weights	Exposures after Netting and Credit Risk Mitigation											Total Exposures after Netting & Credit Risk Mitigation* RM'000	Total Risk Weighted Assets* RM'000
	Sovereigns & Central Banks RM'000	PSEs RM'000	Banks, MDBs & FDIs RM'000	Insurance Cos, Securities Firms & Fund Managers RM'000	Corporates RM'000	Regulatory Retail RM'000	Residental Mortgages RM'000	Higher Risk Assets RM'000	Other Assets RM'000	Securitisation RM'000	Equity RM'000		
As at 31.12.2018													
0%	**77,740,032**	**6,938,605**	**403,626**	**–**	**516,810**	**1,324,425**	**–**	**–**	**4,213,047**		**–**	**91,136,545**	**–**
20%	**4,551,145**	**2,880,610**	**–**	**–**	**2,000,093**	**–**	**–**	**–**	**777,055**		**–**	**10,208,903**	**2,041,781**
35%	**–**	**–**	**–**	**–**	**–**	**–**	**524,879**	**–**	**–**		**–**	**524,879**	**183,707**
50%	**820,505**	**119,003**	**–**	**–**	**233,871**	**935**	**51,353**	**–**	**–**		**–**	**1,225,667**	**612,834**
75%	**–**	**–**	**–**	**–**	**–**	**2,953,873**	**247**	**–**	**–**		**–**	**2,954,120**	**2,215,590**
100%	**1,142,079**	**1,246,036**	**–**	**55,094**	**8,827,704**	**977,175**	**–**	**–**	**1,951,944**		**131,265**	**14,331,297**	**14,331,297**
150%	**–**	**–**	**–**	**–**	**1,674,788**	**49,511**	**–**	**182,008**	**–**		**10,845**	**1,917,152**	**2,875,728**
Total	**84,253,761**	**11,184,254**	**403,626**	**55,094**	**13,253,266**	**5,305,919**	**576,479**	**182,008**	**6,942,046**	**61,048**	**142,110**	**122,298,563***	**22,260,937***
As at 31.12.2017													
0%	80,682,156	7,946,165	40,715	–	500,838	1,642,991	–	–	4,850,772		–	95,663,637	–
20%	1,812,914	2,922,564	–	–	1,857,665	–	–	–	1,432,621		–	8,025,764	1,605,153
35%	–	–	–	–	–	–	404,593	–	–		–	404,593	141,608
50%	383,068	121,102	–	–	294,381	1,195	33,387	–	–		–	833,133	416,567
75%	–	–	–	–	–	9,518,947	–	–	–		–	9,518,947	7,139,210
100%	1,317,878	2,355,101	–	–	8,728,707	3,911,306	1,067	–	3,491,766		319,680	20,125,505	20,125,505
150%	–	–	–	–	11,318	3,728	–	211,306	–		4,045	230,397	345,596
Total	84,196,016	13,344,932	40,715	–	11,392,909	15,078,167	439,047	211,306	9,775,159	61,467	323,725	134,801,976*	29,773,639*

* Total Exposures after netting & credit risk mitigation and risk-weighted assets do not include securitisation.

Table 40: Disclosure on Credit Risk-Disclosure on Risk-Weights under the Standardised Approach for Maybank Islamic

Risk weights	Exposures after Netting and Credit Risk Mitigation										Total Exposures after Netting & Credit Risk Mitigation RM'000	Total Risk Weighted Assets RM'000
	Sovereigns & Central Banks RM'000	PSEs RM'000	Banks, MDBs & FDIs RM'000	Insurance Cos, Securities Firms & Fund Managers RM'000	Corporates RM'000	Regulatory Retail RM'000	Residental Mortgages RM'000	Higher Risk Assets RM'000	Other Assets RM'000	Equity RM'000		
As at 31.12.2018												
0%	**35,547,312**	**5,070,598**	**1**	**–**	**197,635**	**889,505**	**–**	**–**	**429,360**	**–**	**42,134,411**	**–**
20%	**42,320**	**203,625**	**–**	**–**	**70,001**	**–**	**–**	**–**	**–**	**–**	**315,946**	**63,189**
35%	**–**	**–**	**–**	**–**	**–**	**–**	**435,836**	**–**	**–**	**–**	**435,836**	**152,543**
50%	**–**	**–**	**–**	**–**	**902**	**554**	**58,298**	**–**	**–**	**–**	**59,754**	**29,877**
75%	**–**	**–**	**–**	**–**	**–**	**1,840,518**	**56,738**	**–**	**–**	**–**	**1,897,256**	**1,422,942**
100%	**–**	**1,254,905**	**–**	**4,235**	**1,410,025**	**1,245,126**	**–**	**–**	**57,224**	**–**	**3,971,515**	**3,971,515**
150%	**–**	**–**	**–**	**–**	**2,205**	**1,485**	**–**	**1,292**	**–**	**–**	**4,982**	**7,473**
Total	**35,589,632**	**6,529,128**	**1**	**4,235**	**1,680,768**	**3,977,188**	**550,872**	**1,292**	**486,584**	**–**	**48,819,700**	**5,647,539**
As at 31.12.2017												
0%	27,269,485	12,529,891	1	–	183,244	796,041	–	–	247,002	–	41,025,664	–
20%	41,415	332,272	–	–	72,546	–	–	–	–	–	446,233	89,246
35%	–	–	–	–	–	–	1,950,726	–	–	–	1,950,726	682,754
50%	–	–	–	–	353	941	927,959	–	–	–	929,253	464,627
75%	–	–	–	–	–	1,672,576	18,829	–	–	–	1,691,405	1,268,554
100%	–	2,309,941	–	–	2,351,693	1,333,369	1,735	–	278,323	–	6,275,061	6,275,062
150%	–	–	–	–	212	–	–	10,413	–	–	10,625	15,938
Total	27,310,900	15,172,104	1	–	2,608,048	3,802,927	2,899,249	10,413	525,325	–	52,328,967	8,796,181

Table 41: Disclosure on Rated Exposures according to Ratings by ECAI by Maybank Group

Exposure Class	Rating Categories					
	1 RM'000	2 RM'000	3 RM'000	4 RM'000	5 RM'000	Total RM'000
As at 31.12.2018						
On and Off-Balance Sheet Exposures						
Rated Exposures						
A) Ratings of Corporate:						
Public Sector Entities	**7,333,513**	**3,084,235**	**119,003**	**–**	**1,304,131**	**11,840,882**
Insurance Cos, Securities Firms & Fund Managers	**–**	**–**	**–**	**–**	**245,923**	**245,923**
Corporates	**2,536,484**	**2,077,247**	**240,335**	**1,693,750**	**13,932,073**	**20,479,889**
B) Ratings of Sovereigns and Central Banks:						
Sovereigns and Central Banks	**134,962,237**	**4,593,465**	**2,618,480**	**–**	**3,552,782**	**145,726,964**
C) Ratings of Banking Institutions:						
Banks, MDBs and FDIs	**69,112**	**756,564**	**761,078**	**–**	**–**	**1,586,754**
Total Exposures	**144,901,346**	**10,511,511**	**3,738,896**	**1,693,750**	**19,034,909**	**179,880,412**
As at 31.12.2017						
On and Off-Balance Sheet Exposures						
Rated Exposures						
A) Ratings of Corporate:						
Public Sector Entities	17,386,456	3,254,836	121,102	–	2,455,042	23,217,436
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	393,327	393,327
Corporates	2,160,253	1,942,611	300,225	134,728	13,503,581	18,041,398
B) Ratings of Sovereigns and Central Banks:						
Sovereigns and Central Banks	116,278,500	1,854,329	2,168,098	–	2,738,605	123,039,532
C) Ratings of Banking Institutions:						
Banks, MDBs and FDIs	366,098	2,035,881	908,415	–	–	3,310,394
Total Exposures	136,191,307	9,087,657	3,497,840	134,728	19,090,555	168,002,087

Table 42: Disclosure on Rated Exposures according to Ratings by ECAI by Maybank

Exposure Class	Rating Categories					
	1 RM'000	2 RM'000	3 RM'000	4 RM'000	5 RM'000	Total RM'000
As at 31.12.2018						
On and Off Balance-Sheet Exposures						
Rated Exposures						
A) Ratings of Corporate:						
Public Sector Entities	**6,938,605**	**2,880,610**	**119,003**	**–**	**1,246,036**	**11,184,254**
Insurance Cos, Securities Firms & Fund Managers	**–**	**–**	**–**	**–**	**55,094**	**55,094**
Corporates	**516,810**	**2,000,093**	**233,871**	**1,674,788**	**8,827,704**	**13,253,266**
B) Ratings of Sovereigns and Central Banks:						
Sovereigns and Central Banks	**77,740,031**	**4,551,145**	**820,505**	**–**	**1,142,079**	**84,253,760**
C) Ratings of Banking Institutions:						
Banks, MDBs and FDIs	**403,626**	**–**	**–**	**–**	**–**	**403,626**
Total Exposures	**85,599,072**	**9,431,848**	**1,173,379**	**1,674,788**	**11,270,913**	**109,150,000**
As at 31.12.2017						
On and Off-Balance Sheet Exposures						
Rated Exposures						
A) Ratings of Corporate:						
Public Sector Entities	7,946,165	2,922,564	121,102	–	2,355,101	13,344,932
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–
Corporates	500,838	1,857,665	294,381	11,318	8,728,708	11,392,910
B) Ratings of Sovereigns and Central Banks:						
Sovereigns and Central Banks	80,682,156	1,812,914	383,068	–	1,317,878	84,196,016
C) Ratings of Banking Institutions:						
Banks, MDBs and FDIs	40,715	–	–	–	–	40,715
Total Exposures	89,169,874	6,593,143	798,551	11,318	12,401,687	108,974,573

Table 43: Disclosure on Rated Exposures according to Ratings by ECAI by Maybank Islamic

Exposure Class	Rating Categories					
	1 RM'000	2 RM'000	3 RM'000	4 RM'000	5 RM'000	Total RM'000
As at 31.12.2018						
On and Off-Balance Sheet Exposures						
Rated Exposures						
A) Ratings of Corporate:						
Public Sector Entities	**5,070,598**	**203,625**	**–**	**–**	**1,254,905**	**6,529,128**
Banks, Development Financial Institutions & MDBs	**1**	**–**	**–**	**–**	**–**	**1**
Insurance Cos, Securities Firms & Fund Managers	**–**	**–**	**–**	**–**	**4,235**	**4,235**
Corporates	**197,635**	**70,001**	**902**	**2,205**	**1,410,025**	**1,680,768**
B) Ratings of Sovereigns and Central Banks:						
Sovereigns and Central Banks	**35,547,312**	**42,320**	**–**	**–**	**–**	**35,589,632**
Total Exposures	**40,815,546**	**315,946**	**902**	**2,205**	**2,669,165**	**43,803,764**
As at 31.12.2017						
On and Off-Balance Sheet Exposures						
Rated Exposures						
A) Ratings of Corporate:						
Public Sector Entities	12,529,891	332,272	–	–	2,309,941	15,172,104
Banks, Development Financial Institutions & MDBs	–	–	–	–	–	–
Insurance Cos, Securities Firms & Fund Managers	–	–	–	–	–	–
Corporates	183,243	72,546	353	212	2,351,693	2,608,047
B) Ratings of Sovereigns and Central Banks:						
Sovereigns and Central Banks	27,269,485	41,415	–	–	–	27,310,900
Total Exposures	39,982,619	446,233	353	212	4,661,634	45,091,051

COUNTERPARTY CREDIT RISK

Counterparty credit risk is the risk arising from the possibility that a counterparty may default on current and future payments as required by contract for treasury-related activities.

Counterparty credit risk originates from the Group's lending business, investment and treasury activities that impact the Group's trading and banking books through dealings in foreign exchange, money market instruments, fixed income securities, commodities, equities and over-the-counter ("OTC") derivatives. The primary distinguishing feature of counterparty credit risk compared to other forms of credit risk is that the future value of the underlying contract is uncertain, and may be either positive or negative depending on the value of all future cash flows.

Limits

Counterparty credit risk exposures are managed via counterparty limits either on a single counterparty basis or counterparty group basis that adheres to BNM's Single Counterparty Exposure Limits ("SCEL"). The Group actively monitors and manages its exposures to ensure that exposures to a single counterparty or a group of connected counterparties are within prudent limits at all times. Counterparty credit risk exposures may be materially affected by market risk events. The Group has in place dedicated teams to promptly identify, review, and prescribe appropriate actions to the respective risk committees.

Credit Risk Exposure Treatment

For on-balance sheet exposures, the Group employs risk treatments in accordance with BNM and Basel II guidelines. For off-balance sheet exposures, the Group measures credit risk using Credit Risk Equivalent via the Current Exposure Method. This method calculates the Group's credit risk exposure after considering both the mark-to-market exposures and the appropriate add-on factors for potential future exposures. The add-on factors employed are in accordance with BNM's guidelines and Basel II requirements.

Counterparty Credit Risk Mitigation

The Group typically engages with entities of strong credit quality and utilises a comprehensive approach of limit setting by trade, counterparty and portfolio levels to diversify exposures across different counterparties. As a secondary recourse, the Group adopts credit risk mitigation methods using bilateral netting and collateral netting with counterparties, where appropriate.

Counterparty credit risk exposures in swaps and derivatives are mitigated via master netting arrangements i.e. the International Swaps and Derivatives Association ("ISDA") Master Agreement which provides for closeout and payment netting with counterparties, where possible.

A master agreement governs all transactions between two parties and enables the netting of outstanding obligations upon termination of outstanding transactions should an event of default or other predetermined events occur.

In certain cases, the Group may request for further mitigation by entering into a Credit Support Annex ("CSA") agreement with approved ISDA counterparties. This provides collateral margining in order to mitigate counterparty credit risk exposures.

Tables 44 through 46 show the off-balance sheet and counterparty credit risk exposures for the Group, the Bank and Maybank Islamic, respectively.

Table 44: Disclosure on Off-Balance Sheet and Counterparty Credit Risk Exposure for Maybank Group

Nature of Item	Principal/ Notional Amount RM'000	Credit Equivalent Amount RM'000	RWA RM'000
As at 31.12.2018			
Direct credit substitutes	**10,837,015**	**10,576,726**	**6,071,968**
Transaction related contingent items	**16,927,755**	**8,393,068**	**5,303,752**
Short-term self-liquidating trade-related contingencies	**4,469,410**	**888,197**	**525,082**
Forward asset purchases, forward deposits, partly paid shares and securities which represent commitments with certain drawdowns	**6,275,074**	**14,170**	**1,989**
Lending of banks' securities or the posting of securities as collateral by banks, including instances where these arise out of repo-style transactions (i.e. repurchase/reverse repurchase and securities lending/borrowing transactions), and commitment to buy-back Islamic securities under Sell and Buy-Back	**32,381,408**	**3,495,252**	**395,741**
Foreign exchange related contracts	**126,239,328**	**2,541,386**	**1,183,391**
- One year or less	**115,897,228**	**1,702,128**	**528,841**
- Over one year to five years	**7,611,415**	**481,741**	**291,164**
- Over five years	**2,730,685**	**357,517**	**363,386**
Interest/profit rate related contracts	**75,879,883**	**4,739,203**	**4,099,960**
- One year or less	**21,295,694**	**795,874**	**439,251**
- Over one year to five years	**48,281,422**	**3,521,157**	**3,030,205**
- Over five years	**6,302,767**	**422,172**	**630,504**
Equity related contracts	**1,062,874**	**107,978**	**34,359**
- One year or less	**1,062,874**	**107,978**	**34,359**
- Over one year to five years	**–**	**–**	**–**
- Over five years	**–**	**–**	**–**
Commodity contracts	**6,185,072**	**782,204**	**429,950**
- One year or less	**572,345**	**110,116**	**102,340**
- Over one year to five years	**5,612,727**	**672,088**	**327,610**
- Over five years	**–**	**–**	**–**
OTC derivative transactions and credit derivative contracts subject to valid bilateral netting agreements	**255,512,334**	**3,773,106**	**1,735,850**
Other commitments, such as formal standby facilities and credit lines, with an original maturity of over one year	**57,387,127**	**26,577,486**	**11,034,057**
Other commitments, such as formal standby facilities and credit lines, with an original maturity of up to one year	**28,615,091**	**19,561,859**	**9,338,956**
Any commitments that are unconditionally cancellable at any time by the bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness	**62,690,434**	**352,625**	**84,914**
Unutilised credit card lines (for portfolios under the standardised approach subject to 20% CCF)	**1,710,187**	**313,886**	**266,413**
Total	**686,172,992**	**82,117,146**	**40,506,382**
As at 31.12.2017			
Direct credit substitutes	12,216,975	12,064,534	6,552,472
Transaction related contingent items	18,831,965	9,348,060	6,086,500
Short-term self-liquidating trade-related contingencies	5,544,647	1,107,435	694,977
Lending of banks' securities or the posting of securities as collateral by banks, including instances where these arise out of repo-style transactions (i.e. repurchase/reverse repurchase and securities lending/borrowing transactions), and commitment to buy-back Islamic securities under Sell and Buy-Back	13,133,194	412,246	180,312
Foreign exchange related contracts	176,623,638	4,472,716	2,067,829
- One year or less	155,405,836	2,936,500	844,889
- Over one year to five years	19,963,457	1,447,021	1,174,766
- Over five years	1,254,345	89,195	48,174
Interest/profit rate related contracts	39,861,024	2,509,744	1,500,635
- One year or less	13,195,871	266,834	146,095
- Over one year to five years	21,055,538	1,639,966	836,583
- Over five years	5,609,615	602,944	517,957
Commodity contracts	490,296	21,436	5,768
- One year or less	262,303	10,492	3,792
- Over one year to five years	227,993	10,944	1,976
- Over five years	–	–	–
OTC derivative transactions and credit derivative contracts subject to valid bilateral netting agreements	244,228,266	4,910,417	2,180,701
Other commitments, such as formal standby facilities and credit lines, with an original maturity of over one year	12,105,361	26,263,062	12,565,526
Other commitments, such as formal standby facilities and credit lines, with an original maturity of up to one year	28,586,754	19,461,340	9,980,336
Any commitments that are unconditionally cancellable at any time by the bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness	133,658,775	315,487	73,053
Unutilised credit card lines (for portfolios under the standardised approach subject to 20% CCF)	1,664,271	306,640	260,242
Total	686,945,166	81,193,117	42,148,351

Table 45: Disclosure on Off-Balance Sheet and Counterparty Credit Risk Exposure for Maybank

Nature of Item	Principal/ Notional Amount RM'000	Credit Equivalent Amount RM'000	RWA RM'000
As at 31.12.2018			
Direct credit substitutes	**8,524,244**	**8,308,592**	**4,103,156**
Transaction related contingent items	**13,006,396**	**6,456,096**	**3,815,720**
Short-term self-liquidating trade-related contingencies	**3,321,506**	**660,908**	**355,990**
Forward asset purchases, forward deposits, partly paid shares and securities which represent commitments with certain drawdowns	**3,137,537**	**6**	**1**
Lending of banks' securities or the posting of securities as collateral by banks, including instances where these arise out of repo-style transactions (i.e. repurchase/reverse repurchase and securities lending/borrowing transactions), and commitment to buy-back Islamic securities under Sell and Buy-Back	**24,909,296**	**3,207,675**	**355,374**
Foreign exchange related contracts	**117,140,798**	**2,410,546**	**1,008,809**
- One year or less	**107,756,224**	**1,656,735**	**400,360**
- Over one year to five years	**6,866,938**	**421,860**	**260,234**
- Over five years	**2,517,636**	**331,951**	**348,215**
Interest/profit rate related contracts	**37,172,981**	**2,659,119**	**2,817,565**
- One year or less	**9,151,374**	**419,586**	**350,731**
- Over one year to five years	**24,367,053**	**1,974,237**	**1,997,740**
- Over five years	**3,654,554**	**265,296**	**469,094**
Commodity contracts	**6,185,072**	**782,204**	**429,949**
- One year or less	**572,345**	**110,116**	**102,339**
- Over one year to five years	**5,612,727**	**672,088**	**327,610**
- Over five years	**–**	**–**	**–**
OTC derivative transactions and credit derivative contracts subject to valid bilateral netting agreements	**255,512,334**	**3,773,106**	**1,735,850**
Other commitments, such as formal standby facilities and credit lines, with an original maturity of over one year	**32,942,961**	**19,622,244**	**8,697,626**
Other commitments, such as formal standby facilities and credit lines, with an original maturity of up to one year	**12,227,730**	**8,375,340**	**4,358,096**
Any commitments that are unconditionally cancellable at any time by the bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness	**29,121,274**	**145,745**	**43,934**
Unutilised credit card lines (for portfolios under the standardised approach subject to 20% CCF)	**746,948**	**132,868**	**120,795**
Total	**543,949,077**	**56,534,449**	**27,842,865**
As at 31.12.2017			
Direct credit substitutes	10,491,711	10,373,876	5,071,621
Transaction related contingent items	14,501,336	7,207,090	4,429,669
Short-term self liquidating trade related contingencies	4,691,333	937,807	548,026
Lending of banks' securities or the posting of securities as collateral by banks, including instances where these arise out of repo-style transactions (i.e. repurchase/reverse repurchase and securities lending/borrowing transactions), and commitment to buy-back Islamic securities under Sell and Buy-Back	12,954,667	411,803	180,312
Foreign exchange related contracts	166,426,869	4,102,244	1,895,291
- One year or less	149,102,193	2,738,707	778,150
- Over one year to five years	17,318,601	1,363,294	1,117,016
- Over five years	6,075	243	125
Interest/profit rate related contracts	27,236,265	1,829,987	1,167,903
- One year or less	4,983,926	129,324	101,606
- Over one year to five years	16,529,264	1,084,951	551,190
- Over five years	5,723,075	615,712	515,107
Commodity contracts	490,296	21,436	5,768
- One year or less	262,303	10,492	3,792
- Over one year to five years	227,993	10,944	1,976
- Over five years	–	–	–
OTC derivative transactions and credit derivative contracts subject to valid bilateral netting agreements	244,228,266	4,910,417	2,180,701
Other commitments, such as formal standby facilities and credit lines, with an original maturity of over one year	5,958,301	23,168,096	10,967,370
Other commitments, such as formal standby facilities and credit lines, with an original maturity of up to one year	20,971,288	14,511,405	6,780,823
Any commitments that are unconditionally cancellable at any time by the bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness	99,184,486	143,269	38,661
Unutilised credit card lines (for portfolios under the standardised approach subject to 20% CCF)	793,568	132,499	129,236
Total	607,928,386	67,749,929	33,395,381

Table 46: Disclosure on Off-Balance Sheet and Counterparty Credit Risk Exposure for Maybank Islamic

Nature of Item	Principal/ Notional Amount RM'000	Credit Equivalent Amount RM'000	RWA RM'000
As at 31.12.2018			
Direct credit substitutes	**1,327,132**	**1,282,495**	**1,188,080**
Transaction related contingent items	**3,385,793**	**1,669,190**	**1,292,876**
Short-term self-liquidating trade-related contingencies	**284,803**	**54,669**	**25,219**
Foreign exchange related contracts	**15,415,940**	**275,653**	**138,757**
One year or less	**14,457,666**	**219,591**	**113,693**
Over one year to five years	**958,274**	**56,062**	**25,064**
Over five years	**–**	**–**	**–**
Interest/profit rate related contracts	**10,723,581**	**749,919**	**367,688**
One year or less	**2,886,562**	**141,687**	**25,037**
Over one year to five years	**5,157,804**	**440,645**	**196,830**
Over five years	**2,679,215**	**167,587**	**145,821**
Other commitments, such as formal standby facilities and credit lines, with an original maturity of over one year	**4,911,092**	**2,599,960**	**1,124,353**
Other commitments, such as formal standby facilities and credit lines, with an original maturity of up to one year	**7,073,451**	**5,108,211**	**2,570,856**
Any commitments that are unconditionally cancellable at any time by the bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness	**3,622,129**	**206,879**	**40,980**
Total	**46,743,921**	**11,946,976**	**6,748,809**
As at 31.12.2017			
Direct credit substitutes	1,472,763	1,438,157	1,292,069
Transaction related contingent items	3,484,342	1,717,826	1,278,929
Short-term self-liquidating trade-related contingencies	188,659	36,697	28,596
Foreign exchange related contracts	13,600,196	589,507	186,751
One year or less	9,699,523	407,037	83,392
Over one year to five years	2,652,403	93,518	55,310
Over five years	1,248,270	88,952	48,049
Interest/profit rate related contracts	6,902,547	755,660	326,147
One year or less	170,607	5,545	975
Over one year to five years	5,650,590	677,839	283,202
Over five years	1,081,350	72,276	41,970
Other commitments, such as formal standby facilities and credit lines, with an original maturity of over one year	5,154,910	2,676,066	1,093,008
Other commitments, such as formal standby facilities and credit lines, with an original maturity of up to one year	6,080,688	4,046,677	2,296,142
Any commitments that are unconditionally cancellable at any time by the bank without prior notice or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness	3,628,674	172,218	34,392
Total	40,512,779	11,432,808	6,536,034

COUNTRY RISK

Country risk is the risk arising from changes in various political, financial or economic factors that may adversely cause a borrower or counterparty to default on their obligations.

The limits for countries are set based on country-specific criteria as well as strategic business considerations, and are approved at RMC.

Market Risk

Market risk is defined as the risk of loss or adverse impact on earnings or capital arising from changes in the level of volatility of market rates or prices such as interest rates/profit rates, foreign exchange rates, commodity prices and equity prices.

The Group manages market risk of its trading and non-trading/banking activities using a variety of measurement techniques and controls.

TRADED MARKET RISK

Traded market risk arises mainly from proprietary trading, flow trading and market-making activities. These activities may create positions held with trading intent to express a market view, to benefit from short-term price movements or to lock in arbitrage profits.

The trading book portfolio is governed by trading book policies and procedures as well as trading limits. For management of the Group's traded market risk, the policy requires limits to be set to monitor the risk measures outlined below:

i. Value-at-Risk "VaR": The Group employs a VaR model to measure the trading book's potential loss arising from market movements over a specified period of time within a given probability of occurrence. The Group is approved to utilise a VaR model based on the historical simulation method at a 99.2% confidence level using a 1-day holding period. The VaR model is backtested regularly to evaluate its performance and accuracy. In addition, the Group computes a Stressed VaR based on a 1-day holding period to measure the VaR of the trading book arising from market movements over a previously identified stress period.

ii. Risk sensitivity: For the trading portfolio's risk sensitivity to interest rate movements, it is measured using the present value exposure to a one basis point ("PV01"). Risk sensitivity to foreign exchange rate movements is measured using foreign exchange net open position ("FX NOP"). Non-linear risk sensitivity to market prices is measured using option risk sensitivities such as interest rate vega and gamma, and foreign exchange vega and gamma. Sensitivity to credit spreads is measured by Jump-to-Default ("JTD") and credit spread sensitivity to a basis point ("CS01"). JTD measures the immediate impact to the value of the portfolio during a credit event (e.g. issuer default) while CS01 measures the change in value of the portfolio when the credit spread changes by 1 basis point.

Dealers are expected to adhere to the trading limits set at all times and are strictly prohibited from transacting in any non-permissible instruments/activities as stipulated in the approved policies. In the event that trading risks are required to be brought to management's attention, there is a robust escalation process to inform designated authorities to ensure prompt action is taken for any non-adherence to the trading policies and limits. Monthly reports are presented to Senior Management/committee for information and further deliberation.

NON-TRADED MARKET RISK

Non-traded market risk is primarily inherent risk arising from banking book activities. The major risk classes are interest rate risk/rate of return risk in the banking book and foreign exchange risk.

Interest Rate Risk/Rate of Return Risk in the Banking Book ("IRR/RoRBB")

IRR/RoRBB is defined as risk of loss in earnings or economic value on banking book exposures arising from movements in interest rates. Sources of IRR/RoRBB include repricing, basis, yield curve and option risk. In addition, Islamic operations is exposed to displaced commercial risk.

Accepting IRR/RoRBB is a normal part of banking and can be an important source of profitability and shareholder value. However, excesses of this risk can be detrimental to the Group's earnings, capital, liquidity and solvency.

Banking book policies and limits are established to measure and manage non-traded market risk. Repricing gap analysis remains one of the building blocks for IRR/RoRBB assessment for the Group. Earnings-at-Risk ("EaR") and Economic Value-at-Risk ("EVaR") are derived to gauge the maximum tolerance level of the adverse impact of market interest rate towards earnings and capital.

Through Group ALCO supervision, the lines of businesses are insulated from IRR/RoRBB through fund transfer pricing whereby non-traded market and liquidity risks are centralised at the corporate treasury unit for active risk management and balance sheet optimisation. The corporate treasury unit reviews the risk exposures regularly and recommends strategies to mitigate any unwarranted risk exposures in accordance with the approved policies.

Certain portfolios such as products with non-deterministic characteristics are subjected to periodic statistical modelling to understand the customer/product's behavioural patterns in relation to changing rates and business cycles. Regular risk assessment and stress testing are applied to ensure the portfolios can withstand the risk tolerance and adverse rate scenarios.

Tables 47 (a) and (b) show the impact of a change in IRR/RoRBB to earnings and capital for the Group, the Bank and Maybank Islamic, respectively.

Table 47 (a): Interest Rate Risk/Rate of Return Risk in the Banking Book for the Group, Maybank and Maybank Islamic (Impact on Earnings)

	As at 31.12.2018			As at 31.12.2017		
	Group ±200bps RM'000	Bank ±200bps RM'000	Maybank Islamic ±200bps RM'000	Group ±200bps RM'000	Bank ±200bps RM'000	Maybank Islamic ±200bps RM'000
Impact on Earnings of which,	**853,423**	**314,387**	**448,955**	1,465,943	1,642,395	521,662
MYR	**1,380,193**	**833,529**	**547,299**	1,545,596	982,952	559,189
USD	**(796,439)**	**(613,359)**	**(75,558)**	(432,702)	(347,163)	(28,010)
SGD	**(156,233)**	**373,119**	**–**	(223,822)	(220,869)	–
IDR	**(48,255)**	**11,665**	**–**	(80,514)	3,274	–
OTHERS*	**474,157**	**(290,567)**	**(22,786)**	657,386	1,224,202	(9,517)

Table 47 (b): Interest Rate Risk/Rate of Return Risk in the Banking Book for Maybank Group, Maybank and Maybank Islamic (Impact on Capital)

	As at 31.12.2018			As at 31.12.2017		
	Group ±200bps RM'000	Bank ±200bps RM'000	Maybank Islamic ±200bps RM'000	Group ±200bps RM'000	Bank ±200bps RM'000	Maybank Islamic ±200bps RM'000
Impact on Capital of which,	**(2,646,852)**	**(3,006,829)**	**(314,072)**	(2,560,724)	(2,483,054)	(69,453)
MYR	**(4,642,559)**	**(4,309,956)**	**(330,986)**	(3,248,403)	(3,170,675)	(75,842)
USD	**1,713,426**	**1,635,514**	**11,949**	4,681	(11,161)	6,017
SGD	**593,427**	**(151,593)**	**–**	717,865	716,918	–
IDR	**(171,628)**	**(29,274)**	**–**	(111,424)	(43,084)	–
OTHERS*	**(139,518)**	**(151,519)**	**4,965**	76,557	24,947	371

Notes:
1. All figures are in absolute amount except the total impact is in net aggregate amount (result from after netting off currency/position at different geographical location).
2. * Inclusive of GBP, HKD, BND, VND, CNY, EUR, PHP and other currencies.
3. 5 Nov 2018: Establishment of Maybank Singapore Limited.

Foreign Exchange Risk ("FX") in the Banking Book

FX risk arises from adverse movements in the exchange rates of two currencies.

FX risk exposures can be attributed to structural and non-structural positions. Structural FX positions are primarily net investments in overseas branches and subsidiaries whereas other FX positions are non-structural in nature. Generally, structural FX positions need not be hedged as these investments are by definition "perpetual" and revaluation losses will not materialise if they are not sold. The residual or unhedged FX positions are managed in accordance with the approved policies and limits.

Foreign currency assets in the banking book are match-funded by the same currency to minimise FX NOP. In addition, the Group implements qualitative controls such as listing of permissible on/offshore currencies and hedging requirements for managing FX risk.

The FX risk is primarily assessed from both earnings and capital perspectives. Group ALCO plays an active role in ensuring FX risk is managed within stipulated limits.

CAPITAL TREATMENT FOR MARKET RISK

The Group adopts the Standardised Approach to compute the minimum capital requirement for market risk as per BNM's Guidelines on Capital Adequacy Framework (Basel II – Risk-Weighted Assets) and CAFIB (Basel II – Risk-Weighted Assets). Tables 7 through 9 separately disclose the RWA and capital requirements for Market Risk for the Group, the Bank and Maybank Islamic, respectively.

Interest rate/profit rate, foreign exchange and options are the primary risk factors in the Group's trading activities, whilst commodity and equity are generally attributed to investment banking activities.

LIQUIDITY RISK

Liquidity risk is defined as the risk of an adverse impact to the financial condition or overall safety and soundness arising from the inability (or perceived inability) or unexpected higher cost to meet obligations.

It is also known as consequential risk, triggered by underlying problems which can be endogenous e.g. credit risk deterioration, rating downgrade, operational risk events or exogenous (e.g. market disruption, default in the banking payment system and deterioration of sovereign risk).

Balance sheet risk measures structurally maintain a diverse and stable funding base while achieving an optimal portfolio. These measures drive the desired targets for loans to deposits ratio, sources of funds through borrowing, wholesale borrowing and swaps markets in order to support the growing asset base regionally. Through these measures, the Group shapes its assets and liabilities profile to achieve its desired balance sheet state.

The net cash flow mismatch along different time horizons, also known as liquidity gap analysis, provides Senior Management with a clear picture of the imminent funding needs in the near term as well as the structural balance sheet for the medium term and long term tenors. The sources of fund providers are reviewed to maintain a wide diversification by currency, provider, product and term, thus minimising excessive funding concentration.

The Group runs liquidity stress scenarios to assess the vulnerability of cash flows under stressed market situations. The Group continuously reviews and maintains unencumbered High Quality Liquid Assets ("HQLA") that can be easily sold or pledged, as readily available sources of funds for immediate cash to determine the funding capacity to withstand stressed situations.

In line with BNM requirements on Liquidity Coverage Ratio ("LCR") effective 1 June 2015, the Group ensures its LCR remains above the specified regulatory minimum requirements at both entity and consolidated levels.

LCR is a short-term resilience assessment to measure the adequacy of HQLA to withstand an acute liquidity stress scenario over a 30-day horizon. HQLA are liquid assets that can be easily and immediately converted into cash at little or no loss of value.

Over and above this, the Group continues to maintain stable liquidity risk indicators, ahead of the Net Stable Funding Ratio ("NSFR") adoption. NSFR promotes long-term structural funding of the Balance Sheet and strengthens the long term resilience of the liquidity risk profile. NSFR of 100% ensures that the bank maintains sufficient stable funds to support its asset growth over a one year horizon.

EQUITY RISK IN BANKING BOOK

Equity price risk is the risk arising from movements in the price of equities, equity indices and equity baskets.

The objective of equity exposure is to determine the nature and extent of the Group's exposure to investment risk arising from equity positions and instruments held in its banking book.

- **Publicly Traded**

  Holding of equity investments comprises of quoted shares which are traded actively in the stock exchange. All publicly traded equity exposures are stated at fair value.

- **Privately Held**

  Privately held equities are unquoted investments where their fair value cannot be reliably measured and therefore are carried at cost less impairment losses, if any.

The Group holds investments in equity securities with the purpose of gaining strategic advantage as well as capital appreciation on the sale thereof.

Tables 48 and 49 show the equity exposures for banking book positions for the Group and the Bank respectively.

Table 48: Equities Disclosures for Banking Book Positions for Maybank Group

	As at 31.12.2018		As at 31.12.2017	
Equity Type	**EAD RM'000**	**RWA RM'000**	**EAD RM'000**	**RWA RM'000**
Publicly traded	**248,303**	**254,115**	490,756	493,168
Privately held	**525,648**	**788,472**	493,699	740,548
		RM'000		**RM'000**
Total Net Unrealised Gains/(Loss)		**6,027**		170,315
Cumulative realised gains/(losses) arising from sales and liquidations in the reporting period		**138**		38,748

Table 49: Equities Disclosures for Banking Book Positions for Maybank

	As at 31.12.2018		As at 31.12.2017	
Equity Type	**EAD RM'000**	**RWA RM'000**	**EAD RM'000**	**RWA RM'000**
Publicly traded	**142,110**	**147,533**	323,725	325,748
Privately held	**182,008**	**273,012**	211,306	316,959
		RM'000		**RM'000**
Total Net Unrealised Gains/(Loss)		**(73,654)**		41,656
Cumulative realised gains/(losses) arising from sales and liquidations in the reporting period		**14,446**		34,493

Non-Financial Risk

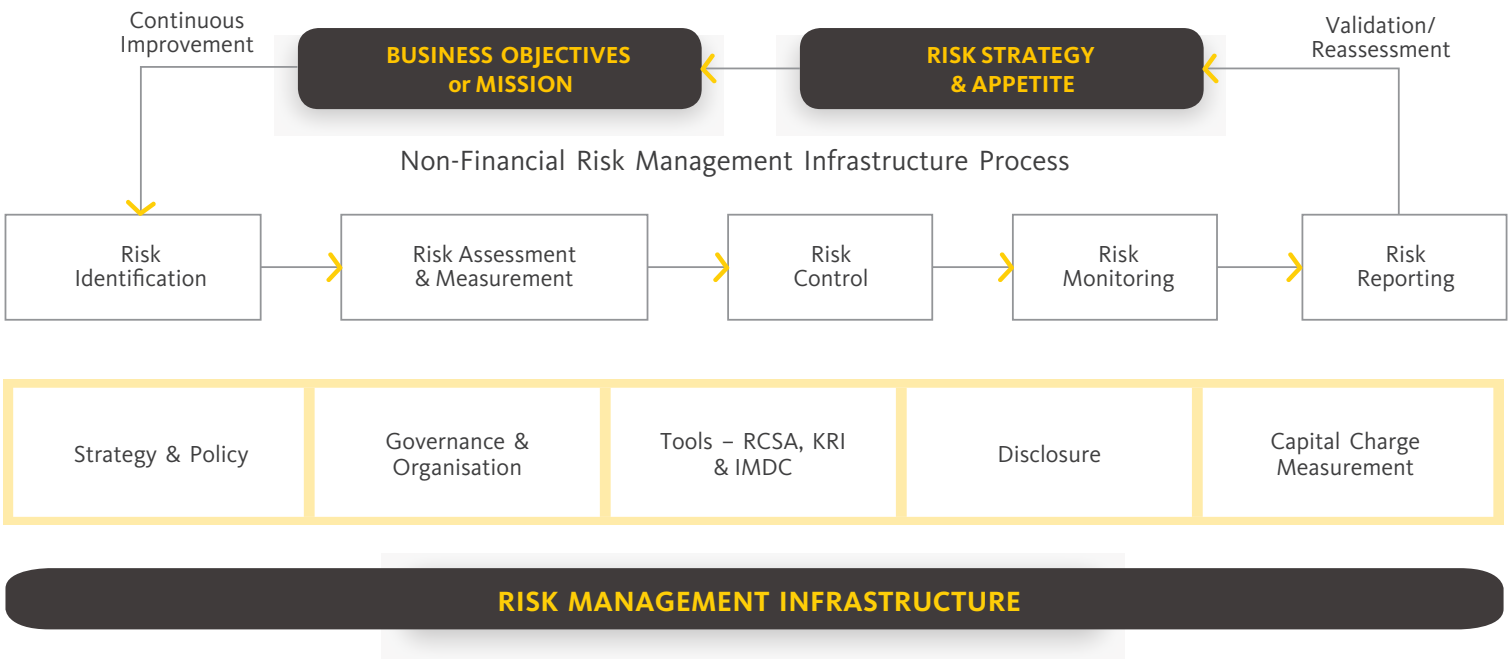
The Group has evolved and broadened its management of operational risk to encompass a wider range of emerging non-financial risks. This is utmost critical in enabling the Group to effectively manage the risk of loss arising from operational failures due to inadequate or failed internal processes, people and systems or external factors that could result in monetary losses or negative reputational implications to the brand value and stakeholder's perception towards the Group.

MANAGEMENT OF NON-FINANCIAL RISK

The management of non-financial risk is anchored on an established risk strategy that provides the overall principles and objectives, with defined risk appetite reflecting the Group's acceptable tolerance level for non-financial risk. A sound risk governance model premised on the three lines of defence and a robust risk culture are vital in driving the management of non-financial risk in the Group. Further information on the risk governance model and risk culture can be found in the Group Risk write-up under the Corporate Book.

To further strengthen the management of non-financial risk, risk methodologies and tools are deployed and integrated into processes to support businesses from point of discovery of an incident until its resolution. The risk methodologies and tools complement each other for an effective process to identify, assess and measure, control, monitor and report non-financial risk exposures on a timely basis, in minimising the resulting reputational risk towards the Group. An integrated risk management system for non-financial risk forms the foundation to enable the implementation of the methodologies and tools.

Diagram 2: Management of Non-Financial Risk



Risk Identification, Assessment and Measurement

- **Incident Management & Data Collection ("IMDC")**

  IMDC provides a structured and systematic platform for the management and reporting of non-financial risk incidents. The collection of consistent and standardised information on non-financial risk incidents in a centralised database enables a comprehensive analysis of operational lapses, focuses on operational 'hotspots' and minimises the risk impact of future operational losses.

- **Risk and Control Self-Assessment ("RCSA")**

  RCSA is a process of continual assessment of non-financial risk inherent in the operations of the Group and the effectiveness of corresponding controls in place to mitigate the risk. It is a risk profiling tool which gives due emphasis to the review of business processes for the identification of control gaps and development of appropriate action plans to address these gaps.

  RCSA is integral in supporting businesses to manage changes in the business and operational environment of the Group, in which a rigorous process of identification and assessment of risk and controls with appropriate mitigation and action plans is built into the governance of the changes, for example product approval for new/enhanced products/services which comprised of interconnected risks arising from the introduction of new products, implementation of IT projects and other changes to the operating environment of the Group (e.g. outsourcing, restructuring or enhancement to business processes).

- **Key Risk Indicator ("KRI")**

  KRI provides a structured process to measure and monitor critical non-financial risk exposures by way of establishing indicators that serves as early warning signals to increasing risk at the Group, Business and Operating levels. KRI enables close monitoring of non-financial risk to be within the tolerable level before the risk translates into operational losses.

Non-Financial Risk

Risk Control and Mitigation

The objective of non-financial risk controls and mitigation is to minimise or mitigate non-financial risk exposure to an acceptable level, as defined by the Group's risk appetite.

The key control and mitigation tools deployed in the Group are as follows:

- **Outsourcing**

  Outsourcing minimises non-financial risk exposure by enabling the Group to focus on its core business with a view to enhance operational efficiency. An external party is engaged to perform an internal operational function on behalf of the Group whilst the Group still maintains ownership and ultimate responsibility of the function outsourced including meeting technology risk standards.

- **Anti-Fraud Management**

  The Group has in place robust and comprehensive tools and programs aligned to the established vision, principles and strategies in ensuring that the risks arising from fraud are managed in a decisive, timely and systematic manner. Therefore, mitigating the risk to the lowest level possible and to deter future occurrences. Clear roles and responsibilities are outlined at every level of the organisation in promoting high standards of integrity in every employee.

- **Business Continuity Management ("BCM")**

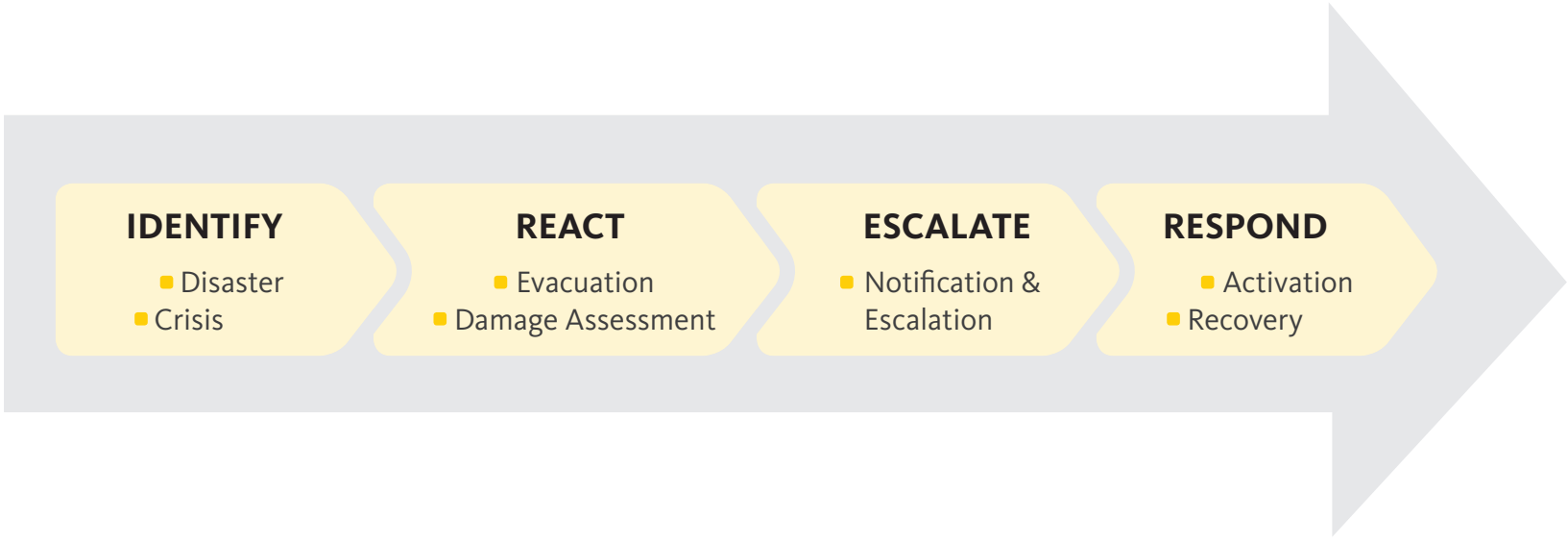
  BCM serves as a tool for a comprehensive and integrated approach in building organisational resilience in event of disruptions, with the capability for an effective response in safeguarding the interests of its key stakeholders, reputation, brand and value-creating activities.

The BCM approach in the Group is premised upon the following key focus:

- To implement mitigating measures to minimise the impact of disruption (i.e. disaster/crisis/emergency) to business and critical operations; and
- To resume business and critical operations of the Group in a timely manner in the event of a disruption.

In the event of a disruption, the main priority for the Group is always the safety of people, followed by stabilisation of the disruptive incident and escalation to the appropriate stakeholder for response with the aim of minimising the potential impact of the disruption. The BCM approach encapsulates key components as further outlined in the diagram below, which includes identification of potential threats to the Group, assessment of the level of impact to the people and business operations should those threats be realised, and implementation of appropriate strategies to ensure people safety and business recovery against downtime.

Diagram 3: BCM Approach



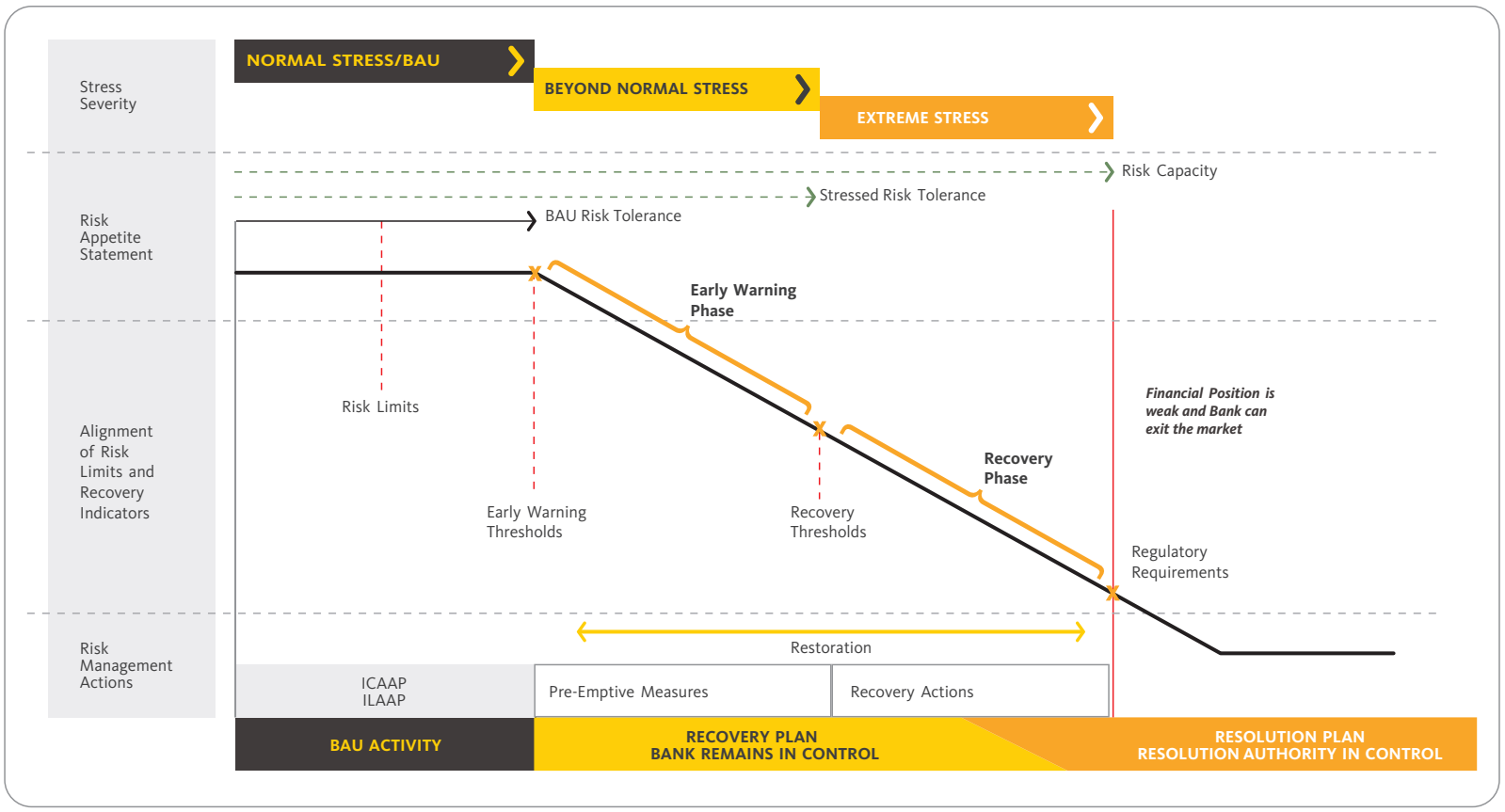
The Group continuously reviews business operations' resilience through regular testing (planned and without prior notification), in ensuring the established BCM process and infrastructure have the required capability and resources to recover during disruptions. Regular Crisis Simulation Exercise ("CSE") and Business Continuity Plan ("BCP") "Live Run" Activations are carried out for each critical business function in the Group, in addition to simultaneous CSEs across the Group. Regular testing and exercises, checks, amongst others, on the preparedness of staff, the readiness of alternate worksites, reliability of IT system disaster recovery, and effectiveness of communication, escalation and recovery procedures between all locations.

- **Maybank Group Recovery Planning ("RCP")**

  The RCP is instituted with the aim to identify credible options to recover from events impacting the Group's financial strength, operational capability as well as reputation. It provides a systematic approach in addressing potential capital, liquidity or funding disruptions affecting the liquidity soundness and financial solvency of the Group.

  The Plan encompasses clear strategies, decision-making authorities, roles and responsibilities and communication. Key components of the Plan include Strategic Analysis, Governance Structure and Oversight, Recovery Indicators, Recovery Options and Preparatory Measures, Scenario Analysis and Communications and Disclosures. The Plan serves as a guide for proactive actions to be taken under different stress scenarios based on "Normal", "Beyond Normal" and "Extreme" stress levels. It is developed as part of the Group's Integrated Risk Management Framework which outlines overarching principles for the management of risks that the Group is exposed to.

Diagram 4: Interlink Between Recovery Plan Components and Risk Management Framework



The Recovery Plan is an iterative and evolutionary process with regular reviews to ensure its effectiveness and robustness against changing scenarios and Regulatory requirements.

Risk Monitoring and Reporting

Supporting the implementation of the methodologies and tools are clearly defined processes to facilitate timely escalation and reporting of non-financial risk exposures experienced by businesses and operations to designated stakeholders (i.e. Management and relevant risk committees) in the Group for effective oversight on non-financial risk exposure. This includes continuous review, monitoring and reporting and analyses of non-financial risk incidents and its trend, risk 'hotspots', RCSA risk profile, risk exposure level via KRIs and the performance of outsourced service providers.

CAPITAL TREATMENT FOR OPERATIONAL RISK

The Group adopts the Basic Indicator Approach ("BIA") to compute the minimum capital requirement for operational risk as per BNM's Guidelines on Capital Adequacy Framework (Basel II – Risk-Weighted Assets) and CAFIB (Basel II – Risk-Weighted Assets). Tables 7 through 9 disclose separately the RWA and capital requirements for Operational Risk for the Group, the Bank and Maybank Islamic, respectively.

While preparing for the Standardised Measurement Approach ("SMA") proposed by the Bank of International Settlement, the Group has established the foundation for The Standardised Approach ("TSA") for Operational Risk as prescribed by Basel II and BNM.

Shariah Governance

Shariah principles are the foundation for the practice of Islamic finance through the observance of the tenets, conditions and principles prescribed by Shariah as resolved by BNM's and Securities Commission's Shariah Advisory Council ("SAC") and the appointed Shariah Committee ("SC") within the Group. Comprehensive Shariah compliance infrastructure will ensure stakeholders' confidence in Islamic financial institutions' business activities and operations.

In accordance with BNM requirements, the Group established a comprehensive and sound Shariah Governance Framework to ensure effective and efficient oversight by the Board, Shariah Committee, Management and Business Units on business activities and operations of Islamic products and services carried out by the Group's Islamic banking businesses.

Underpinning the governance framework is detailed policies and procedures that include the required steps to ensure that each transaction executed by the Group complies with Shariah requirements.

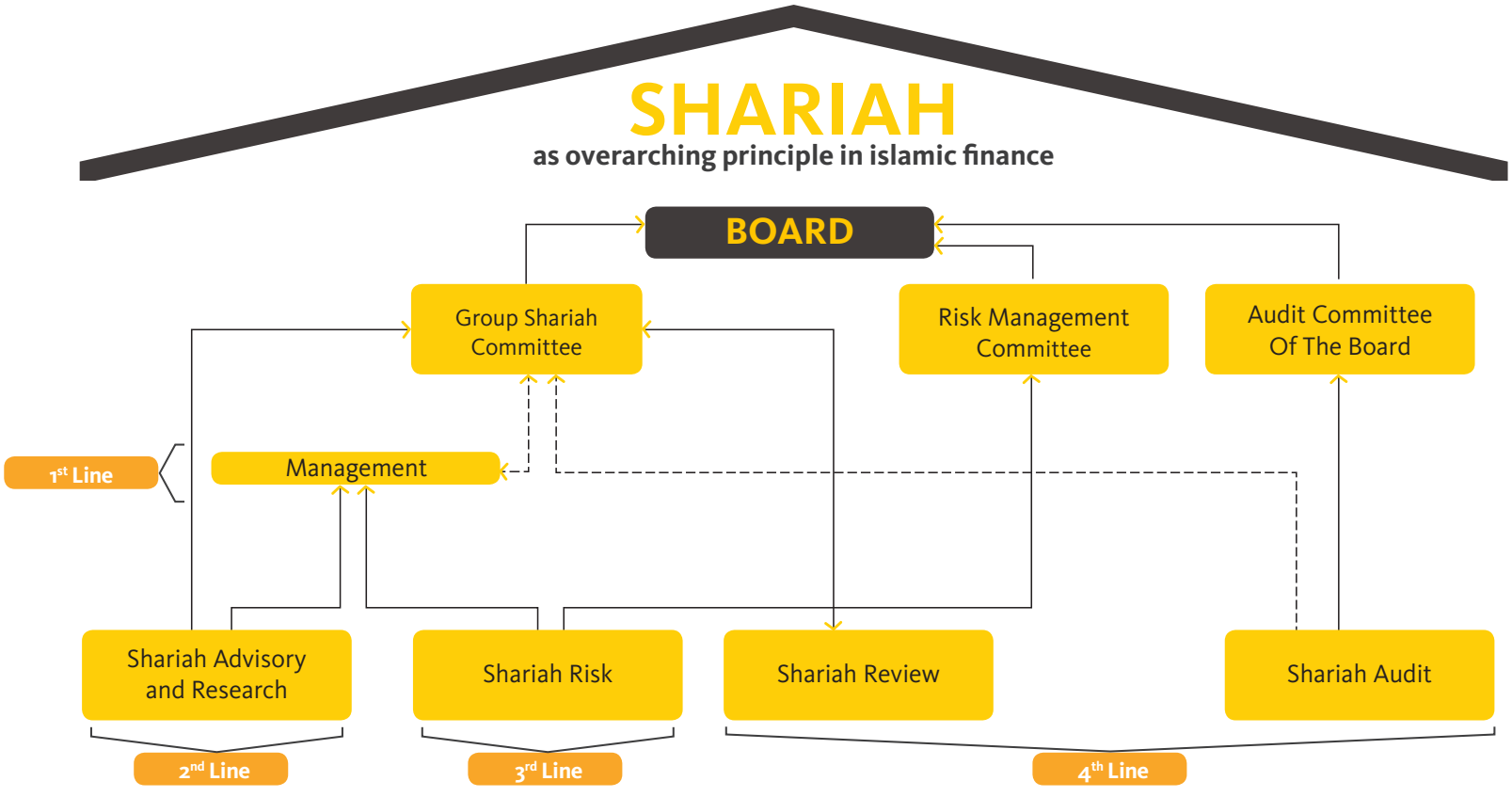
IMPLEMENTATION OF THE SHARIAH GOVERNANCE FRAMEWORK ("SGF")

The implementation of the SGF is through the following approach:

- Broad oversight, accountability and responsibility of the Board, Shariah Committee and Board Committees;
- Oversight, guidance and observance by the Executive Committees;
- Establishment of functions for Shariah Advisory and Research, Shariah Risk, Shariah Review and Shariah Audit; and
- Accountability of the management in ensuring day-to-day compliance to Shariah requirements in its business operations.

The Shariah Governance structure adopted by the Group is as illustrated in the diagram below.

Diagram 5: Shariah Governance Structure for the Group



RECTIFICATION PROCESS OF SHARIAH NON-COMPLIANT INCOME

Shariah non-compliance risk is the possible failure in fulfilling the required Shariah requirement and tenets as determined by Shariah Advisory Council of BNM and appointed Shariah Committee within the Group. The control structure for handling and reporting of Shariah non-compliance issues has been emplaced in the Group. As at 31 December 2018, Maybank Islamic reported one (1) Shariah Non-Compliance incident with profit totaling RM27,937.82 being purified. The amount has been fully channelled to charity in 2018.

Investment Account ("IA")

The Islamic Financial Services Act 2013 ("IFSA") distinguishes investment account from Islamic deposits, where an investment account is defined by the application of Shariah contracts with a non-principal guarantee feature for the purpose of investment.

Mudarabah is a contract between a customer as the capital provider (rabbul mal) and the Bank as an entrepreneur (mudarib) under which the customer provides capital to be invested in a Mudarabah venture that is managed by the Bank. Any profit generated from the venture is distributed between the customer and the Bank according to a mutually agreed Profit Sharing Ratio ("PSR") whilst financial losses are borne by the customer provided such losses are not due to the Bank's misconduct (ta'addi), negligence (taqsir) or breach of specific terms (mukhalafah al-shurut).

The Mudarabah venture managed by the Bank in this instance refers to monies placed by the customers through various Mudarabah products offered by the Bank which are subsequently invested into a blended portfolio of the Bank's assets.

Maybank Islamic offers two (2) types of Investment Account ("IA") namely, Restricted Profit Sharing Investment Account ("RA") which refers to an IA where the customer provides a specific investment mandate to the Bank and Unrestricted Investment Account ("UA") which refers to a PSIA where the customer provides the Bank with the mandate to make the ultimate investment decision without specifying any particular restriction or condition. The IA is not covered by the Perbadanan Insurans Deposit Malaysia ("PIDM").

Maybank Islamic's Unrestricted Mudarabah Investment Account ("UA")

In line with the transition requirements by BNM, Maybank Islamic had undergone a reclassification exercise effective 16 July 2015 whereby eligible Mudarabah-based deposit accounts were reclassified to IA for customers who chose to do so.

The investment objective of IA places emphasis on capital preservation and stable returns with the risk profile varying from low risk to low to medium risk depending on the fund it is invested in.

Notwithstanding the above, customers are made aware, through the respective fund's Product Disclosure Sheet, of the various risk factors associated with IA which includes (but not limited to):

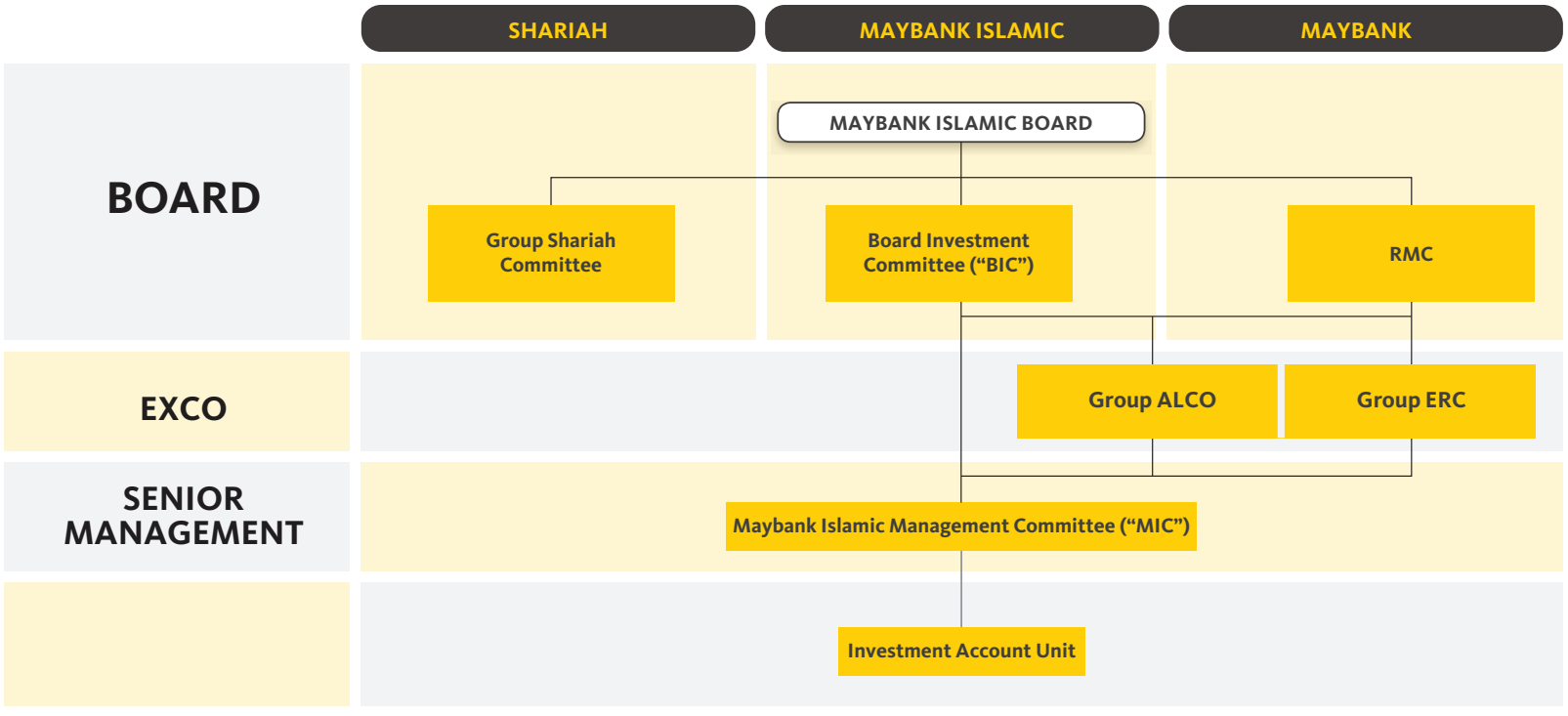
- Risk of capital reduction – Any investment carries the risk of reduction in the value of purchasing power. Hence, Maybank Islamic will only invest the fund in diversified assets with low risk attributes and apply sound investment management standards.
- Market Risk – Invested assets are subjected to fluctuations in market rates, which may impact the overall income performance of the fund. This risk shall be managed by Maybank Islamic in accordance with its overall hedging strategy.
- Liquidity Risk – Such risk occurs when withdrawals/redemption exceed total investments. The risk shall be managed by Maybank Islamic in accordance with its overall liquidity management strategy.
- Credit Risk – This risk may arise when substantial amount of assets for the fund goes into default. This shall be managed by Maybank Islamic by prudent selection of diversified asset portfolios and close monitoring of the performance of the selected assets.

The investment mandate, strategy and parameters for IA are in accordance with the governance set up by Maybank Islamic to ensure effective and efficient oversight on the business activities and operations of UA in safeguarding the customer's interest.

Investment Account ("IA")

The governance structure adopted by the Group for IA is as illustrated in the diagram below:

Diagram 6: IA Governance Structure



The roles and responsibilities of the respective committees are as below:

- Broad oversight, accountability and responsibility of Maybank Islamic Board, Group Shariah Committee and Board Committee;
- Oversight, guidance and observance by the Executive Committee;
- Accountability of the Senior Management in ensuring management, development and implementation of operational policies that govern the conduct of the IA; and
- Establishment of functions for the IA unit.

UA Performance

The gross exposure of the financing funded by UA as at 31 December 2018 was RM23,445,561.82. The related impairment provisions is not included in the financial statements of Maybank Islamic. The performance of UA is as described in the table below:

As at 31 December 2018	%
Return on Assets (ROA)	**5.18%**
Average Net Distributable Income	**5.11%**
Average Net Distributable Income Attributable to the IAH	**2.82%**
Average Profit Sharing Ratio to the IAH	**55.14%**

	RM'000
Impaired assets funded by UA	**63,419**
ECL Stage 1 provisions funded by UA	**86,554**
ECL Stage 2 provisions funded by UA	**51,373**
ECL Stage 3 provisions funded by UA	**24,666**

Notes:
1 Return on Assets refers to total gross income/average amount of assets funded by UA.
2 Average Net Distributable Income refers to total average net distributable income/average amount of assets funded by UA.

Forward-Looking Statements

This document could or may contain certain forward-looking statements that are based on current expectations or beliefs, as well as assumptions or anticipation of future events. These forward-looking statements can be identified by the fact that they do not relate only to historical or current facts. Forward-looking statements often use words such as anticipate, target, expects, estimate, plan, goal, believe, will, may, would, could, potentially, intends or other words of similar expressions. Undue reliance should not be placed solely on any of such statements because, by their very nature, they are subject to known and unknown risks and uncertainties and can be affected by other factors that could cause actual results, and the Group's plans and objectives, to differ materially from those expressed or implied in the forward-looking statements.

Forward-looking statements speak only as of the date they are made, and it should not be assumed that they have been revised or updated in light of changes in the global, political, economic, business, competitive, market and regulatory forces, future exchange and interest rates, changes in tax rates and future business combinations and dispositions.

The Group undertakes no obligation to revise or update any forward-looking statements contained in this document, regardless of whether those statements are affected as a result of new information, future events or otherwise.

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