Deutsche Bank (Malaysia) Berhad

(Company No. 312552-W)
(Incorporated in Malaysia)

Basel II Pillar 3 Report
31 December 2018

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Introduction

Bank Negara Malaysia ("BNM") announced a two-phase approach for implementing the standards recommended by the Bank of International Settlement set out in "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" (Basel II) in Malaysia.

In the first phase, banking institutions are required to adopt the Standardised Approach for credit risk by the end of 2008. In the second phase, qualified banking institutions are allowed to migrate directly to the Internal Rating-Based approach ("IRB Approach") in January 2010. Banks on the Standardised Approach are not mandated to migrate to the IRB Approach.

Deutsche Bank (Malaysia) Berhad ("the Bank") operates under the BNM's Risk Weighted Capital Adequacy Framework (Basel II – Risk Weighted Assets) "RWCAF" and Capital Adequacy Framework (Capital Components). The computation of the risk weighted assets is consistent with Pillar 1 requirements set out by the Basel Committee on Banking Supervision ("BCBS") and the Islamic Financial Services Board ("IFSB") in their respective documents – "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" issued in June 2006 and the "Capital Adequacy Standard" issued in December 2005. BNM had proposed some customisations to the BCBS specification in an effort to avoid under estimation of risk within the industry as well as to ensure suitability of the framework in the local environment.

The capital adequacy ratios of the Bank are computed in accordance with BNM's Capital Adequacy Framework (Capital Components and Basel II – Risk-weighted Assets) reissued on 02 February 2018. The Bank have adopted the Standardised Approach for Credit Risk and Market Risk, and the Basic Indicator Approach for Operational Risk. The minimum regulatory capital adequacy ratios before including capital conservation buffer and countercyclical capital buffer ("CCyB") are 4.5% for CET1 Capital Ratio, 6.0% for Tier 1 Capital Ratio and 8.0% for Total Capital Ratio.

The capital conservation buffer required to be maintained in the form of CET1 Capital above the minimum regulatory capital adequacy ratios requirement were phased-in as follows:

Calendar Year	Capital Conservation Buffer
2016	0.625%
2017	1.250%
2018	1.875%
2019 onwards	2.500%

The CCyB which is in a range of between 0% and 2.5% is not a requirement for exposure in Malaysia yet but may be applied by regulators in the future.

The information provided herein has been reviewed and verified by competent independent internal parties and certified by the Bank's Chief Executive Officer. The information is not audited as there is no requirement for external auditing of these disclosures under the BNM's RWCAF. The Pillar 3 Disclosure will be published in the Bank's website, www.db.com/malaysia.

1 Scope of Application

Deutsche Bank (Malaysia) Berhad and its subsidiaries ("DBMB Group") are incorporated and domiciled in Malaysia. DBMB Group is principally engaged in all aspect of banking and related financial services which includes Islamic Banking Window ("IBW") business.

The principles of consolidation used for regulatory capital purpose are not identical to those used for DBMB Group's financial statements, which are prepared in accordance with the Malaysian Financial Reporting Standards ("MFRS"), International Financial Reporting Standards and the Companies Act, 2016 in Malaysia. The subsidiary companies of the Bank, which are incorporated in Malaysia, are consolidated with the financial statements of the Bank. The accounting policy for consolidation is provided in Note 2(a) to the Financial Statements.

2 Capital Adequacy

2.1 Deutsche Bank (Malaysia) Berhad's Approach

The Bank manages risk and capital through a framework of principles, organisational structures, as well as measurement and monitoring processes that are closely aligned with the activities of the Bank's divisions.

The Deutsche Bank Group ("DB Group") Treasury function manages the Bank's capital at group level and locally in each region. The allocation of financial resources, in general, and capital, in particular, favors business portfolios with the highest positive impact on the Bank's profitability and shareholder value.

Regional capital plans covering the capital needs of DB Group's branches and subsidiaries are prepared on an annual basis and presented to the DB Group Investment Committee ("GIC"). At a country level, capital is maintained on the basis of the local regulator's requirements. It is overseen by the local Asset and Liability Committee ("ALCO"). Its mandate is to manage capital, funding, and liquidity risk.

2.2 Risk Weighted Assets and Capital Requirements

	2018		2017	
Bank	Risk Weighted Assets RM'000	Min Capital Requirement at 8% RM'000	Risk Weighted Assets RM'000	Min Capital Requirement at 8% RM'000
Credit Risk	4,945,990	395,679	4,697,225	375,778
Market Risk	3,645,457	291,637	2,949,956	235,996
Operational Risk	780,229	62,418	687,157	54,973
Total	9,371,676	749,734	8,334,338	666,747
Islamic Banking Window				
Credit Risk	938	75	843	67
Market Risk	1,875	150	1,687	135
Operational Risk	4,333	347	3,123	250
Total	7,146	572	5,653	452

2 Capital Adequacy (continued)

2.2 Risk Weighted Assets and Capital Requirements (continued)

Table 1 - Risk Weighted Capital Ratio and Tier 1 capital

	2018		2017	
	Total Capital Ratio	CET1 / Tier 1 Capital Ratio	Total Capital Ratio	CET1 / Tier 1 Capital Ratio
Deutsche Bank (Malaysia) Berhad	19.674%	19.186%	21.645%	21.332%
Islamic Banking Window	498.808%	498.808%	585.865%	585.865%

Table 2 – Risk weighted assets and capital requirements for credit risk (2018)

31-Dec-2018

RISK TYPE	Gross Exposures	Net Exposures	Risk-Weighted Assets	Minimum Capital Requirement at 8% *
Credit Risk	RM'000	RM'000	RM'000	RM'000
On-Balance Sheet Exposures				
Sovereigns/Central Banks #	1,561,311	1,561,311	-	-
Public Sector Entities	-	-	-	-
Banks, Development Financial Institutions and Multilateral Development Banks	1,713,445	1,713,445	754,070	60,326
Insurance Companies, Securities Firms and Fund Managers	-	-	-	-
Corporates	1,587,283	1,587,283	1,586,232	126,899
Regulatory Retail	-	-	-	-
Residential Mortgages	7,979	7,979	2,793	223
Higher Risk Assets	-	-	-	-
Other Assets	367,399	367,399	366,406	29,312
Equity Exposure	1,631	1,631	1,861	149
Defaulted Exposures	1,383	1,383	1,383	111
Total On-Balance Sheet Exposures	5,240,431	5,240,431	2,712,745	217,020
Off-Balance Sheet Exposures				
OTC Derivatives	2,281,057	1,831,518	950,198	76,016
Credit Derivatives	-	-	-	-
Direct Credit Substitutes	-	-	-	-
Transaction related contingent Items	299,646	299,211	285,918	22,873
Short Term Self Liquidating trade related contingencies	37,040	37,040	34,438	2,755
Other commitments, such as formal standby facilities and credit lines	964,888	964,888	962,691	77,015
Defaulted Exposures	-	-	-	-
Total for Off-Balance Sheet Exposures	3,582,631	3,132,657	2,233,245	178,659
Total On and Off- Balance Sheet Exposures	8,823,062	8,373,088	4,945,990	395,679

* The minimum regulatory capital requirement before including capital conservation buffer and countercyclical capital buffer.

Under Risk Weighted Capital Adequacy Framework (RWCAF), exposures to the Federal Government of Malaysia, Bank Negara Malaysia, overseas federal governments and central banks of their respective jurisdictions are accorded a preferential sovereign risk weight of 0%.

2 Capital Adequacy (continued)

2.2 Risk Weighted Assets and Capital Requirements (continued)

Table 2.1 - Risk weighted assets and capital requirements for credit risk (2017)

31-Dec-2017

RISK TYPE	Gross Exposures	Net Exposures	Risk-Weighted Assets	Minimum Capital Requirement at 8% *
Credit Risk	RM'000	RM'000	RM'000	RM'000
On-Balance Sheet Exposures				
Sovereigns/Central Banks #	3,262,212	3,193,170	-	-
Public Sector Entities	-	-	-	-
Banks, Development Financial Institutions and Multilateral Development Banks	1,837,094	1,837,094	799,184	63,935
Insurance Companies, Securities Firms and Fund Managers	-	-	-	-
Corporates	1,465,467	1,465,467	1,464,947	117,196
Regulatory Retail	-	-	-	-
Residential Mortgages	13,037	13,037	4,563	365
Higher Risk Assets	-	-	-	-
Other Assets	366,864	366,864	365,869	29,270
Equity Exposure	1,631	1,631	1,861	149
Defaulted Exposures	1,969	1,969	1,969	158
Total On-Balance Sheet Exposures	6,948,274	6,879,232	2,638,393	211,073
Off-Balance Sheet Exposures				
OTC Derivatives	2,056,133	1,543,391	795,627	63,648
Credit Derivatives	1,659	1,659	459	37
Direct Credit Substitutes	-	-	-	-
Transaction related contingent Items	394,592	393,551	366,594	29,328
Short Term Self Liquidating trade related contingencies	15,418	15,418	8,697	696
Other commitments, such as formal standby facilities and credit lines	898,815	898,815	887,455	70,996
Defaulted Exposures	-	-	-	-
Total for Off-Balance Sheet Exposures	3,366,617	2,852,834	2,058,832	164,705
Total On and Off- Balance Sheet Exposures	10,314,891	9,732,066	4,697,225	375,778

* The minimum regulatory capital requirement before including capital conservation buffer and countercyclical capital buffer.

Under Risk Weighted Capital Adequacy Framework (RWCAF), exposures to the Federal Government of Malaysia, Bank Negara Malaysia, overseas federal governments and central banks of their respective jurisdictions are accorded a preferential sovereign risk weight of 0%.

2 Capital Adequacy (continued)

2.2 Risk Weighted Assets and Capital Requirements (continued)

Table 3 – Risk weighted assets and capital requirements for market risk (2018)

31-Dec-2018

RISK TYPE	Gross Exposures		Risk Weighted Assets	Minimum Capital Requirement at 8%*
	RM'000		RM'000	RM'000
Market Risk	Long Position	Short Position		
Interest Rate Risk	100,000,698	96,794,643	2,647,457	211,797
Foreign Currency Risk	336,131	600,895	602,775	48,222
Options	868	363	395,225	31,618
	100,337,697	97,395,901	3,645,457	291,637

* The minimum regulatory capital requirement before including capital conservation buffer and countercyclical capital buffer

Table 3.1 - Risk weighted assets and capital requirements for market risk (2017)

31-Dec-2017

RISK TYPE	Gross Exposures		Risk Weighted Assets	Minimum Capital Requirement at 8%*
	RM'000		RM'000	RM'000
Market Risk	Long Position	Short Position		
Interest Rate Risk	111,865,038	110,799,993	1,468,990	117,519
Foreign Currency Risk	314,642	998,340	1,000,027	80,002
Options	-	261	480,939	38,475
	112,179,680	111,798,594	2,949,956	235,996

* The minimum regulatory capital requirement before including capital conservation buffer and countercyclical capital buffer

For interest rate risk, the gross exposures represent the sum of notional and mark-to-market value.
For foreign currency risk, the gross exposures represent net open position.
For options, the gross exposures represent net market value of option portfolio.

Table 4 – Risk weighted assets and capital requirements for operational risk (2018)

31-Dec-2018

RISK TYPE	Risk Weighted Assets	Minimum Capital Requirement at 8%*
	RM'000	RM'000
Operational Risk	780,229	62,418

* The minimum regulatory capital requirement before including capital conservation buffer and countercyclical capital buffer

2 Capital Adequacy (continued)

2.2 Risk Weighted Assets and Capital Requirements (continued)

Table 4.1 - Risk weighted assets and capital requirements for operational risk (2017)

31-Dec-2017

RISK TYPE	Risk Weighted Assets	Minimum Capital Requirement at 8%*
	RM'000	RM'000
Operational Risk	687,157	54,973

* The minimum regulatory capital requirement before including capital conservation buffer and countercyclical capital buffer

Table 5 – Risk weighted assets and capital requirements arising from Large Exposure Risk

31-Dec-2018 & 31-Dec-2017

RISK TYPE	Gross Exposures		Net Exposures	Risk Weighted Assets	Minimum Capital Requirement at 8%*
	RM'000		RM'000	RM'000	RM'000
Large Exposures Risk Requirements	-	-	-	-	-

* The minimum regulatory capital requirement before including capital conservation buffer and countercyclical capital buffer

The Bank does not have any capital requirement for Large Exposure Risk as there is no amount in excess of the lowest threshold arising from equity holdings as specified in BNM’s RWCAF.

2.3 Capital Structure

2.3.1 Main Features of Capital Instruments

The Bank’s total regulatory capital is made up of Tier 1 and Tier 2 capital and the sum of Tier 1 and Tier 2 capital is also referred to as Total Capital.

Tier 1 capital consists primarily of ordinary paid-up share capital and retained profits less deferred tax assets.

Share capital is the issued and fully paid share capital and there is no obligation to pay dividend to the shareholders. However, as per DB Group internal policy, all distributable profits (according to local GAAP) of a subsidiaries, that have not been previously approved for retention under a capital request, must be remitted as a dividend to the parent company and up the legal entity chain to the ultimate parent to support DB Group’s dividend capacity.

Tier 2 capital consists of expected credit losses, collective assessment allowance and regulatory reserve.

Deferred tax assets are excluded from the computation of the Bank’s capital base.

2 Capital Adequacy (continued)

2.3 Capital Structure (continued)

2.3.2 Components of Capital

Table 6 – Components of Tier 1 and Tier 2 capital:

	Group and Bank	
	31-Dec-18 RM'000	31-Dec-17 RM'000
Tier 1 capital		
Paid-up share capital	531,362	531,362
Other disclosed reserves	36	0
Statutory reserve	0	0
Retained profits	1,301,982	1,273,835
Less: Deferred tax assets	(35,355)	(27,299)
Total Common Equity Tier 1 / Tier 1 Capital	1,798,025	1,777,898
Tier 2 Capital		
Expected credit losses	5,769	0
Collective assessment allowance	0	12,486
Regulatory Reserve	40,000	13,558
Total Capital	1,843,794	1,803,942
Common equity tier 1 / Tier 1 Capital Ratio	19.186%	21.332%
Total capital ratio	19.674%	21.645%

3 Risk Management

3.1 Risk and Capital Management

Risk Management Framework

The risk management at the Bank is integral to DB Group's risk management framework and processes.

The Bank's business model requires to identify, assess, measure, aggregate and manage risks, and to allocate capital among businesses. Risk and capital are managed via a framework of principles, organisational structures and measurement and monitoring processes that are closely aligned with the activities and organisational structure of the Bank:

- Core risk management responsibilities are embedded in the Bank's local Management Board and delegated to senior risk management committees responsible for execution and oversight. The local Management Board regularly monitors the risk and capital profile.
- The Bank operate a Three Lines of Defence ("3LoD") risk management model. The First Line of Defence ("1st LoD") are all the business divisions and service providing infrastructure areas (i.e., Group Technology Operations and Corporate Services) who are the "owners" of the risks. The Second Line of Defence ("2nd LoD") are all the independent risk and control infrastructure functions. The Third Line of Defence ("3rd LoD") is Group Audit, which assures the effectiveness of the controls. All 3LoD are independent of one another and accountable for maintaining structures that ensure adherence to the designed principles at all levels.
- Risk strategy is approved by the Bank's local Management Board on an annual basis and is defined based on the Risk Appetite and Strategic and Capital Plan in order to align risk, capital and performance targets.
- Cross-risk analysis reviews are conducted to validate that sound risk management practices and a holistic awareness of risk exist.
- All material risk types are centrally managed via risk management processes. Modeling and measurement approaches to assess risk in terms of capital demand. Reputational risk, model risk are implicitly covered in DB Group's economic capital framework, primarily within operational and strategic risk.
- Monitoring, stress testing tools and escalation processes are in place for key capital and liquidity thresholds and metrics.
- Systems, processes and policies are critical components of the risk management capability. The Bank has a sound & efficient risk infrastructure in place. The Board Risk Management Committee ("BRMC") of the Bank regularly reviews reports from the respective divisions and is made aware of the risk exposure of the Bank and its ongoing management at each meeting.

Risk Governance

- The Bank's operations are regulated and supervised by BNM. Such regulation focuses on licensing, capital adequacy, liquidity, risk concentration, conduct of business as well as organisational and reporting requirements. The European Central Bank in connection with the relevant authorities of EU members which joined the Single Supervisory Mechanism via the Joint Supervisory Team act in cooperation as DB Group primary supervisors to monitor the DB Group's compliance with the German Banking Act and other applicable laws and regulations as well as the CRR/CRD 4 framework and respective implementations into German law.

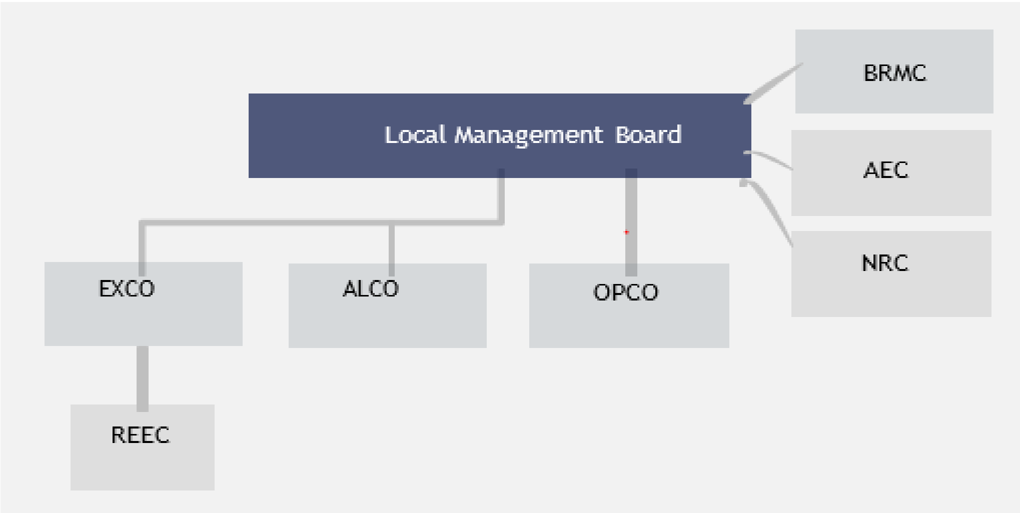
3 Risk Management (continued)

3.1 Risk and Capital Management (continued)

Risk Governance (continued)

- Several layers of management provide cohesive risk governance.
- The local Management Board is aware and kept regularly informed on special developments in the risk situation, risk management and risk controlling, as well as on the Bank's reputation and material litigation cases.
- The local Management Board is responsible for managing the Bank in accordance with the law, the Articles of Association and its Terms of Reference with the objective of creating sustainable value in the interest of the company, thus taking into consideration the interests of the shareholders, employees and other stakeholders.
- The local Management Board is responsible for establishing a proper business organisation, encompassing an appropriate and effective risk management.

The following functional committees are central to the management of risk at the Bank:



BRMC = Board Risk Management Committee
AEC = Audit and Examination Committee
NRC = Nominations and Remuneration Committee
EXCO = Executive Committee
REEC= Risk Exposure Executive Committee
ALCO = Asset and Liability Committee
OPCO = Operations Committee

The Bank's Head of Risk oversees the management of all credit, market, operational and liquidity risks as well as the comprehensive control of risk. He also chairs the Risk Exposure Executive Committee, which is the key local approval body.

3 Risk Management (continued)

3.1 Risk and Capital Management (continued)

Risk Culture

The risk culture at the Bank is fully integrated in DB Group's risk culture framework and processes. This is underpinned in the below principles and practices.

DB Group seeks to promote a strong risk culture throughout the organisation. It aims to help reinforce the Bank's resilience by encouraging a holistic approach to the management of risk and return throughout the organisation as well as the effective management of DB Group's risk, capital and reputational profile. DB Group actively takes risks in connection with its business and as such the following principles define the risk culture within DB Group:

- Risk is taken within a defined risk appetite;
- Every risk taken needs to be approved within the risk management framework;
- Risk taken needs to be adequately compensated; and
- Risk should be continuously monitored and managed.

Employees at all levels are responsible for the management and escalation of risks. All employees are expected to exhibit behaviors that support a strong risk culture. To promote this DB Group policies require that behavior assessment is incorporated into the performance assessment and compensation processes. DB Group communicated the following risk culture behaviors through various communication vehicles:

- Being fully responsible for our risks;
- Being rigorous, forward looking and comprehensive in the assessment of risk;
- Inviting, providing and respecting challenges;
- Trouble shooting collectively; and
- Placing Deutsche Bank and its reputation at the heart of all decisions.

These behaviours are reinforced through a comprehensive risk culture training programme, as well as targeted communications and awareness campaigns.

Risk and Capital Management Organisation

The DB Group's Chief Risk Officer ("CRO"), who is a member of the DB Group Management Board, is responsible for the identification, assessment, management and reporting of risks arising within operations across all businesses and risk types. The below functional committees are central to the Risk function:

- The DB Group's Risk Committee identifies, controls and manages all risks including risk concentrations at the DB Group. To fulfil this mandate, the DB Group's Risk Committee is supported by sub-committees that are responsible for dedicated areas of risk management, including the Non-Financial Risk Committee, the Enterprise Risk Committee, and the Group Reputational Risk Committee.
- The Non-Financial Risk Committee ensures oversight, governance and decision-making on Non-Financial Risks. It also establishes a cross-risk and holistic perspective of the key Non-Financial Risks.

3 Risk Management (continued)

3.1 Risk and Capital Management (continued)

Risk and Capital Management Organisation (continued)

- The Group Reputational Risk Committee ensures oversight, governance and decision-making on Reputational Risks. It also provides for an appropriate look-back and lessons learnt process.
- The Enterprise Risk Committee ensures oversight and decision-making on Financial Risks and cross-risks. It is responsible for aggregating and analysing enterprise-wide risk information and recommending risk and return allocation across risks. Enterprise Risk Management will manage enterprise risk appetite and allocation across businesses and legal entities, integrate and aggregate risks to provide greater enterprise risk transparency to support decision making, govern and improve the effectiveness of risk management framework , and commission forward looking stress tests, and manage group recovery and resolution plans.

Dedicated Risk units are established with the mandate to:

- Ensure that the business conducted within each division is consistent with the DB Group's risk appetite;
- Formulate and implement risk and capital management policies, procedures and methodologies that are appropriate to the businesses within each division;
- Approve credit, market and liquidity risk limits;
- Conduct periodic portfolio reviews to ensure that the portfolio of risks is within acceptable parameters; and
- Develop and implement risk and capital management infrastructures and systems that are appropriate for each division.

The heads of the DB Group's Risk units, who are the members of DB's Group Risk Committee, are responsible for the performance of the units and report directly to DB Group's Chief Risk Officer.

DB Group's Finance and Group Audit departments support the Risk function where they operate independently of both the group divisions and of the Risk function.

3.2 Risk Appetite Framework

Risk appetite expresses the level of risk that the Bank is willing to assume within risk capacity in order to achieve business objectives. Risk appetite is expressed in both qualitative statements and quantitative metrics. Risk capacity is defined as the maximum level of risk the Bank can assume before breaching regulatory capital requirements and liquidity needs and our obligations to stakeholders.

Risk appetite is an integral element in the business planning processes via Business and Risk Strategy, to promote the appropriate alignment of risk, capital and performance targets, while at the same time considering risk capacity and appetite constraints from both financial and non-financial risks. The Bank leverage the stress testing process to test the compliance of the plan also under stressed market conditions. Top-down risk appetite serves as the limit for risk-taking for the bottom-up planning from the business functions.

3 Risk Management (continued)

3.2 Risk Appetite Framework (continued)

The Risk Appetite Statement ("RAS") at the Bank ensures that risk taking activities at the Bank is consistent with DB Group's strategy, business and risk overviews, as well as the local regulatory environment. Key objectives of the RAS are to:

- Articulate the Bank's risk appetite clearly via both quantitative metrics and qualitative statements;
- Detail an overall approach in communicating risk appetite across and within the Bank;
- Set ultimate boundaries for the Bank's risk/reward target setting;
- Ensure that the Bank has sufficient financial resources to support daily business at any given point in time and to absorb stressed market events;
- Be able to anticipate emerging risks and be adaptive towards changing economic and regulatory developments;
- Provide the basis for ongoing monitoring of the risk profile through the Bank's 'Risk and Capital Profile' report; and
- Define thresholds for each metrics at which escalation will be triggered.

In facilitating a consistent understanding of the nomenclatures around risk appetite, all key definitions established at DB Group level are adapted to the Bank as below:

Risk Appetite Framework: The overall approach, including policies, processes, controls, and systems through which risk appetite is established, communicated, and monitored;

Risk Capacity: The maximum level of risk that the Bank can assume before breaching regulatory capital and liquidity needs and its obligations to stakeholders;

Risk Appetite: The aggregate level of risk that the Bank is willing to assume within its risk capacity to achieve its business objectives;

Limit: Quantitative restriction on the size or amount of risk exposure based on forward looking assumptions;

Risk Profile: Point in time assessment of the Bank's gross and net risk exposures aggregated within, and across, each relevant risk type, business unit and legal entity based on current or forward-looking assumptions.

3 Risk Management (continued)

3.2 Risk Appetite Framework (continued)

The Bank's Risk Appetite articulates the overall tone from the top in pursuing risk across the Bank and supports DB Group's risk culture, in reinforcing the bank's holistic risk management practices. In conjunction to the qualitative statements, the Bank desires to:

- Risk is taken within a defined risk appetite, which is actively managed and monitored in a timely manner, in order to maintain a robust risk profile and capital adequacy.
- Maintain stable funding and strategic liquidity to ensure that business is conducted within the liquidity risk appetite.
- Avoid any undue concentrations within the portfolios considering multiple dimensions, e.g. counterparty, region/ country, industries, products/ asset classes and business lines.
- Promote balanced risk adjusted performance and be fully responsible for accepting well compensated risks within risk appetite.
- Ensure that any business activity is supported by appropriate processes and controls to minimise operational risk.
- Minimise negative reputational, environmental and social impacts of our business activities.

The Bank assigns key risk appetite metrics that are sensitive to the material risks to which the bank is exposed to and which are able to function as key indicators of the bank's financial health in terms of liquidity and capital requirements. These key metrics are Common Equity Tier 1 ("CET1") ratio, Economic Capital Adequacy ("ECA") ratio, Liquidity Coverage Ratio ("LCR"), Stressed Net Liquidity Position ("SNLP").

In order to determine risk appetite and capacity, thresholds are set and the escalation mechanism are defined for further action. The levels chosen reflect the Bank's strategic focus and business plan as well as additional internal and external stakeholders. Monitoring of risk profile using key risk appetite metrics is implemented using framework as described below:

Green status (within risk appetite): Performances are in line with the Bank's preparedness to accept risk to achieve its business objectives and risk management is considered to be operating in a normal environment. As part of normal risk management, measures are actively taken to ensure that the risk profile remains within the risk appetite, and move towards the externally disclosed strategic target as in the Risk and Capital Demand plan.

Amber status (within risk capacity): Issues that may position threats to the Bank's business model, deviate from the desired risk appetite and undermine the stakeholder expectations. Heightened risk management or mitigating actions may be applied in reference to the escalation matrix, in ensuring timely intervention.

Red status: Once the risk capacity is crossed, mitigating actions are invoked if not already triggered in the amber range.

3 Risk Management (continued)

3.2 Risk Appetite Framework (continued)

In the event that the desired risk appetite is breached under either normal or stress scenarios, an escalation is made to the Executive Committee ("EXCO") which has to review and decide if further escalations to the DB Group and/or mitigating actions are required to bring risk profile back to the desired risk appetite range.

The risk appetite framework is approved by the local Management Board. Amendments to the risk appetite framework at the Bank must be approved by the local Management Board.

3.3 Risk Management Tools

The DB Group uses a comprehensive range of quantitative methodologies for assessing and managing risks. As a matter of policy, the DB Group continually assesses the appropriateness and the reliability of its quantitative tools and metrics in light of the DB Group's changing risk environment. Some of these tools are common to a number of risk categories, while others are tailored to the particular features of specific risk categories. The advanced internal tools and metrics the DB Group currently uses to measure, manage and report its risk are:

3.3.1 Economic Capital

Economic capital measures the amount of capital DB Group needs to absorb from very severe unexpected losses arising from the DB Group's exposures. "Very severe" in this context means that economic capital is set at a level to cover with a probability of 99.98% the aggregated unexpected losses within one year. DB Group calculates economic capital for the default risk, transfer risk and settlement risk elements of credit risk, for market risk, for operational risk and for general business risk. DB Group continuously reviews and enhances its economic capital model as appropriate. It uses economic capital to show an aggregated view of its risk position from individual business lines up to its consolidated Group level. In addition, the Group considers economic capital, in particular for credit risk, when the Group measures the risk-adjusted profitability of its client relationships.

3 Risk Management (continued)

3.3 Risk Management Tools (continued)

3.3.2 Expected Loss

The DB Group uses expected loss as a measure of the credit and operational risk. Expected loss is a measurement of the loss the DB Group can expect within a one-year period from these risks as of the respective reporting date, based on historical loss experience. When calculating expected loss for credit risk, DB Group takes into account credit risk ratings, collateral, maturities and statistical averaging procedures to reflect the risk characteristics of different types of exposures and facilities. All parameter assumptions are based on statistical averages of up to seven years based on DB Group's internal default and loss history as well as external benchmarks. DB Group uses expected loss as a tool of the risk management process and as part of DB Group's management reporting systems. DB Group also considers the applicable results of the expected loss calculations as a component of its collectively assessed allowance for credit losses included in its financial statements. For operational risk DB Group determines the expected loss from statistical averages of internal loss history, recent risk trends as well as forward looking expert estimates.

3.3.3 Value at Risk

The DB Group uses the value-at-risk approach to derive quantitative measures for trading book market risks under normal market conditions. The Group's value-at-risk figures play a role in both internal and external (regulatory) reporting. For a given portfolio, value-at-risk measures the potential future loss (in terms of market value) that, under normal market conditions, will not be exceeded with a defined confidence level in a defined period. The value-at-risk for a total portfolio represents a measure of diversified market risk (aggregated using pre-determined correlations) in that portfolio.

3.3.4 Stress Testing

The Bank perform the stress test on pillar 1 capital as required and specified by BNM.

The Bank's Stress Tests are reported in the Risk and Capital Profile ("RCP") report and regularly discussed by the EXCO and ALCO. The EXCO ensures that stress testing framework and scenarios used reflect all relevant material risks as well as local regulatory requirements. The local Management Board approves such stress testing framework, and is informed about the stress testing results regularly. It also assesses the viability of the Bank's capital planning based on the stress test results.

The EXCO is responsible to initiate and properly document remedial measures and mitigating actions (including explanations that justify the credibility and feasibility of those actions) based on the stress test results under consideration of the risk appetite, if deemed appropriate or necessary.

3 Risk Management (continued)

3.3 Risk Management Tools (continued)

3.3.4 Stress Testing (continued)

The Bank subjects all risk types covered under its Economic Capital ("EC") concept (Pillar 2 risks), as well as liquidity risk, to regular stress tests. At Group level, the Stress Testing Committee is responsible for aligning scenario definitions between DB Group and legal entities according to the Global Stress Testing Policy.

Credit risk stress testing

Credit risk stress tests of economic capital and also local regulatory capital demand are based on Group Credit Risk Stress Test ("GCST") methodology (Global Downturn or another macroeconomic stress scenario). The results are provided on a quarterly basis.

The Bank applies the rating migration matrix (based on Global Downturn scenario and macroeconomic stress scenarios) as provided by DB Group to stress test its Credit Risk Weighted Asset ("RWA"). The rating migration matrix is an output from the GCST which is the macroeconomic downturn applied on the Bank's credit portfolio using the internal EC model to calculate rating downgrade impact. By applying regulatory risk weights to the exposure of the derived portfolio, stressed RWA are calculated.

Liquidity risk stress testing

The Bank is fully integrated into the Group's liquidity risk management framework, and as such performs local liquidity stress tests on a regular basis. The local stress test framework is derived from DB's global stress testing framework. Local stress test results are computed based on the standards described in the Group Liquidity Stress Testing Methodology. Stress parameters are adjusted to cover local market and product specifications and are discussed at the local ALCO. The parameters are locally verified and documented by the business areas, and subject to the model validation process carried out by an independent risk function, i.e. Liquidity Risk Control ("LRC"). Stress tests are discussed regularly in the local ALCO, and brought to the attention of the EXCO and the local Management Board.

Market risk stress testing

Stress testing is a key market risk management technique, which evaluates the potential effects of extreme market events and movements on individual risk factors. It is one of the core quantitative tools used to assess the market risk of the Bank's positions. Stress testing is complementary to statistical model approaches such as Value at Risk ("VaR"). Market Risk Management ("MRM") performs several types of stress tests to capture a variety of risks: individual business-level stress tests, MRM portfolio stress testing (e.g. Portfolio Stress Testing ("PST"), Event Risk Scenarios ("ERS")), and Group-wide stress testing.

3 Risk Management (continued)

3.3 Risk Management Tools (continued)

3.3.4 Stress Testing (continued)

Operational risk stress testing

The Bank is fully integrated into the Group's Operational Risk Management Framework ("ORMF"), and as such performs operational risk stress tests on a regular basis. The operational risk stress test framework is derived from DB's global stress testing framework, but adjusted to cover local market peculiarities.

Group Non-Financial Risk translates the Group operational risk stress impact into DB operational risk factors for EC and Regulatory Capital ("RC") respectively. The stressed operational risk factors for EC and RC are calculated on a quarterly basis by translating the macro economic assumptions of the Global Downturn scenario into expert based 'workable' operational risk assumptions and applied on a legal entity level.

3.4 Risk Reporting and Measurement Systems

The DB Group has centralised risk data warehouses and systems supporting regulatory reporting and external disclosures, as well as internal management reporting for credit, market, operational and liquidity risk. The DB Group's risk infrastructure incorporates the relevant legal entities and business divisions and provides the basis for tailor-made reporting on risk positions, capital adequacy and limit utilisation to the relevant functions on a regular and ad-hoc basis. Established units within DB Group Finance and Risk assume responsibility for measurement, analysis and reporting of risk while ensuring sufficient quality and integrity of risk related data.

The main reports on risk and capital management that are used to provide the central governance bodies with information relating to DB Group risk exposures are the following:

- DB Group's Risk & Capital Profile which is presented quarterly to the DB Group Management Board. It comprises an overview of the current risk, capital and liquidity situation of the DB Group incorporating information on regulatory capital and economic capital adequacy.
- Stress tests are performed quarterly and reported to the DB Group Management Board. These are supplemented, as required, by ad-hoc stress tests.

3.5 Capital Management

DB Malaysia capital management is fully integrated with DB Group capital management. The DB Group's Treasury function manages the DB Group's capital at group level and locally in each region. Treasury implements the DB Group's capital strategy, which itself is developed by the DB Group Capital and Risk Committee and approved by the DB Group Management Board. The Group is committed to maintain its sound capitalisation. Overall capital demand and supply are constantly monitored and adjusted, if necessary, to meet the need for capital from various perspectives. The Bank's strategic plan, announced on 29 October 2015, includes key financial targets and their glide path until 2020.

3 Risk Management (continued)

3.5 Capital Management (continued)

The allocation of capital, determination of the DB Group's funding plan and other resource issues are presented to and approved by the DB Group Capital and Risk Committee.

The DB Group conducts an annual planning process to determine the DB Group's future strategic direction, decide on key initiatives and allocate resources to the businesses. The DB Group's plan comprises profit and loss, capital supply and capital demand, other resources, such as headcount, and business-specific key performance indicators. Based upon a range of economic scenarios, the business areas discuss their strategic development with the required risk management functions in order to align their revenue potential with the Group's risk appetite/resources. The approved planned risk-weighted assets and capital deduction items form the basis for quarterly capital demand limits by business area. The risk and performance plans feed into DB Group's Treasury capital and liquidity planning. Depending on the development of risk-weighted assets and capital deduction items, DB Group's Treasury regularly updates contingency measures in light of the Group's Tier 1 capital ratio target.

Regional capital plans covering the capital needs of the DB Group's branches and subsidiaries are prepared on an annual basis and presented to the DB Group Investment Committee. Local ALCO attend to the needs of legal and regulatory capital requirements under the stewardship of regional Treasury teams. Furthermore, ALCO safeguard compliance with requirements such as restrictions on dividends allocable for remittance to Deutsche Bank AG or on the ability of the Group's subsidiaries to make loans or advances to the parent bank. In developing, implementing and testing the DB Group's capital and liquidity, the DB Group takes such legal and regulatory requirements into account.

4 Credit Risk

Credit risk arises from all transactions where actual, contingent or potential claims against any counterparty, borrower or obligor (which refer to collectively as "counterparties") exist, including those claims that the Bank plans to distribute.

Credit Risk contains five material categories (Level 2) in DB's Risk Taxonomy:

– Default / Migration Risk is the risk that a counterparty defaults on its payment obligations or experiences material credit quality deterioration increasing the likelihood of a default.
– Country Risk is the risk that otherwise solvent and willing counterparties are unable to meet their obligations due to direct sovereign intervention or policies. Country Risk shall mean the risk that the Bank may suffer a loss due to possible deterioration of economic conditions, political and social upheaval, nationalisation and expropriation of assets, government repudiation of external indebtedness, exchange controls or currency depreciation or devaluation in any given country.
– Transactional/Settlement Risk (Exposure Risk) is the risk that arises from any existing contingent or potential future positive exposure.
– Mitigation Risk is the risk of higher losses due to risk mitigation measures not performing as anticipated.
– Concentration Risk is the risk of an adverse development in a specific single counterparty, country, industry or product leading to a disproportionate deterioration in the risk profile of DB's credit exposures to that counterparty, country, industry or product.

The Bank manages credit risk on the basis of policies and guidelines set by Group Credit Risk Management ("CRM"), an independent risk management function organised in alignment with the divisions of the Bank.

The Bank's CRM is based on the following principles:

– Credit risk is only accepted for adopted clients, after proper due diligence involving the business as first line of defence, for explicitly approved businesses, products and locations, if a rating has been assigned in line with agreed and approved processes, and if plans for an orderly termination of the risk positions have been considered.
– Collateral or other risk mitigating instruments which can be an alternative source of repayment do not substitute for high quality underwriting standards and a thorough assessment of the debt service ability of the counterparty has to be performed during the credit process.
– DB has a conservative approach to outright cash risk and longer tenor exposures and strives to adequately secure, guarantee and/or hedge this risk. Exceptions are lower risk short-term transactions and facilities supporting specific trade finance requests as well as low risk businesses where the margin allows for adequate loss coverage.
– New business initiatives, products and changes to existing products have to be assessed within DB's New Product Approval ("NPA") framework.

4 Credit Risk (continued)

In this context, DB's aims

- to avoid large directional credit risk on a counterparty and portfolio level by applying stringent underwriting standards combined with an active hedging and distribution model and collateralisation of the hold portfolio where feasible.
- to secure the derivative portfolio through adequate collateral agreements and may additionally hedge concentration risks to further mitigate credit risks from underlying market movements.
- to ensure a diversified and marketable credit portfolio to prevent undue concentrations and to minimise earnings volatility and long-tail risks, effectively protecting the Bank's capital in all market conditions.

CRM is organised globally and carries out risk identification, assessment, management, monitoring and reporting of credit risks. The CRM department is independent from business. Accordingly, the Bank adopts the credit policies of DB Group and the Head of Risk is responsible for ensuring that local procedures are compliant with DB Group principles.

4.1 Credit Risk Measurement

To determine the risk weighted assets for regulatory capital requirement purposes, the Bank measures credit risk using the standardised approach in line with BNM regulations. The standardised approach measures credit risk either pursuant to fixed risk weights, which are predefined by the regulator, or through the application of external ratings. In order to calculate the regulatory capital requirements under the standardised approach, the Bank use eligible external ratings from Standard & Poor's, Moody's, Fitch Ratings.

For Pillar 2 capital, the Bank adopts the credit risk economic capital concept from DB Group which measures the amount of capital needed to absorb very severe, unexpected losses arising from exposures over the period of one year. Further information on the Group credit risk EC quantification can be found in the Group's annual Pillar 3 report under section "Credit Risk Economic Capital Model".

4.2 Impairment of Financial Assets

MFRS 9 replaces the 'incurred loss' model in MFRS 139 with an 'expected credit loss' model. The new impairment model applies to all debt instruments that are measured at amortised cost or fair value through other comprehensive income, and to off-balance sheet credit exposures such as loan commitments and financial guarantees (hereafter collectively referred to as "Financial Assets").

Under MFRS 9, when determining whether the credit risk (i.e., risk of default) of a Financial Asset has increased significantly since initial recognition, the Bank considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes quantitative and qualitative information based on historical experience, credit risk assessment and forward-looking information (including macro-economic factors). The assessment of significant credit deterioration is key in determining when to move from measuring an allowance based on 12-month expected credit losses ("ECL") to one that is based on lifetime ECLs.

4 Credit Risk (continued)

4.2 Impairment of Financial Assets (continued)

MFRS 9 introduces a three stage approach to impairment for Financial Assets at the date of origination or purchase. This approach is summarised as follows:

- Stage 1: The Bank recognises a loss allowance at an amount equal to 12-month ECL. This represents the portion of lifetime ECL from default events that are expected within 12 months of the reporting date, assuming that credit risk has not increased significantly after initial recognition.
- Stage 2: The Bank recognises a loss allowance at an amount equal to lifetime ECL for those Financial Assets which are considered to have experienced a significant increase in credit risk since initial recognition. This requires the computation of ECL based on lifetime probability of default (LTPD) that represents the probability of default occurring over the remaining lifetime of the Financial Asset. Allowance for credit losses are higher in this stage because of an increase in credit risk and the impact of a longer time horizon being considered compared to 12 months in Stage 1.
- Stage 3: The Bank recognises a loss allowance at an amount equal to lifetime ECL, reflecting a Probability of Default (PD) of 100 %, via the recoverable cash flows for the asset, for those Financial Assets that are credit-impaired. The Group's definition of default is aligned with the regulatory definition. The treatment of loans in Stage 3 remains substantially the same as the treatment of impaired loans under MFRS 139.

4.3 Credit-impaired Financial Assets

The determination of whether a Financial Asset is credit impaired focusses exclusively on default risk, without taking into consideration the effects of credit risk mitigants such as collateral or guarantees. Specifically, a Financial Asset is credit impaired and in Stage 3 when:

- The Bank considers the obligor is unlikely to pay its credit obligations to the Bank. Determination may include forbearance actions, where a concession has been granted to the borrower or economic or legal reasons that are qualitative indicators of credit impairment; or
- Contractual payments of either principal or interest by the obligor are past due by more than 90 days.

For Financial Assets considered to be credit impaired, the ECL allowance covers the amount of loss the Bank is expected to suffer. Forecasts of future economic conditions when calculating ECLs are considered. The lifetime expected losses are estimated based on the probability-weighted present value of the difference between 1) the contractual cash flows that are due to the Bank under the contract; and 2) the cash flows that the Bank expects to receive.

4 Credit Risk (continued)

4.4 Geographic distribution of credit exposures, broken down in significant areas by major types of gross credit exposures

Table 7

Credit Exposure	Geography						31-Dec-18
Category	America RM'000	Europe RM'000	India RM'000	Malaysia RM'000	Singapore RM'000	Others RM'000	Total RM'000
Sovereigns/Central Banks	-	-	-	1,608,027	-	-	1,608,027
Banks, DFIs & MDBs	121,877	327,270	293,505	2,390,908	189,743	50,309	3,373,612
Public Sector Entities	-	-	-	-	-	-	-
Insurance Companies, Securities Firms and Fund Managers	-	-	-	20,399	-	-	20,399
Corporates	-	134,362	-	3,243,963	64,307	-	3,442,632
Regulatory Retails	-	-	-	-	-	-	-
Residential Mortgages	-	-	-	7,979	-	-	7,979
Other Asset	-	428	-	366,971	-	-	367,399
Equity Exposure	-	-	-	1,631	-	-	1,631
Defaulted Exposures	-	-	-	1,383	-	-	1,383
Grand Total	121,877	462,060	293,505	7,641,261	254,050	50,309	8,823,062

Table 7.1

Credit Exposure	Geography						31-Dec-17
Category	America RM'000	Europe RM'000	India RM'000	Malaysia RM'000	Singapore RM'000	Others RM'000	Total RM'000
Sovereigns/Central Banks	-	-	-	3,269,733	-	-	3,269,733
Banks, DFIs & MDBs	29,093	607,212	351,720	2,133,469	243,826	87,937	3,453,257
Public Sector Entities	-	-	-	-	-	-	-
Insurance Companies, Securities Firms and Fund Managers	-	-	-	12,268	-	-	12,268
Corporates	-	95,726	-	3,097,139	3,268	-	3,196,133
Regulatory Retails	-	-	-	-	-	-	-
Residential Mortgages	-	-	-	13,037	-	-	13,037
Other Asset	-	-	-	366,863	-	-	366,863
Equity Exposure	-	-	-	1,631	-	-	1,631
Defaulted Exposures	-	-	-	1,969	-	-	1,969
Grand Total	29,093	702,938	351,720	8,896,109	247,094	87,937	10,314,891

Deutsche Bank (Malaysia) Berhad
(Company No. 312552-W)
(Incorporated in Malaysia)

4 Credit Risk (continued)

4.5 Distribution of exposures by sector, broken down by major types of gross credit exposures

Table 8

Credit Exposure	Sector											31-Dec-18
Category	Construction	Education, Health & Others	Electricity, Gas & Water Supply	Finance, Insurance, Real Estate & Business Activities	Household	Manufacturing	Mining & Quarrying	Others	Primary Agriculture	Transport, Storage & Communication	Wholesale & Retail Trade & Restaurants & Hotels	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Sovereigns/Central Banks	-	-	-	1,608,027	-	-	-	-	-	-	-	1,608,027
Public Sector Entities	-	-	-	-	-	-	-	-	-	-	-	-
Banks, DFIs & MDBs	-	-	-	3,373,612	-	-	-	-	-	-	-	3,373,612
Insurance Companies, Securities Firms and Fund Managers	-	2,365	-	18,034	-	-	-	-	-	-	-	20,399
Corporates	124,363	-	112,633	815,582	6	1,184,246	20,506	239,385	5,930	632,331	307,650	3,442,632
Regulatory Retail	-	-	-	-	-	-	-	-	-	-	-	-
Residential Mortgages	-	-	-	-	7,165	-	-	814	-	-	-	7,979
Other Assets	-	-	-	367,399	-	-	-	-	-	-	-	367,399
Equity Exposure	-	-	-	1,631	-	-	-	-	-	-	-	1,631
Defaulted Exposures	-	-	-	-	1,383	-	-	-	-	-	-	1,383
Grand Total	124,363	2,365	112,633	6,184,285	8,554	1,184,246	20,506	240,199	5,930	632,331	307,650	8,823,062

Table 8.1

Credit Exposure	Sector											31-Dec-17
Category	Construction	Education, Health & Others	Electricity, Gas & Water Supply	Finance, Insurance, Real Estate & Business Activities	Household	Manufacturing	Mining & Quarrying	Others	Primary Agriculture	Transport, Storage & Communication	Wholesale & Retail Trade & Restaurants & Hotels	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Sovereigns/Central Banks	-	-	-	3,269,733	-	-	-	-	-	-	-	3,269,733
Public Sector Entities	-	-	-	-	-	-	-	-	-	-	-	-
Banks, DFIs & MDBs	-	-	-	3,453,257	-	-	-	-	-	-	-	3,453,257
Insurance Companies, Securities Firms and Fund Managers	-	3,030	-	9,238	-	-	-	-	-	-	-	12,268
Corporates	131,056	200	112,031	348,389	-	1,296,696	20,070	134,532	1,888	947,548	203,723	3,196,133
Regulatory Retail	-	-	-	-	-	-	-	-	-	-	-	-
Other Assets	-	-	-	366,863	-	-	-	-	-	-	-	366,863
Equity Exposure	-	-	-	1,631	-	-	-	-	-	-	-	1,631
Defaulted Exposures	-	-	-	-	1,969	-	-	-	-	-	-	1,969
Grand Total	131,056	3,230	112,031	7,449,111	12,432	1,296,696	20,070	137,106	1,888	947,548	203,723	10,314,891

4 Credit Risk (continued)

4.6 Residual contractual maturity breakdown by major types of gross credit exposures

Table 9

Credit Exposure	Maturity			31-Dec-18
	Up to 1year RM'000	1-5 year RM'000	> 5 years RM'000	Total RM'000
Sovereigns/Central Banks	1,608,027	-	-	1,608,027
Public Sector Entities	-	-	-	-
Banks, DFIs & MDBs	2,119,800	971,715	282,097	3,373,612
Insurance Cos, Securities Firms & Fund Managers	17,085	1,149	2,165	20,399
Corporates	2,798,102	598,217	46,313	3,442,632
Regulatory Retail	-	-	-	-
Residential Mortgages	-	-	7,979	7,979
Other Assets	367,399	-	-	367,399
Equity Exposure	1,631	-	-	1,631
Defaulted Exposures	-	-	1,383	1,383
Grand Total	6,912,044	1,571,081	339,937	8,823,062

Table 9.1

Credit Exposure	Maturity			31-Dec-17
	Up to 1year RM'000	1-5 year RM'000	> 5 years RM'000	Total RM'000
Sovereigns/Central Banks	3,269,733	-	-	3,269,733
Public Sector Entities	-	-	-	-
Banks, DFIs & MDBs	2,383,087	740,691	329,479	3,453,257
Insurance Cos, Securities Firms & Fund Managers	5,918	3,320	3,030	12,268
Corporates	2,502,043	610,055	84,035	3,196,133
Regulatory Retail	-	-	-	-
Residential Mortgages	-	-	13,037	13,037
Other Assets	366,863	-	-	366,863
Equity Exposure	1,631	-	-	1,631
Defaulted Exposures	-	-	1,969	1,969
Grand Total	8,529,275	1,354,066	431,550	10,314,891

4.7 Credit-impaired Loans

Table 10: Stage 3 Lifetime ECL credit-impaired loans, advances and financing analysed by economic purpose which are wholly incurred in Malaysia are as follows:

	Group and Bank	
	2018 RM'000	2017 RM'000
Purchase of landed properties - residential	2,965	2,032
	2,965	2,032

4 Credit Risk (continued)

4.8 Reconciliation of Loan Impairment Provisions

Table 11: Movements in collective assessment allowance which reflect the Expected Credit Loss ("ECL") model on impairment are as follows:

	2018				2017		
Group and Bank	12-month ECL	Lifetime ECL not credit - impaired	Lifetime ECL credit - impaired	Total	Individual	Collective	Total
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
Loans, advances and financing at amortised cost*							
Balance at 1 January	4,652	357	675	5,684	178	16,822	17,000
Transfer to 12-month ECL	131	-	(131)	-	-	-	-
Transfer to lifetime ECL not credit-impaired	-	-	-	-	-	-	-
Transfer to lifetime ECL credit- impaired	(493)	-	493	-	-	-	-
Net remeasurement of loss allowance	527	405	545	1,477	30	301	331
New financial assets originated or purchased	1,164	158	-	1,322	-	-	-
Financial assets that have been derecognised	(835)	(297)	-	(1,132)	-	-	-
Write-offs	-	-	-	-	(130)	-	(130)
Recoveries of amounts previously written off	-	-	-	-	(15)	-	(15)
Changes in models/risk parameters	-	-	-	-	-	-	-
Other movements	-	-	-	-	-	-	-
Balance at 31 December	5,146	623	1,582	7,351	63	17,123	17,186

* The loss allowance in this table includes ECL on loan commitment and financial guarantees.

4 Credit Risk (continued)

4.9 Standardised Approach to Credit Risk

Under the standardised approach for credit risk, the determination of capital requirements is based on an approach that links predefined risk weights by BNM to predefined asset class to which the credit exposure is assigned across sovereigns, central banks, public sector entities, banks, corporates, residential mortgages, regulatory retail portfolios, non-performing loans, high risk exposures and other assets. These credit exposures are risk-weighted based on recognised external credit ratings.

For Sovereigns, Corporates and Banking Institutions, external ratings are used to assign risk weights. These external ratings must come from BNM approved rating agencies, known as External Credit Assessment Institutions ("ECAI"); namely
(a) Standard & Poor's ("S&P")
(b) Moody's Investors Services ("Moody's")
(c) Rating Agency Malaysia Berhad ("RAM")
(d) Malaysian Rating Corporation Berhad ("MARC")

The Bank uses ratings from these agencies as part of its day to day business. External ratings for the counterparty are determined as soon as a relationship is established and these ratings are tracked and kept updated. Assessments provided by approved ECAI are mapped to credit quality steps as prescribed by BNM. Where a counterparty or exposure is rated by more than one ECAI, the second highest rating is used to determine the risk weight.

The following is a summary of the rules governing the assignment of risk weights under the Standardised Approach. Each exposure must be assigned to one of the five credit quality rating categories defined in the table below. For counterparty exposure class of Banking Institutions, those with original maturity of below three months and denominated in RM are all risk-weighted at 20% regardless of credit rating.

Sovereigns and Central Banks

Rating Category	Standard & Poor's Rating Services (S&P)	Moody's Investors Service (Moody's)	Risk weight
1	AAA to AA-	Aaa toAa3	0%
2	A+ to A-	A1 to A3	20%
3	BBB+ to BBB-	Baa1 to Baa3	50%
4	BB+ to B-	Ba1 to B3	100%
5	CCC+ to D	Caa1 to C	150%
Unrated			100%

Corporates

Rating Category	S&P	Moody's	RAM	MARC	Risk weight
1	AAA to AA-	Aaa to Aa3	AAA to AA3	AAA to AA-	20%
2	A+ to A-	A1 to A3	A1 to A3	A+ to A-	50%
3	BBB+ to BB-	Baa1 to Ba3	BBB1 to BB3	BBB+ to BB-	100%
4	B+ to D	B1 to C	B1 to D	B+ to D	150%
Unrated					100%

4 Credit Risk (continued)

4.9 Standardised Approach to Credit Risk (continued)

Banking Institutions

Rating Category	S&P	Moody's	RAM Rating Services Berhad (RAM)	Malaysian Rating Corporation Berhad (MARC)	Risk weight	Risk weight (original maturity of 6 months or less)	Risk weight (original maturity of 3 months or less)
1	AAA to AA-	Aaa to Aa3	AAA to AA3	AAA to AA-	20%	20%	20%
2	A+ to A-	A1 to A3	A1 to A3	A+ to A-	50%	20%	
3	BBB+ to BBB-	Baa1 to Baa3	BBB1 to BBB3	BBB+ to BBB-	50%	20%	
4	BB+ to B-	Ba1 to B3	BB1 to B3	BB+ to B-	100%	50%	
5	CCC+ to D	Caa1 to C	C1 to D	C+ to D	150%	150%	
Unrated					50%	20%	

Table 12: Rated and Unrated Counterparties (2018)

CREDIT EXPOSURE (31-Dec-2018)	Ratings of Sovereigns and Central Banks by Approved ECAIs						
	Moodys S&P	Aaa to Aa3 AAA to AA-	A1 to A3 A+ to A-	Baa1 to Baa3 BBB+ to BBB-	B1 to B3 BB+ to B-	Caa1 to C CCC+ to D	Unrated Unrated
On and Off Balance-Sheet Exposures							
Sovereigns/Central Banks		-	1,608,027	-	-	-	-
Total	1,608,027	-	1,608,027	-	-	-	-

CREDIT EXPOSURE (31-Dec-2018)	Ratings of Banking Institutions by Approved ECAIs						
	Moodys S&P RAM MARC	Aaa to Aa3 AAA to AA- AAA to AA3 AAA to AA-	A1 to A3 A+ to A- A1 to A3 A+ to A-	Baa1 to Baa3 BBB+ to BBB- BBB1 to BBB3 BBB+ to BBB-	B1 to B3 BB+ to B- BB1 to B3 BB+ to B-	Caa1 to C CCC+ to D C1 to D C+ to D	Unrated Unrated Unrated Unrated
On and Off Balance-Sheet Exposures							
Banks, Development Financial Institutions & MDBs		1,306,257	886,276	666,205	-	-	514,874
Total	3,373,612	1,306,257	886,276	666,205	-	-	514,874

CREDIT EXPOSURE (31-Dec-2018)	Ratings Others by Approved ECAIs					
	Moodys S&P RAM MARC	Aaa to Aa3 AAA to AA- AAA to AA3 AAA to AA-	A1 to A3 A+ to A- A to A3 A+ to A-	Baa1 to Ba3 BBB+ to BB- BBB1 to BB3 BBB+ to BB-	B1 to C B+ to D B to D B+ to D	Unrated Unrated Unrated Unrated
On and Off Balance-Sheet Exposures Credit Exposures (using Corporate Risk Weights)						
Public Sector Entities		-	-	-	-	-
Insurance Cos, Securities Firms & Fund Managers		-	-	-	-	20,399
Corporates		3,789	34,152	-	-	3,404,691
Regulatory Retail		-	-	-	-	-
Residential Mortgages		-	-	-	-	7,979
Other Assets		-	993	-	-	366,406
Equity Exposure		1,348	-	-	-	283
Defaulted Exposure		-	-	-	-	1,383
Total	3,841,423	5,137	35,145	-	-	3,801,141

4 Credit Risk (continued)

4.9 Standardised Approach to Credit Risk (continued)

Table 12.1: Rated and Unrated Counterparties (2017)

CREDIT EXPOSURE (31-Dec-2017)	Ratings of Sovereigns and Central Banks by Approved ECAIs						
	Moodys S&P	Aaa to Aa3 AAA to AA-	A1 to A3 A+ to A-	Baa1 to Baa3 BBB+ to BBB-	B1 to B3 BB+ to B-	Caa1 to C CCC+ to D	Unrated Unrated
On and Off Balance-Sheet Exposures							
Sovereigns/Central Banks		-	3,269,733	-	-	-	-
Total	3,269,733	-	3,269,733	-	-	-	-

CREDIT EXPOSURE (31-Dec-2017)	Ratings of Banking Institutions by Approved ECAIs						
	Moodys S&P RAM MARC	Aaa to Aa3 AAA to AA- AAA to AA3 AAA to AA-	A1 to A3 A+ to A- A1 to A3 A+ to A-	Baa1 to Baa3 BBB+ to BBB- BBB1 to BBB3 BBB+ to BBB-	B1 to B3 BB+ to B- BB1 to B3 BB+ to B-	Caa1 to C CCC+ to D C1 to D C+ to D	Unrated Unrated Unrated Unrated
On and Off Balance-Sheet Exposures							
Banks, Development Financial Institutions & MDBs		1,164,741	849,746	689,183	-	-	749,587
Total	3,453,257	1,164,741	849,746	689,183	-	-	749,587

CREDIT EXPOSURE (31-Dec-2017)	Ratings Others by Approved ECAIs					
	Moodys S&P RAM MARC	Aaa to Aa3 AAA to AA- AAA to AA3 AAA to AA-	A1 to A3 A+ to A- A to A3 A+ to A-	Baa1 to Ba3 BBB+ to BB- BBB1 to BB3 BBB+ to BB-	B1 to C B+ to D B to D B+ to D	Unrated Unrated Unrated Unrated
On and Off Balance-Sheet Exposures Credit Exposures (using Corporate Risk Weights)						
Public Sector Entities		-	-	-	-	-
Insurance Cos, Securities Firms & Fund Managers		-	-	-	-	12,268
Corporates		14,200	34,152	2,882	-	3,144,899
Regulatory Retail		-	-	-	-	-
Residential Mortgages		-	-	-	-	13,037
Other Assets		-	973	-	-	365,890
Equity Exposure		1,348	-	-	-	283
Defaulted Exposure		-	-	-	-	1,969
Total	3,591,901	15,548	35,125	2,882	-	3,538,346

The Bank has opted for the comprehensive approach for credit risk mitigation which takes into account the scaling factor when applying the standard haircut.

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4 Credit Risk (continued)

4.9 Standardised Approach to Credit Risk (continued)

The following table shows the DBMB Group's exposure values in the standardised approach by risk weight. The information is shown after credit risk mitigation obtained in the form of eligible financial collateral, guarantees and credit derivatives.

Table 13 – Risk Weights under the Standardised Approach (2018)

31-Dec-2018

Risk Weights	Exposures after Netting & Credit Risk Mitigation												Total Exposures after Netting and Credit Risk Mitigation	Total Risk Weighted Assets
	Sovereigns and Central Banks	Public Sector Entities	Banks, DFIs and MDBs	Insurance Companies, Securities Firms and Fund Managers	Corporates	Regulatory Retail	Residential Mortgages	Higher Risk Assets	Other Assets	Specialised Financing / Investment	Securitisation	Equity Exposures		
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
0%	1,608,027	-	-	-	-	-	-	-	993	-	-	-	1,609,020	-
20%	-	-	1,097,898	2,165	3,789	-	-	-	-	-	-	-	1,103,852	220,770
35%	-	-	-	-	-	-	7,979	-	-	-	-	-	7,979	2,793
50%	-	-	1,825,494	-	34,587	-	-	-	-	-	-	-	1,860,081	930,041
75%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100%	-	-	680	18,234	3,403,822	-	1,383	-	366,406	-	-	1,611	3,792,136	3,792,136
1250%	-	-	-	-	-	-	-	-	-	-	-	20	20	250
Total Exposures	1,608,027	-	2,924,072	20,399	3,442,198	-	9,362	-	367,399	-	-	1,631	8,373,088	4,945,990
Risk-Weighted Assets by Exposures	-	-	1,133,007	18,667	3,421,873	-	4,176	-	366,406	-	-	1,861	4,945,990	
Average Risk Weight	0.0%	0.0%	38.7%	91.5%	99.4%	0.0%	44.6%	0.0%	99.7%	0.0%	0.0%	114.1%	59.1%	
Deduction from Capital Base	-	-	-	-	-	-	-	-	-	-	-	-	-	

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4 Credit Risk (continued)

4.9 Standardised Approach to Credit Risk (continued)

Table 13.1 – Risk Weights under the Standardised Approach (2017)

31-Dec-2017

Risk Weights	Exposures after Netting & Credit Risk Mitigation												Total Exposures after Netting and Credit Risk Mitigation	Total Risk Weighted Assets
	Sovereigns and Central Banks	Public Sector Entities	Banks, DFIs and MDBs	Insurance Companies, Securities Firms and Fund Managers	Corporates	Regulatory Retail	Residential Mortgages	Higher Risk Assets	Other Assets	Specialised Financing / Investment	Securitisation	Equity Exposures		
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
0%	3,200,691	-	-	-	-	-	-	-	993	-	-	-	3,201,684	-
20%	-	-	1,078,197	3,030	14,200	-	-	-	-	-	-	-	1,095,427	219,085
35%	-	-	-	-	-	-	13,037	-	-	-	-	-	13,037	4,563
50%	-	-	1,861,950	-	35,193	-	-	-	-	-	-	-	1,897,143	948,572
75%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100%	-	-	368	9,238	3,145,700	-	1,969	-	365,869	-	-	1,611	3,524,755	3,524,755
1250%	-	-	-	-	-	-	-	-	-	-	-	20	20	250
Total Exposures	3,200,691	-	2,940,515	12,268	3,195,093	-	15,006	-	366,862	-	-	1,631	9,732,066	4,697,225
Risk-Weighted Assets by Exposures	-	-	1,146,983	9,844	3,166,136	-	6,532	-	365,869	-	-	1,861	4,697,225	
Average Risk Weight	0.0%	0.0%	39.0%	80.2%	99.1%	0.0%	43.5%	0.0%	99.7%	0.0%	0.0%	114.1%	48.3%	
Deduction from Capital Base	-	-	-	-	-	-	-	-	-	-	-	-	-	

4 Credit Risk (continued)

4.10 Credit Risk Mitigation under Standardised Approach

Credit Risk Mitigation Techniques

In addition to determining counterparty credit quality and the risk appetite, the Bank also uses various credit risk mitigation techniques to optimise credit exposure and reduce potential credit losses. Credit risk mitigants are applied in the following forms:

- Comprehensive and enforceable credit documentation with adequate terms and conditions.
- Collateral held as security to reduce losses by increasing the recovery of obligations.
- Risk transfers, which shift the probability of default risk of an obligor to a third party including hedging
  executed by Credit Portfolio Strategies Group.
- Netting and collateral arrangements which reduce the credit exposure from derivatives and repo- and repo-style transactions.

Collateral Held as Security

The Bank regularly agrees on collateral to be received from or to be provided to customers in contracts that are subject to credit risk. Collateral is security in the form of an asset or third-party obligation that serves to mitigate the inherent risk of credit loss in an exposure, by either substituting the borrower default risk or improving recoveries in the event of a default. While collateral can be an alternative source of repayment, it generally does not replace the necessity of high quality underwriting standards.

The Bank segregate collateral received into the following two types:

- Financial and other collateral, which enables the Bank to recover all or part of the outstanding exposure by liquidating the collateral asset provided, in cases where the borrower is unable or unwilling to fulfill its primary obligations. Cash collateral, securities (equity, bonds), and collateral assignments of other claims or inventory, equipment (i.e., plant, machinery) and real estate typically fall into this category.
- Guarantee collateral, which complements the borrower's ability to fulfill its obligation under the legal contract and as such is provided by third parties. Letters of credit, insurance contracts, export credit insurance, guarantees, credit derivatives and risk participations typically fall into this category.

Our processes seek to ensure that the collateral the Bank accept for risk mitigation purposes is of high quality. This includes seeking to have in place legally effective and enforceable documentation for realisable and measureable collateral assets which are evaluated regularly by dedicated teams. The assessment of the suitability of collateral for a specific transaction is part of the credit decision and must be undertaken in a conservative way, including collateral haircuts that are applied. The Bank has collateral type specific haircuts in place which are regularly reviewed and approved. In this regard, the Bank strive to avoid "wrong-way" risk characteristics where the borrower's counterparty risk is positively correlated with the risk of deterioration in the collateral value. For guarantee collateral, the process for the analysis of the guarantor's creditworthiness is aligned to the credit assessment process for borrowers.

4 Credit Risk (continued)

4.10 Credit Risk Mitigation under Standardised Approach (continued)

Risk Transfers

Risk transfers to third parties form a key part of the Bank's overall risk management process and are executed in various forms, including outright sales, single name and portfolio hedging, and securitisations. Risk transfers are conducted by the respective business units.

Netting and Collateral Arrangements for Derivatives and Securities Financing Transactions

Netting is applicable to over-the-counter ("OTC") derivative transactions. Netting is also applied to securities financing transactions as far as documentation, structure and nature of the risk mitigation allow netting with the underlying credit risk.

In order to reduce the credit risk resulting from OTC derivative transactions, where central counterparty clearing is not available, the Bank regularly seeks the execution of standard master agreements (such as master agreements for derivatives published by the International Swaps and Derivatives Association, Inc. ("ISDA") with our counterparts. A master agreement allows for the close-out netting of rights and obligations arising under derivative transactions that have been entered into under such a master agreement upon the counterparty's default, resulting in a single net claim owed by or to the counterparty. For parts of the derivatives business (i.e., foreign exchange transactions) the Bank also enter into master agreements under which payment netting applies in respect to transactions covered by such master agreements, reducing the settlement risk. In the risk measurement and risk assessment processes, the Bank apply close-out netting only to the extent that legal validity and enforceability of the master agreement in all relevant jurisdictions are satisfied.

Also, the Bank enters into credit support annexes ("CSA") to master agreements in order to further reduce derivatives-related credit risk. These annexes generally provide risk mitigation through periodic, usually daily, margining of the covered exposure. The CSAs also provide for the right to terminate the related derivative transactions upon the counterparty's failure to honor a margin call. As with netting, when the Bank believe the annex is enforceable, we reflect this in our exposure measurement.

Certain CSAs to master agreements provide for rating dependent triggers, where additional collateral must be pledged if a party's rating is downgraded. The Bank also enters into master agreements that provide for an additional termination event upon a party's rating downgrade. These downgrading provisions in CSAs and master agreements usually apply to both parties but may also apply to us only. We analyse and monitor our potential contingent payment obligations resulting from a rating downgrade in our stress testing approach for liquidity risk on an ongoing basis.

Table 14 shows gross credit exposures by Basel II portfolio (Corporate, Sovereign and Bank) under the Standardised approach and the amount of risk exposure which is mitigated by BNM's defined eligible collateral, guarantees or credit derivatives.

4 Credit Risk (continued)

4.10 Credit Risk Mitigation under Standardised Approach (continued)

Concentrations within Credit Risk Mitigation

Concentrations within credit risk mitigations taken may occur if a number of guarantors and credit derivative providers with similar economic characteristics are engaged in comparable activities with changes in economic or industry conditions affecting their ability to meet contractual obligations. We use a range of quantitative tools and metrics to monitor our credit risk mitigating activities. These also include monitoring of potential concentrations within collateral types.

Guarantees and credit derivative contracts are primarily entered into with banks and insurance companies. The majority of these exposures carry a rating within the investment grade band.

Table 14 Credit Risk Mitigation (2018)

31-Dec-2018

Exposure Class	Exposures before CRM	Exposures Covered by Guarantees/Credit Derivatives	Exposures Covered by Eligible Financial Collateral	Exposures Covered by Other Eligible Collateral
Credit Risk	RM'000	RM'000	RM'000	RM'000
On-Balance Sheet Exposures				
Sovereigns/Central Banks	1,561,311	-	-	-
Public Sector Entities	-	-	-	-
Banks, Development Financial Institutions and Multilateral Development Banks	1,713,445	-	-	-
Insurance Companies, Securities Firms and Fund Managers	-	-	-	-
Corporates	1,587,283	522,621	-	-
Regulatory Retail	-	-	-	-
Residential Mortgages	7,979	-	-	-
Higher Risk Assets	-	-	-	-
Other Assets	367,399	-	-	-
Equity Exposure	1,631	-	-	-
Defaulted Exposures	1,383	-	-	-
Total On-Balance Sheet Exposures	5,240,431	522,621	-	-
Off-Balance Sheet Exposures				
OTC Derivatives	2,281,057	-	449,540	-
Credit Derivatives	-	-	-	-
Direct Credit Substitutes	-	-	-	-
Transaction related contingent Items	299,646	-	434	-
Short Term Self Liquidating trade related contingencies	37,040	-	-	-
Other commitments, such as formal standby facilities and credit lines	964,888	-	-	-
Defaulted Exposures	-	-	-	-
Total for Off-Balance Sheet Exposures	3,582,631	-	449,974	-
Total On and Off- Balance Sheet Exposures	8,823,062	522,621	449,974	-

4 Credit Risk (continued)

4.10 Credit Risk Mitigation under Standardised Approach (continued)

Table 14.1 Credit Risk Mitigation (2017)

31-Dec-2017

Exposure Class	Exposures before CRM	Exposures Covered by Guarantees/Credit Derivatives	Exposures Covered by Eligible Financial Collateral	Exposures Covered by Other Eligible Collateral
Credit Risk	RM'000	RM'000	RM'000	RM'000
On-Balance Sheet Exposures				
Sovereigns/Central Banks	3,262,212	-	69,042	-
Public Sector Entities	-	-	-	-
Banks, Development Financial Institutions and Multilateral Development Banks	1,837,094	-	-	-
Insurance Companies, Securities Firms and Fund Managers	-	-	-	-
Corporates	1,465,467	982,745	-	-
Regulatory Retail	-	-	-	-
Residential Mortgages	13,037	-	-	-
Higher Risk Assets	-	-	-	-
Other Assets	366,864	-	-	-
Equity Exposure	1,631	-	-	-
Defaulted Exposures	1,969	-	-	-
Total On-Balance Sheet Exposures	6,948,274	982,745	69,042	-
Off-Balance Sheet Exposures				
OTC Derivatives	2,063,384	-	512,742	-
Credit Derivatives	1,659	-	-	-
Direct Credit Substitutes	-	-	-	-
Transaction related contingent Items	299,646	-	1,041	-
Short Term Self Liquidating trade related contingencies	37,040	-	-	-
Other commitments, such as formal standby facilities and credit lines	964,888	-	-	-
Defaulted Exposures	-	-	-	-
Total for Off-Balance Sheet Exposures	3,366,617	-	513,783	-
Total On and Off- Balance Sheet Exposures	10,314,891	982,745	582,825	-

4 Credit Risk (continued)

4.11 Off Balance Sheet Exposures and Counterparty Credit Risk ("CCR")

Credit Exposure

The Bank defines its credit exposure as all transactions where losses might occur due to the fact that counterparties may not fulfill their contractual payment obligations. Counterparty credit exposure arises from the Bank's traditional non-trading lending activities which include elements such as loans and contingent liabilities. Counterparty credit exposure also arises via the Bank's direct trading activity with clients in certain instruments which include OTC derivatives, FX forwards and Forward Rate Agreements. A default risk also arises from the Bank's positions in traded credit products such as bonds. The Bank calculates the gross amount of the exposure without taking into account any collateral, other credit enhancement or credit risk mitigating transactions. In Table 15 below, the Bank shows details about several of its main credit exposure categories, namely loans, irrevocable lending commitments, contingent liabilities, OTC derivatives, tradable assets and repo style transactions following the FRS-principles for consolidation.

Credit Exposure from Derivatives

Exchange-traded derivative transactions (e.g., futures and options) are regularly settled through a central counterparty, the rules and regulations of which provide for daily margining of all current and future credit risk positions emerging out of such transactions.

The credit risk arising from all financial derivatives is managed as part of the overall lending limits to banks and customers. Also, the Bank enters into CSA to master agreements in order to further reduce the Bank's derivatives-related credit risk. These CSA generally provide risk mitigation through periodic (usually daily) margining of the covered exposure. The CSA also provides for the right to terminate the related derivative transactions upon the counterparty's failure to honor a margin call. As with netting, when the Bank believes the CSA is enforceable, the Bank reflects this in its exposure measurement.

Exposure value calculation

In respect of exposure values calculation for regulatory capital purposes, OTC traded products are calculated according to the CCR mark to market method. This is calculated as a sum of the current replacement cost and the potential future credit exposure. The current replacement cost is the MYR equivalent amount owed by the counterparty to the Bank for various financial derivative transactions. The potential future credit exposure is an add-on based on a percentage of the notional principal of each transaction. Such percentages are prescribed by BNM in the Basel II - RWCAF guidelines and vary according to the underlying asset class and tenor of each trade.

4 Credit Risk (continued)

4.11 Off Balance Sheet Exposures and Counterparty Credit Risk ("CCR") (continued)

Credit Risk Limit Setting and Monitoring Credit Limits

Credit limits set forth the maximum credit exposures the Bank is willing to assume over specified periods. They relate to products, conditions of the exposure and other factors. Credit limits are established by the DB Group Credit Risk Management function via the execution of assigned credit authorities. Credit authority reflects the mandate to approve new credit limits as well as increases or the extension of existing credit limits. Credit authority is generally assigned to individuals as personal credit authority according to the individual's professional qualification and experience.

Ongoing active monitoring and management of credit risk positions is an integral part of the Bank's credit risk management activities. Monitoring tasks are primarily performed by the divisional risk units in close cooperation with the Bank's portfolio management function.

Credit counterparties are allocated to credit officers. The individual credit officers have the relevant expertise and experience to manage the credit risks associated with these counterparties and their associated credit related transactions. It is the responsibility of each credit officer to undertake ongoing credit monitoring for their allocated portfolio of counterparties. The Bank also has procedures in place intended to identify at an early stage credit exposures for which there may be an increased risk of loss. In instances where the Bank has identified counterparties where problems might arise, the respective exposure is generally placed on a watchlist. The Bank aims to identify counterparties that, on the basis of the application of the Bank's risk management tools, demonstrate the likelihood of problems well in advance in order to effectively manage the credit exposure and maximise the recovery. The objective of this early warning system is to address potential problems while adequate options for action are still available. This early risk detection is a tenet of the Bank's credit culture and is intended to ensure that greater attention is paid to such exposures.

Credit Ratings Downgrade

The Bank has no collateral arrangements under CSA which contains rating triggers as at 31 December 2018.

Credit Derivatives

The Bank has no credit derivatives transactions for its own credit portfolio except for its intermediation activities.

4 Credit Risk (continued)

4.11 Off Balance Sheet Exposures and Counterparty Credit Risk ("CCR") (continued)

Table 15: Off-Balance Sheet and Counterparty Credit Risk (2018)

31-Dec-2018 Group and Bank	Principal Amount	Positive Fair Value of Derivative Contracts	Credit Equivalent Amount	Risk Weighted Assets
	RM'000	RM'000	RM'000	RM'000
Direct Credit Substitutes	-		-	-
Transaction related contingent Items	599,291		299,646	285,918
Short Term Self Liquidating trade related contingencies	185,199		37,040	34,438
Foreign exchange related contracts				
One year or less	12,088,276	90,225	279,886	221,626
Over one year to five years	1,918,247	18,177	148,283	148,283
Over five years	350,131	-	38,118	21,042
Interest/Profit rate related contracts				
One year or less	868,592	18,593	201,431	200,199
Over one year to five years	584,874	1,015	10,363	7,337
Over five years	27,063	-	2,165	433
Equity related contracts				
One year or less	-	-	-	-
Over one year to five years	-	-	-	-
Over five years	-	-	-	-
Credit Derivative Contracts				
One year or less	-	-	-	-
Over one year to five years	-	-	-	-
Over five years	-	-	-	-
OTC Derivative transactions and credit derivative contracts subject to valid bilateral netting agreements	77,054,912	762,478	1,600,811	351,278
Other commitments, such as formal standby facilities and credit lines, with an original maturity of over one year	743,120	-	371,560	371,560
Other commitments, such as formal standby facilities and credit lines, with an original maturity of up to one year	2,966,641		593,328	591,131
Total	97,386,346	890,488	3,582,631	2,233,245

4 Credit Risk (continued)

4.11 Off Balance Sheet Exposures and Counterparty Credit Risk ("CCR") (continued)

Table 15.1: Off-Balance Sheet and Counterparty Credit Risk (2017)

31-Dec-2017 Group and Bank	Principal Amount	Positive Fair Value of Derivative Contracts	Credit Equivalent Amount	Risk Weighted Assets
	RM'000	RM'000	RM'000	RM'000
Direct Credit Substitutes	-		-	-
Transaction related contingent Items	789,185		394,592	366,594
Short Term Self Liquidating trade related contingencies	77,089		15,418	8,697
Foreign exchange related contracts				
One year or less	10,324,163	69,086	211,994	195,970
Over one year to five years	521,424	1,148	32,969	32,969
Over five years	310,475	-	34,152	17,076
Interest/Profit rate related contracts				
One year or less	493,754	670	1,592	966
Over one year to five years	1,018,769	112,841	214,936	208,671
Over five years	538,386	251	37,823	35,399
Equity related contracts				
One year or less	-	-	-	-
Over one year to five years	-	-	-	-
Over five years	-	-	-	-
Credit Derivative Contracts				
One year or less	-	-	-	-
Over one year to five years	-	-	-	-
Over five years	-	-	-	-
OTC Derivative transactions and credit derivative contracts subject to valid bilateral netting agreements	91,265,175	1,118,500	1,524,326	305,035
Other commitments, such as formal standby facilities and credit lines, with an original maturity of over one year	575,451	-	287,725	287,725
Other commitments, such as formal standby facilities and credit lines, with an original maturity of up to one year	3,055,448		611,090	599,730
Total	108,969,319	1,302,496	3,366,617	2,058,832

5 Market Risk

Market risk arises from the uncertainty concerning changes in market prices and rates (including interest rates, equity prices, foreign exchange rates and commodity prices), the correlations among them and their levels of volatility.

The primary objective of DB Group Market Risk Management (formally called Market & Liquidity Risk Management and Risk Methodology) is to ensure that the DB Group's business units optimise the risk-reward relationship and do not expose it to unacceptable losses. To achieve this objective, DB Group Market Risk Management works closely together with risk takers (the business units) and other control and support groups.

5.1 Market Risk Management Framework

The DB Group's primary instrument to manage trading market risk is the limit setting process. The DB Group's Management Board, supported by DB Group Market Risk Management, which is part of the DB Group's independent risk function, sets Group-wide value-at-risk, stress loss, and economic capital limits for the market risk in the trading book. DB Group Market Risk Management sub-allocates this overall limit to the group divisions and individual business areas based on anticipated business plans and risk appetite. Within the individual business areas, the DB Group business heads or the DB Group entities' Chief Operating Officers may establish business limits by sub-allocating the DB Group Market Risk Management limit down to individual portfolios or geographical regions. VaR limits (or thresholds, as the case may be) for the Bank are endorsed by the BRMC and the Bank's Board of Directors ("BOD").

In the Bank, the majority of the interest rate risk arising from non-trading asset and liability positions is transferred through internal hedges to the trading desks in Global Markets and is thus managed on the basis of Value-at-Risk, EC and other applicable risk metrics as reflected in the trading Value-at-Risk. Residual risk, if applicable, is managed in accordance with the requirements of the Non-Traded Market Risk ("NTMR") – Interest Rate Risk in the Banking Book Policy and included in the NTMR VaR report as well as in the local RCP report. Market risk in Treasury is managed through VaR for which a limit is in place.

5.2 Quantitative Risk Management Tools

Value-At-Risk ("VaR")

VaR is a quantitative measure of the potential loss (in value) of trading positions due to market movements that will not be exceeded in a defined period of time and with a defined confidence level.

The DB Group's value-at-risk for the trading businesses is based on its own internal value-at-risk model, which is calculated using a 99% confidence level and a holding period of one day. This means the DB Group estimates that there is a 1 in 100 chance that a mark-to-market loss from the DB Group's trading positions will be at least as large as the reported value-at-risk.

5 Market Risk (continued)

5.2 Quantitative Risk Management Tools (continued)

Value-At-Risk (continued)

The DB Group uses historical market data to estimate value-at-risk, with an equally weighted 261 trading day history. The calculation employs a Monte Carlo Simulation technique, and we assume that changes in risk factors follow a well-defined distribution, e.g. normal, lognormal, or non-normal (t, skew-t, Skew-Normal). To determine the DB Group's aggregated value-at-risk, the DB Group uses observed correlations between the risk factors during this 261 trading day period.

The DB Group's value-at-risk model is designed to take into account the following risk factors: interest rates, credit spreads, equity prices, foreign exchange rates and commodity prices, as well as their implied volatilities and common basis risk. The model incorporates both linear and, especially for derivatives, non-linear effects of the risk factors on the portfolio value.

The value-at-risk measure enables the DB Group to apply a constant and uniform measure across all of DB Group's trading businesses and products. It allows a comparison of risk in different businesses, and also provides a means of aggregating and netting positions within a portfolio to reflect correlations and offsets between different asset classes. Furthermore, it facilitates comparisons for the DB Group's market risk both over time and against the daily trading results.

The DB Group continuously analyses potential weaknesses of the DB Group's VaR model using statistical techniques such as back-testing, in addition to risk management experience and expert opinion. Back-testing provides an analysis of the predictive power of the value-at-risk calculations based on actual experience. The DB Group compares the hypothetical daily profits and losses under the buy-and-hold assumption with the estimates from the DB Group's value-at-risk model.

The value-at-risk measures are used by the Bank for internal control purposes. The regulatory capital computation for market risk is based on the Standardised Approach prescribed by BNM.

Market Risk Stress Testing

Stress testing is a key risk management technique, which evaluates the potential effects of extreme market events and movements on individual risk factors. It is one of the core quantitative tools used to assess the market risk of DB Group's positions and complements VaR and Economic Capital. Market Risk Management DB Group performs several types of stress testing to capture a variety of risks: Portfolio stress testing, individual business-level stress tests, Event Risk Scenarios, and also contributes to Group wide stress testing.

Portfolio Stress Testing measures the profit and loss impact of potential market events based on scenarios and different severities, which are either historical or hypothetical and defined at macro level. For individual business-level stress tests, Market Risk Managers identify relevant risk factors and develop stress scenarios relating either to macro-economic or business specific developments. Business-level stress test capture idiosyncratic and basis risks.

5 Market Risk (continued)

5.2 Quantitative Risk Management Tools (continued)

Market Risk Stress Testing (continued)

Event Risk Scenario stress test measures the profit and loss impact of historically observed events or hypothetical situation on trading positions for specific emerging market countries and regions. The bank's trading book exposure to an individual country is stressed under a single scenario, which replicates market movements across that country in times of significant market crisis and reduced liquidity.

5.3 Standardised Approach to Market Risk Capital Charge

Under the standardised approach for market risk defined by BNM, the market risk capital charge is divided into interest / profit rate risk, equity risk, foreign exchange risk and commodities risk charges. The capital charges for interest / profit rate and equity are applied to the current market value of the interest / profit rate and equity related financial instruments or positions in the trading book. The capital charge for foreign exchange risk and commodities risk however are applied to all foreign currency and commodities positions. Some of the foreign exchange commodity positions will be reported and hence evaluated at market value, while some may be reported and evaluated at book value.

The Standardised market risk approach is based on a building block approach where standardised supervisory capital charge is applied separately to each risk category. Interest / profit rate sensitive instruments are normally affected by general risk charges in market interest / profit rate, known as general risk and charges in factors related to a specific issuer, in particular issuer's credit quality, which would affect the instrument, known as specific risk.

Interest / profit rate risk

The capital requirements for general risk are designed to capture the risk of loss arising from changes in market interest / profit rate. Positions are allocated across a maturity ladder template of time bands and the capital charge is then calculated as the sum of four components:

- The net short or long weighted position across the entire time bands;
- The smaller proportion of the matched positions in each time band to capture basis risk;
- The larger proportion of the matched positions across different time bands to capture yield curve risk; and
- A net charge or positions in options, where appropriate.

Foreign exchange risk

Under the standardised approach, single currency position and the risk inherent in a banking institution's mix of net long and short positions in different currencies need to be measured, and capital charge of 8% of the higher total net long or total net short foreign currency position will be applied.

5 Market Risk (continued)

5.4 Risk Weighted Assets and Capital Requirements for Market Risk

Table 16: Risk weighted assets and capital requirements for market risk

Minimum Capital Requirement at 8%	31-Dec-2018 Standardised Approach RM'000	31-Dec-2017 Standardised Approach RM'000
Interest Rate Risk	211,797	117,519
Equity Position Risk	-	-
Foreign Exchange Risk	48,222	80,002
Commodity Risk	-	-
Options	31,618	38,475
Total Risk Weighted Assets for Market Risk	3,645,457	2,949,956

6 Operational Risk

Operational Risk Management Framework ("ORMF")

Operational Risk means the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events, and includes Legal Risk. Operational Risk excludes Business and Reputational Risk. It forms a subset of the Bank's Non-Financial Risks, as does Reputational Risk.

The governance of our operational risks follows the Three Lines of Defence ("3LoD") approach, to protect the Bank, its customers and shareholders against risk losses and resulting reputational damages. It seeks to ensure that all our operational risks are identified and covered, that accountabilities regarding the management of operational risks are clearly assigned and risks are taken on and managed in the best and long term interest of the Bank. The 3LoD approach and its underlying principles, i.e., the full accountability of the First Line of Defence ("1st LoD") to manage its own risks and the existence of an independent Second Line of Defence ("2nd LoD") to oversee and challenge risk taking and risk management, applies to all levels of the Bank.

Deutsche Bank's Operational Risk appetite sets out the amount of Operational Risk we are willing to accept as a consequence of doing business. We take on operational risks consciously, both strategically as well as in day-to-day business. While the Bank may have no appetite for certain types of Operational Risk failures (such as serious violations of laws or regulations), in other cases a certain amount of Operational Risk must be accepted if the Bank is to achieve its business objectives. In case a residual risk is assessed to be outside our risk appetite, further risk reducing actions must be undertaken including further remediating risks, insuring risks or ceasing business.

Non-Financial Risk Management ("NFRM") is the Risk function for the Non-Financial Risk types of the Bank, including Operational Risk and owns the overarching ORMF.

6 Operational Risk (continued)

Operational Risk Management Framework ("ORMF") (continued)

The ORMF is a set of interrelated tools and processes that are used to identify, assess, measure, monitor and remediate operational risks. Its components have been designed to operate together to provide a comprehensive approach to managing the Bank's most material operational risks. ORMF components include the setup of the 1st and 2nd LoD as well as roles and responsibilities for the Operational Risk management process and appropriate independent challenge, the Group's approach to setting Operational Risk appetite and adhering to it, the Operational Risk type and control taxonomies, the minimum standards for Operational Risk management processes including tools, independent governance, and the Bank's Operational Risk capital model.

The following four principles form the foundation of Operational Risk management at Deutsche Bank:

- Operational Risk Principle I: NFRM establishes and maintains the Group Operational Risk Management Framework. As the 2nd LoD control function, NFRM is the independent reviewer and challenger of the 1st LoD's risk and control assessments and risk management activities. As the subject matter expert for Operational Risk it provides independent risk views to facilitate forward looking management of operational risks, actively engages with risk owners and facilitates the implementation of risk management standards across the Bank. NFRM provides the oversight of risk and control mitigation plans to return risk within risk appetite, where required.
- Operational Risk Principle II: Risk owners as the 1st LoD have full accountability for their operational risks and have to manage these against a defined risk specific appetite. Risk owners are those roles in the Bank that generate risks, whether financial or non-financial. The heads of business divisions and infrastructure functions must determine the appropriate organisational structure to identify their organisations' Operational Risk profile, implement risk management and control standards within their organisation, take business decisions on the mitigation or acceptance of operational risks within the risk appetite and establish and maintain risk owner (i.e. Level 1) controls.
- Operational Risk Principle III: Risk Type Controllers ("RTCs") as 2nd LoD control functions establish the framework and define risk appetite statements for the specific risk type they control. They monitor the risk type's profile against risk appetite and exercise a veto on risk appetite breaches. RTCs define risk management and control standards and independently oversee and challenge risk owners' implementation of these standards as well as their risk-taking and management activities. RTCs establish independent Operational Risk governance and prepare aggregated risk type profile reporting. As risk type experts, RTCs define the risk type and its taxonomy and support and facilitate the implementation of risk management standards and processes in the 1st LoD. To maintain their independence, RTC roles are located only in infrastructure functions.
- Operational Risk Principle IV: NFRM is to ensure that sufficient capital is held to underpin Operational Risk. NFRM is accountable for the design, implementation and maintenance of the approach to determine a sufficient level of capital demand for Operational Risk for recommendation to the Management Board.

6 Operational Risk (continued)

Operational Risk Management Framework ("ORMF") (continued)

To fulfil this requirement, NFRM is accountable for the calculation and allocation of Operational Risk capital demand and Expected Loss planning under the Advanced Measurement Approach ("AMA"). NFRM is also accountable for the facilitation of the annual Operational Risk capital planning and monthly review process.

Organisational & Governance Structure

While the day-to-day management of Operational Risk is the primary responsibility of our business divisions and infrastructure functions as risk owners, NFRM oversees the Group-wide management of operational risks, identifies and reports risk concentrations and promotes a consistent application of the ORMF across the Bank. NFRM is part of the Group Risk function which is headed by the Chief Risk Officer.

The Chief Risk Officer appoints the Head of Non-Financial Risk Management who is accountable for the design, implementation and maintenance of an effective, efficient and regulatory compliant ORMF, including the Operational Risk capital model.

The Non-Financial Risk Committee ("NFRC"), which is co-chaired by the Chief Risk Officer and the Chief Regulatory Officer, is responsible for the oversight, governance and coordination of the management of Operational Risk in the Group on behalf of the Management Board by establishing a cross-risk and holistic perspective of the key operational risks of the Group. Its decision-making and policy related authorities include the review, advice and management of all Operational Risk issues which may impact the risk profile of our business divisions and infrastructure functions. Several sub-fora with attendees from both, the 1st and 2nd LoDs support the NFRC to effectively fulfil its mandate. In 2017, we have established additional councils to enhance the effectiveness of the NFRC with regards to e.g. new technology, framework and culture themes.

Managing Operational Risk

DB Group manage operational risks by employing the tools and processes provided by our ORMF, which enables us to determine our Operational Risk profile in comparison to our risk appetite for Operational Risk, to systematically identify Operational Risk themes and concentrations, and to define risk mitigating measures and priorities.

In 2017, DB Group enhanced the ORMF and the management of operational risks by simplifying our risk management processes, focusing on the identification of the most material operational risks and their effective mitigation, and by promoting an active and continuous dialogue between the 1st and 2nd LoDs. This allows challenge to be raised throughout the various risk management processes and makes the management of operational risks more transparent, meaningful and embedded in day-to-day business decisions.

6 Operational Risk (continued)

Managing Operational Risk (continued)

In order to cover the broad range of risk types underlying Operational Risk, our ORMF contains a number of management techniques that apply to all Operational Risk types. These include:

- Loss Data Collection: In a timely manner, we collect, categorise and analyse data on internal (with a P&L impact ≥ €10,000) and relevant external Operational Risk events. This data is used for senior management information, in a variety of risk management processes and the calculation of Operational Risk capital requirements .
- Lessons Learned reviews analyse the causes of significant Operational Risk events, identify their root causes, and document appropriate remediation actions to reduce the likelihood of reoccurrence. They are required for all Operational Risk events that meet defined quantitative or qualitative criteria. The area in which the Operational Risk failure occurred that caused the event is formally responsible to complete the review, though engagement with other relevant 2nd LoD functions throughout the process is encouraged. NFRM provides independent review and challenge over the appropriateness of the review's conclusions. In 2017, we harmonised several existing processes, moved to a workshop based approach and, thus, enhanced the consistency and quality of reviews.
- Read Across reviews take the conclusions of the Lessons Learned process and seek to analyse whether similar risks and control weaknesses identified in a Lessons Learned review exist in other areas of the Bank, even if they have not yet resulted in problems. This allows preventative actions to be undertaken. Read Across reviews may also be undertaken based on events that have occurred at other relevant financial firms where sufficient information exists to allow meaningful analysis.
- We complement our Operational Risk profile by using a set of scenarios including relevant external cases provided by a public database and additional internal scenarios. We thereby systematically utilise information on external loss events occurring in the banking industry to prevent similar incidents from happening to us, for example through particular deep dive analyses or risk profile reviews.

In our bottom-up Self-Assessment process areas, high risk potential are highlighted, and risk mitigating measures to resolve issues are identified. On a regular basis we conduct risk workshops (where appropriate) aiming to evaluate risks specific to local legal entities and the countries we operate in, and take appropriate risk mitigating actions. This is further enhanced by an enhanced Risk and Control Assessment process, supported by a group wide IT tool.

We regularly report and perform analyses on our Top Risks. Top Risks are rated in terms of both the likelihood that they could occur and the impact on the Bank should they do so. The reporting provides a forward-looking perspective on the impact of planned remediation and control enhancements. It also contains emerging risks and themes that have the potential to evolve as a Top Risk in future. Top Risk Reduction Programs comprise the most significant risk reduction activities that are key to bringing our operational top risk themes back within risk appetite.

6 Operational Risk (continued)

Managing Operational Risk (continued)

Key Risk Indicators are used to monitor the Operational Risk profile, including against the Bank's defined risk appetite, and to alert the organisation to impending problems in a timely fashion. Key Risk Indicators enable the monitoring of the Bank's major risks, its control culture and overall business environment and trigger risk mitigating actions. They facilitate the forward-looking management of operational risks, based on early warning signals.

The ORMF, which provides the overarching set of standards, tools and processes that apply to the management of all risk types underlying Operational Risk, is complemented by the Operational Risk type frameworks, risk management and control standards and tools set up by the respective Risk Type Controllers for the Operational Risk types they control. These include the following with respect to the following risk types:

- Compliance Risk is the risk of incurring criminal or administrative sanctions, financial loss or damage to reputation as a result of failing to comply with laws, regulations, rules, expectations of regulators, the standards of self-regulatory organisations, and codes of conduct/ethics in connection with the Bank's regulated activities (collectively the "Rules"). Failure to appropriately manage Compliance Risk can give rise to fines, penalties, judgments, damages, sanctions, settlements and/or increased costs, limitations on businesses related to regulatory or legal actions due to non-compliance with established policies and procedures and Rules governing the activities of a business or entity, and potential reputational damage. The Compliance department, as the second line of defence control function for the Compliance-owned risk types, identifies relevant effective procedures and corresponding controls to support the Bank's business divisions and Infrastructure functions in managing their Compliance risk. The Compliance department further provides advisory services on the above; performs monitoring activities in relation to the coverage of new or amended material rules and regulations; and assesses the control environment. The results of these assessments are regularly reported to the Management Board and Supervisory Board.
- Financial Crime risks are managed by Anti-Financial Crime ("AFC") function via maintenance and development of a dedicated program. The AFC program is based on regulatory and supervisory requirements. AFC has defined roles and responsibilities and established dedicated functions for the identification and management of financial crime risks resulting from money laundering, terrorism financing, non-compliance with sanctions and embargoes as well as other criminal activities including fraud, bribery and corruption and other crimes. AFC assures further update of its strategy on financial crime prevention via regular development of internal policies and procedures, institution-specific risk assessment and staff training.

6 Operational Risk (continued)

Managing Operational Risk (continued)

- Group Legal is primarily responsible for managing the Bank's legal risk, and carries out its mandate as infrastructure control function through, among other things, the following legal services: (i) provision of legal advice, (ii) drafting of legal content of documentation that defines rights and obligations of the Bank such as contracts, (iii) the management of all contentious matters and (iv) retaining external counsel. These activities are the key pillars of the legal control framework to mitigate the Bank´s legal risk. Legal has established a Legal Risk Management function responsible for implementing and maintaining the ORMF in respect of legal risk types which includes overseeing Legal's participation in the Bank's Risk and Control Assessment process and Lessons Learned reviews as well as managing the interface into the Non-Financial Risk Management function. Liquidity Risk Management ("LRM") also conducts quality assurance reviews on Legal's processes, thereby testing the robustness of the legal control framework, identifying related control enhancements and fostering legal risk management awareness via regular communication and training.
- COO Coverage and Resilience ("CC&R") is Risk Type Controller for a number of risks in our Operational Risk Type Taxonomy. These include risk and control oversight of technology, business process disruption, information security risks and ensure businesses have robust plans in place to recover critical business processes and functions in the event of disruption from technology, building outage, or the impact of cyber-attack or natural disaster. CC&R also oversees the risks arising from the Bank's outsourced activities via the provision of a comprehensive vendor risk management framework. CC&R operates within the NFRM function of Risk Division.

Measuring Operational Risk

DB Group calculate and measure the regulatory and economic capital requirements for Operational Risk using the Advanced Measurement Approach ("AMA") methodology. Our AMA capital calculation is based upon the Loss Distribution Approach. Gross losses from historical internal and external loss data (Operational Riskdata eXchange Association consortium data) and external scenarios from a public database (IBM OpData) complemented by internal scenario data are used to estimate the risk profile (i.e., a loss frequency and a loss severity distribution). Our Loss Distribution Approach model includes conservatism by recognising losses on events that arise over multiple years as single events in our historical loss profile.

Within the Loss Distribution Approach model, the frequency and severity distributions are combined in a Monte Carlo simulation to generate potential losses over a one year time horizon. Finally, the risk mitigating benefits of insurance are applied to each loss generated in the Monte Carlo simulation. Correlation and diversification benefits are applied to the net losses in a manner compatible with regulatory requirements to arrive at a net loss distribution at Group level, covering expected and unexpected losses. Capital is then allocated to each of the business divisions after considering qualitative adjustments and expected loss.

6 Operational Risk (continued)

Measuring Operational Risk (continued)

The regulatory capital requirement for Operational Risk is derived from the 99.9 % percentile. The economic capital is also set at 99.9 % percentile. Both regulatory and economic capital requirements are calculated for a time horizon of one year.

The Regulatory and Economic Capital demand calculations are performed on a quarterly basis. NFRM aims to ensure that for the approach for capital demand quantification appropriate development, validation and change governance processes are in place, whereby the validation is performed by an independent validation function and in line with the Group's model risk management process.

7 Liquidity Risk

The objective of the LRM is to ensure that the DB Group can fulfill its payment obligations at all times for both expected and unexpected current and future cash flows and collateral needs at reasonable cost, without affecting daily operations of DB Group. All relevant and significant drivers of liquidity risk, on balance sheet as well as off-balance sheet, must be taken into account. Prices of all asset and liability types need to reflect their liquidity risk characteristics and DB Group's cost of funding.

At the country level, Treasury is responsible for overall liquidity management of DB Malaysia, including its compliance with all applicable liquidity limits and thresholds. Day-to-day funding and cash management of DB Malaysia is undertaken by Treasury Pool function, acting within the risk parameters set by LRM function and endorsed by the local ALCO. Liquidity risk is monitored through local liquidity regulations issued by BNM, such as the LCR, Leverage Ratio ("LR"), and an array of internal liquidity risk limits and thresholds such as daily stressed net liquidity positions, customer concentration ratio, funding matrix, etc.. Ongoing liquidity risk profiles and other related topics are discussed as a regular item at the DB Malaysia ALCO meeting, as stated in the ALCO Terms of Reference ("ToR"). At the ALCO meeting, DB Malaysia's liquidity position, the limit utilisation, changes in exposure and liquidity policy compliance is presented to the committee.

DB Malaysia has implemented a comprehensive toolbox that ensures the prudent liquidity risk management such as stress testing and funding matrix. The liquidity stress testing reflects market-wide and bank specific shocks as well as a combination of both by relevant assets and liabilities classes to ensure the risk taken by DB Malaysia is in line with the approved risk appetite. The funding matrix addresses the long-term liquidity and funding risk profile of DB Malaysia, identifies the excess or shortfall of assets over liabilities in each time bucket. The funding matrix ensures all term assets are term funded therefore reducing stress on the short term liquidity positions.

7 Liquidity Risk (continued)

At country level, BNM has implemented LCR effective from June 2015. For Net Stable Funding Ratio ("NSFR"), exposure draft was issued by BNM in September 2017, outlining the policy requirements, reporting instructions, and providing guidance on the interpretation of key items under NSFR. DB Malaysia is required to continue to report the NSFR based on the parameters set out in the abovementioned NSFR observation period reporting document. The observation period for the NSFR reporting has been extended by another year until 31 December 2019.

Business (Strategic) Risk Management

Management of business (strategic) risk at the Bank is fully integrated into the Group's strategic risk management framework.

Strategic Risk is the risk of a potential earnings downside due to revenues and/or costs underperforming plan targets. Strategic Risk may arise from poor strategic positioning, failure to execute strategy or lack of effective responses to material negative plan deviations caused by either external or internal factors (including macro, financial and idiosyncratic drivers). Strategic Risk has been defined as part of overall Business Risk.

The key aim of Strategic Risk Management is to strengthen the bank´s earnings resilience and protect it against undue earnings volatility to support overall risk appetite targets (especially CET 1 ratio and Leverage Ratios). DB aim to achieve this by identifying, assessing, limiting, mitigating and monitoring key strategic risks.

Reputational Risk Management

Management of reputational risk at the Bank is fully integrated into the Group's reputational risk management framework.

Within Group's risk management process, reputational risk is defined as the risk of possible damage to DB's brand and reputation, and the associated risk to earnings, capital or liquidity, arising from any association, action or inaction which could be perceived by stakeholders to be inappropriate, unethical or inconsistent with DB's values and beliefs.

DB's reputational risk is governed by the Reputational Risk Framework. The Framework was established to provide consistent standards for the identification, assessment and management of reputational risk issues. While every employee has a responsibility to protect DB's reputation, the primary responsibility for the identification, assessment, management, monitoring and, if necessary, referring or reporting, of reputational risk matters lies with DB's Business Divisions. Each employee is under an obligation, within the scope of his/her activities, to be alert to any potential causes of reputational risk and to address them according to the Framework.

8 Equity Investments in the Banking Book

Equity investments which are neither consolidated for regulatory purposes nor deducted from the Bank's own funds are held as equity positions in the regulatory banking book. In the Bank's consolidated statement of financial position, these equity investments are classified as "Equity investments at fair value through other comprehensive income".

9 Interest Rate Risk in the Banking Book

In the Bank, the majority of the interest rate risk arising from non-trading asset and liability positions is transferred through internal match funded transactions and modelled deposits transaction to the Treasury Pool division. This internally transferred interest rate risk in Treasury Pool is managed on the basis of Value-at-Risk and PV01 with limits, as reflected in treasury portfolio figures. Residual risk, if applicable, is managed in accordance with the requirements of the NTMR – Interest Rate Risk in the Banking Book Policy and included in the NTMR VaR report as well as in the local RCP report. Market risk in Treasury is managed through VaR for which a limit is in place. Further details on interest rate risk in Trading Book can be found in Note 32 to the Financial Statements.

10 Islamic Banking Operations

BNM had given its approval on 22 August 2007 for the Bank to conduct Islamic banking business under Section 124 of the Banking and Financial Institutions Act 1989.

10.1 Shariah Governance

The Bank conducts Islamic Banking through its Islamic Banking Window ("IBW") which commenced business on 20 April 2009.

The Shariah Committee was established under BNM's "Guidelines on the Governance of Shariah Committee for the Islamic Financial Institutions" (BNM/GPS1) to advise the Board of Directors on Shariah matters in its Islamic business operations and to provide technical assistance in ensuring the Islamic banking products and services offered by the Bank and the relevant documentation are in compliance with Shariah principles. The committee currently comprises Dr Hussain Hamed Sayed Hassan, Dr Muhammad Qaseem and Encik Mohd Hilmi bin Ramli.

The Bank has obtained approval from BNM to operate with 3 Shariah Committee members.

10 Islamic Banking Operations (continued)

10.2 Restricted Profit Sharing Investment Accounts ("RPSIA")

These deposits are used to fund specific financing and follow the principle of Mudharabah which state that profits will be shared with the Bank as Mudharib and losses shall be borne solely by depositors.

In accordance with BNM's guidelines on the Recognition and Measurement of Profit Sharing Investment Account ("PSIA") as Risk Absorbent, the credit and market risks on the assets funded by the PSIA are excluded from the risk weighted capital ("RWCR") calculation.

10.3 Islamic Banking Window - Capital Adequacy

The capital adequacy ratios of the Islamic banking business of the DBMB Group are computed in accordance with the Capital Adequacy Framework for Islamic Banks ("CAFIB"). The DBMB Group's Islamic banking business has adopted the Standardised Approach for Credit Risk and Market Risk, and the Basic Indicator Approach for Operational Risk.

Table 17: Risk weighted assets and capital requirement

	2018		2017	
Islamic Banking Window	Risk Weighted Assets RM'000	Min Capital Requirement at 8% RM'000	Risk Weighted Assets RM'000	Min Capital Requirement at 8% RM'000
Credit Risk	938	75	843	67
Market Risk	1,875	150	1,687	135
Operational Risk	4,333	347	3,123	250
Total	7,146	572	5,653	452

10 Islamic Banking Operations (continued)

10.3 Islamic Banking Window - Capital Adequacy (continued)

Table 17.1: Risk weighted capital ratio and Tier 1 capital

	Islamic Banking Window	
	31-Dec-18 RM'000	31-Dec-17 RM'000
Tier 1 capital		
Paid-up share capital	25,000	25,000
Share premium	-	-
Statutory reserve	-	-
Retained profits	10,643	8,116
Less: Deferred tax assets	-	-
Total Tier 1 Capital	35,643	33,116
Tier 2 Capital		
Collective assessment allowance	-	-
Total Capital	35,643	33,116
Less: Investments in subsidiary companies	-	-
Capital Base	35,643	33,116
Tier 1 Capital Ratio	498.808%	585.865%
Risk-Weighted Capital Ratio	498.808%	585.865%

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10 Islamic Banking Operations (continued)

10.4 Islamic Banking Window - Risk Weighted Assets and Capital Requirements for Credit Risk

Table 18: Islamic Banking Window - Risk Weighted Assets and Capital Requirements for Credit Risk (2018)

31-Dec-2018

RISK TYPE	Gross Exposures	Net Exposures	Risk-Weighted Assets	Risk-Weighted Assets Absorbed by PSIA	Total Risk-Weighted Assets after effects of PSIA	Minimum Capital Requirement at 8% *
Credit Risk	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
On-Balance Sheet Exposures						
Sovereigns/Central Banks	92,726	92,726	-	-	-	-
Public Sector Entities	-	-	-	-	-	-
Banks, Development Financial Institutions and Multilateral	1,875	1,875	938	-	-	75
Insurance Companies, Securities Firms and Fund Managers	-	-	-	-	-	-
Corporates	-	-	-	-	-	-
Regulatory Retail	-	-	-	-	-	-
Residential Mortgages	-	-	-	-	-	-
Higher Risk Assets	-	-	-	-	-	-
Other Assets	-	-	-	-	-	-
Equity Exposure	-	-	-	-	-	-
Defaulted Exposures	-	-	-	-	-	-
Total On-Balance Sheet Exposures	94,601	94,601	938	-	-	75
Off-Balance Sheet Exposures						
OTC Derivatives	-	-	-	-	-	-
Credit Derivatives	-	-	-	-	-	-
Defaulted Exposures	-	-	-	-	-	
Total for Off-Balance Sheet Exposures	-	-	-	-	-	-
Total On and Off- Balance Sheet Exposures	94,601	94,601	938	-	-	75

10 Islamic Banking Operations (continued)

10.4 Islamic Banking Window - Risk Weighted Assets and Capital Requirements for Credit Risk (continued)

Table 18.1: Islamic Banking Window - Risk Weighted Assets and Capital Requirements for Credit Risk (2017)

31-Dec-2017

RISK TYPE	Gross Exposures	Net Exposures	Risk-Weighted Assets	Risk-Weighted Assets Absorbed by PSIA	Total Risk-Weighted Assets after effects of PSIA	Minimum Capital Requirement at 8%
Credit Risk	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
On-Balance Sheet Exposures						
Sovereigns/Central Banks	114,028	114,028	-	-	-	-
Public Sector Entities	-	-	-	-	-	-
Banks, Development Financial Institutions and Multilateral	1,686	1,686	843	-	-	67
Insurance Companies, Securities Firms and Fund Managers	-	-	-	-	-	-
Corporates	-	-	-	-	-	-
Regulatory Retail	-	-	-	-	-	-
Residential Mortgages	-	-	-	-	-	-
Higher Risk Assets	-	-	-	-	-	-
Other Assets	-	-	-	-	-	-
Equity Exposure	-	-	-	-	-	-
Defaulted Exposures	-	-	-	-	-	-
Total On-Balance Sheet Exposures	115,714	115,714	843	-	-	67
Off-Balance Sheet Exposures						
OTC Derivatives	-	-	-	-	-	-
Credit Derivatives	-	-	-	-	-	-
Defaulted Exposures	-	-	-	-	-	
Total for Off-Balance Sheet Exposures	-	-	-	-	-	-
Total On and Off- Balance Sheet Exposures	115,714	115,714	843	-	-	67

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10 Islamic Banking Operations (continued)

10.4 Islamic Banking Window - Risk Weighted Assets and Capital Requirements for Credit Risk (continued)

Table 19: Islamic Banking Window - Risk Weights Under the Standardised Approach (2018)

31-Dec-2018

Risk Weights	Exposures after Netting & Credit Risk Mitigation												Total Exposures after Netting and Credit Risk Mitigation	Total Risk Weighted Assets
	Sovereigns and Central Banks	Public Sector Entities	Banks, DFIs and MDBs	Insurance Companies, Securities Firms and Fund Managers	Corporates	Regulatory Retail	Residential Mortgages	Higher Risk Assets	Other Assets	Specialised Financing / Investment	Securitisation	Equity Exposures		
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
0%	92,726	-	-	-	-	-	-	-	-	-	-	-	92,726	-
20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50%	-	-	1,875	-	-	-	-	-	-	-	-	-	1,875	938
75%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Exposures	92,726	-	1,875	-	-	-	-	-	-	-	-	-	94,601	938
Risk-Weighted Assets by Exposures	-	-	938	-	-	-	-	-	-	-	-	-	938	
Average Risk Weight	-	-	50.0%	-	-	-	-	-	-	-	-	-	1.0%	
Deduction from Capital Base	-	-	-	-	-	-	-	-	-	-	-	-	-	

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10 Islamic Banking Operations (continued)

10.4 Islamic Banking Window - Risk Weighted Assets and Capital Requirements for Credit Risk (continued)

Table 19.1: Islamic Banking Window - Risk Weights Under the Standardised Approach (2017)

31-Dec-2017

Risk Weights	Exposures after Netting & Credit Risk Mitigation												Total Exposures after Netting and Credit Risk Mitigation	Total Risk Weighted Assets
	Sovereigns and Central Banks	Public Sector Entities	Banks, DFIs and MDBs	Insurance Companies, Securities Firms and Fund Managers	Corporates	Regulatory Retail	Residential Mortgages	Higher Risk Assets	Other Assets	Specialised Financing / Investment	Securitisation	Equity Exposures		
	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000	RM'000
0%	114,028	-	-	-	-	-	-	-	-	-	-	-	114,028	-
20%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
35%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
50%	-	-	1,686	-	-	-	-	-	-	-	-	-	1,686	843
75%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150%	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Exposures	114,028	-	1,686	-	-	-	-	-	-	-	-	-	115,714	843
Risk-Weighted Assets by Exposures	-	-	843	-	-	-	-	-	-	-	-	-	843	
Average Risk Weight	-	-	50.0%	-	-	-	-	-	-	-	-	-	0.7%	
Deduction from Capital Base	-	-	-	-	-	-	-	-	-	-	-	-	-	