RISK MANAGEMENT

OVERVIEW

Bank Pembangunan Malaysia Berhad (BPMB) believes that effective risk management is of primary importance to its overall operations. Accordingly, BPMB has a comprehensive risk management process, guided by its risk management principles in managing its business risk, which outline a basis for an integrated risk management effort and good corporate governance. BPMB may incur significant losses if its risk management process and strategies are ineffective, and concentration of risk increases the potential for such losses.

BPMB's risk management framework is designed to balance corporate oversight with well defined independent risk management functions. Internal controls, specific policies, guidelines and procedures have been established to govern the activities of business and support functions of BPMB. Risks arising from these activities are managed by dedicated risk management functions under Group Risk Management, that play a vital role in the execution of risk management activities and strategies through the process of identifying, measuring, monitoring and controlling all material risks faced by BPMB.

Combined with a structured risk governance consisting of a strong Board and Management oversight, a good check & balance systems and sound risk management practices, BPMB has built a strong foundation towards ensuring a holistic and integrated approach of risk management that will safeguard the quality of BPMB's assets to achieve the mandate set by the Government.

RISK PROFILE

In general, BPMB has exposure in credit, market, liquidity and operational risks with credit risk having the most significant impact due to its size. BPMB recognizes that in performing its obligation as a development financial institution, its business model and product offering structure characterized specific risks premium as compared to other commercial banks. Such risks premium is apparent as BPMB focuses on its role in financing nationally strategic projects under the mandated infrastructure, maritime, oil & gas and high-technology sectors.

Additionally, BPMB also exposes to sizeable loan transactions that could potentially translate to liquidity concerns in the event of credit failure. Nevertheless, BPMB receives strong support from its shareholders e.g. in the form of government guarantee for its funding and interest compensation; that underlie the basis for BPMB's improved risks mitigation.

2012 KEY INITIATIVES

Key risk achievements and measure undertaken during the year include:

- Implementation of a Rating Platform and Financial Spreading to strengthen credit risk management infrastructure & tools, for the purpose of promoting an effective management of credit risk. BPMB's two dimensional internal rating models are now embedded in the platform with borrowers' financial data, which are captured as input into the quantitative part of the credit rating model.

- Enhancement in the monitoring of credit and investment exposures at Group level, where Single Customer Limit (SCL) limit has now been extended to capture the Group exposure to manage BPMB's and subsidiaries' concentration risk to common group of customers.

- Validation of credit risk rating model to confirm rating model discriminatory power and robustness as a rating tool. Results from the validation serve as input for further refinement of the rating system to reflect actual risk of BPMB.

- Implementation of the New Liquidity Framework System, a tool to measure the liquidity position to determine BPMB's capability to meet maturing obligations based on contractual profiles and behavioral assumptions in order to withstand liquidity shocks, in compliance to regulatory requirement.

- Establishment of the Shariah Risk Management framework to manage BPMB's Shariah non-compliance risk exposure.

- Appointment of Operational Risk Liaison Officers (ORLO) to facilitate the management of operational risk within each Function and the completion of Risk Control Self-Assessment exercise covering all risk taking functions within BPMB.

RISK GOVERNANCE STRUCTURE

BOARD OF DIRECTORS
The Board of Directors has the ultimate responsibility for the sound and prudent management of the Company. This includes responsibility to ensure risk management frameworks and policies are established for the various risk categories and appropriate steps taken to monitor and control risks, consistent with approved strategies and policies.
BOARD LEVEL COMMITTEES
Risk Management Committee (RMC) The RMC is a Board level Committee responsible to perform risk oversight within BPMB. It is primarily responsible to oversee senior management's activities in managing the key risk areas of BPMB and to ensure the appropriate risk management infrastructure, resources and processes are in place and functioning effectively.
Credit Committee of the Board (CCB) The CCB is tasked by the Board to perform supervisory and oversight role of loan approval and to ensure adequate risk management processes are in place.
MANAGEMENT LEVEL COMMITTEES
Executive Risk Management Committee (ERMC) The ERMC is the Management level committee responsible for the management of all material risks within BPMB.
Group Credit Committees (GCC) The GCC i.e. GCC A and GCC B are empowered as the financing approval committees for BPMB, for financing proposals within their respective authority limits.

Group Risk Management, being an independent function to support the Risk Management Committees, is responsible for implementing and maintaining the Risk Management framework, policies, tools and methodologies. Group Risk Management is also responsible for providing independent risk assessment, as well as monitoring and reporting BPMB's risk exposure and compliance to established risk limits.

The designated Operational Risk Liaison Officer (ORLO) forms part of BPMB's Risk Management structure, to act as intermediary between GRM and the Business/Support functions they are representing, and to facilitate the implementation of risk initiatives.

RISK MANAGEMENT APPROACH

Recognizing risk management as a crucial element towards achieving a profitable and sustainable business, BPMB continuously work towards strengthening its risk management approach and capabilities to ensure risk exposures are effectively managed. BPMB's Risk Management Framework is established in line with best practices, which includes adopting Basel II recommendations, where applicable.

KEY RISK MANAGEMENT PRINCIPLES

BPMB adopts the following Risk Management principles:

1. The Board retains the ultimate responsibility in establishing the maximum level of risks that BPMB will tolerate in pursuit of its mandate and performs its oversight via the Risk Management Committee.

2. The relevant regulatory requirements, market standard and international leading practices are adopted in the formulation of risk management framework, policies, procedures and guidelines to ensure BPMB's risk management approaches remain robust.

3. Risks are being managed on an enterprise-wide basis and collectively by all functions within BPMB through the implementation of the three lines of defence model.

Approach	Responsibility	Functions
1st Line of Defence	Risk Taking Functions	Business and Support Functions who are the risk takers and primarily responsible for managing specific risk exposures in their daily activities.
2nd Line of Defence	Risk Control	Group Risk Management, Compliance and Shariah Advisory who are responsible for the establishment and maintenance of relevant frameworks, policies, methodologies and tools to facilitate the management risks undertaken by the risk takers.
3rd Line of Defence	Risk Assurance	Group Audit & Examination is responsible to provide independent assurance on the adequacy and effectiveness of risk management processes.

4. Risk management activities are carried out in line with BPMB's corporate strategies. BPMB's risk management policies, procedures and guidelines are not static; it changes through annual review that aligns with the organization's objectives and needs.

5. BPMB's risks are regularly assessed and managed by balancing the eventual trade-off between risk and return.

RISK MANAGEMENT STRATEGIES

The key risks faced by BPMB are consistently being monitored and managed within the ambit of BPMB's Risk Management Framework:

Key Risks	Risk Management Strategies
Credit Risk	Credit risk management strategies focus around the following main factors:- • Establishment of a Framework that guides activities, processes, internal controls and policies in the overall management of credit risk. • Preservation of quality loan assets to sustain profit. • Incorporation of a check-and-balance structure within the credit processes to minimize poor credit quality. • Observation of compliance to prudential limits to mitigate risk concentration in credit portfolio that could potentially impact the overall financial soundness of the Bank. • Establishment of a sound credit evaluation process that enforce prudent credit evaluation through independent credit risk assessment. • Establishment of a well-defined credit granting criteria and a sound credit portfolio management.
Market Risk	• BPMB has established the Market Risk Management Framework to provide a set of general principles to guide the Bank/Group to identify, measure, monitor, control and report its market risk exposures. • In managing this, control tools such as Earnings-at-Risk (EAR) Limits, Economic Value of Capital (EVE) Limits, Mark-to-Market (MTM) Limits, Net Open Position Limit, and so forth, have been developed and put in place. • To be in line with the changing operating circumstances, the framework, and its off-shoot, are reviewed annual or as and when necessary.

Key Risks	Risk Management Strategies
Liquidity Risk	• BPMB uses a range of indicators to monitor and control liquidity risk exposure such as liquidity gap, early warning signals, liquidity indicators and stress testing. The controls include the NLF system, Single Depositors Limit and Interbank Money Market Limits. • The liquidity positions of BPMB are monitored regularly against the established policies, procedures and limits. It is also incorporated in the Asset/Liability and Liquidity Management Report and reported to the Executive Risk Management Committee (ERMC) and Risk Management Committee (RMC) meetings. • In addition, BPMB has enhanced its Interbank Money Market Operations Risk Management Framework (IMMORMF) to better manage and control its exposure to IMM risks within the policies and guidelines approved in order to meet statutory requirements. It acts as the measurement tool for interbank money market operations in which the activities must adhere to BPMB's funding strategy as well as the interbank money market's policies and procedures.
Operational Risk	• BPMB's Operational Risk Management is guided by the ORM Framework, which is developed in line with regulatory requirements and best practices. • Continuous enhancement of ORM tools and methodologies to facilitate effective risk identification, assessment, monitoring and reporting. • Continuous efforts to enhance risk awareness and risk management capabilities within BPMB.

MANAGEMENT OF CREDIT RISK

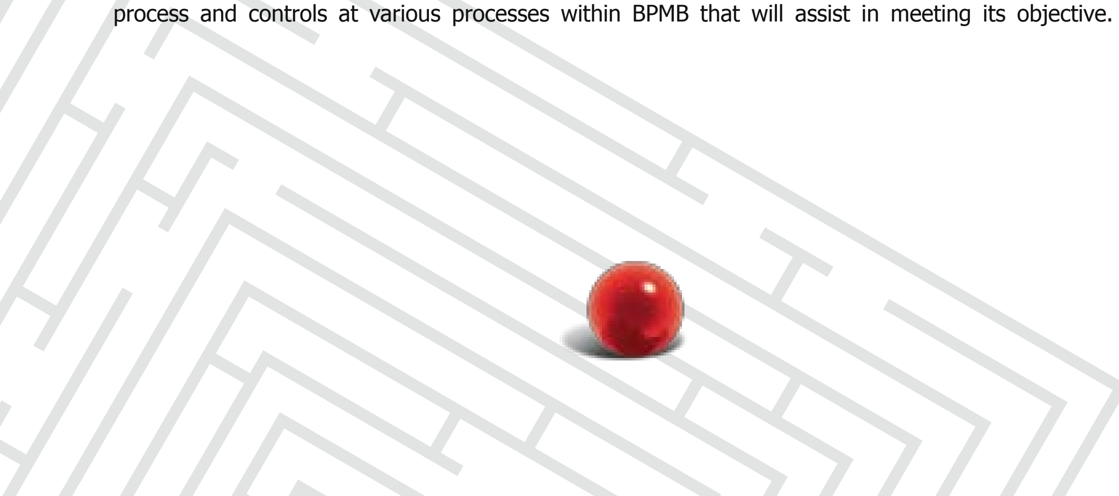
Credit Risk is the potential loss of revenue, either the principal or interest or both, arising from the failure or unwillingness of counterparties or borrowers to honour their financial and contractual obligations as and when due. These obligations are from lending, investment and other activities undertaken by BPMB.

Lending remains the main activity of BPMB. Therefore, credit risk management has been the main focus of BPMB's risk management activities. The management of credit risk is governed by credit policies and guidelines which determine credit features, credit administration and portfolio management.

The process of managing credit risk, which involves risk identification, measurement, monitoring and controlling are governed by two sets of Credit Risk Management Framework established by BPMB namely Framework for Managing Credit Risk and Framework for Managing Credit Portfolio.

Reporting of credit risk activities is made to the Executive Risk Management Committee (ERMC) before deliberation at the Risk Management Committee (RMC). The ERMC meets once a month to deliberate issues on the quality of credit risk of borrowers, with the objective of preventing loan assets from turning impaired. The ERMC recommends action on all credit risk related matters including loan asset quality, credit portfolio composition and adequacy of strategies and controls to manage overall credit risk activities. The ERMC also deliberates periodical report on credit portfolio prior to submission to the RMC.

BPMB realizes that the key success in lending activities lies in how the risk is managed, that is by having a clear risk management process and controls at various processes within BPMB that will assist in meeting its objective.



Risk Management activities and internal controls that have been put in place to mitigate risk at various levels of credit processes are elaborated as follows:-

Stage	Risk Mitigation	Description
Origination	Clear segregation between credit origination and credit monitoring	• BPMB maintains an independent credit monitoring function, which is separated from credit originator to maintain essential check-and-balance system.
Evaluation	Adherence to Credit policy and guideline	• BPMB has instituted clear internal controls to govern lending activities and assessment of credit proposals for prudent lending activities through the establishment of Credit Risk Management Policies and Credit Operations Guideline. • Operational manuals and directives issued by Bank Negara Malaysia (BNM) including guidelines as prescribed under the Development Financial Institutions Act 2002 (DFIA) are adhered to, which have assisted the Bank in achieving its corporate objectives within an acceptable risk profile and risk appetite.
	Independent credit risk assessment	• Prudent credit assessment is enforced through independent credit risk assessment by Credit Risk function. Risk issues are mitigated by the risk owners before the approving authorities consider any credit proposals. • Credit Risk function also reviews credit proposals for compliance with credit policies.
	All exposures must be rated through internal rating system	• All credit proposals are rated using an internal credit rating system to measure each borrower's risk of default and facility risk. Only viable credit proposals with well-mitigated risk are considered for financing. • BPMB utilizes the rating model that is based on two dimensional rating system that incorporates both borrower's default as well as the facility risk, which focuses on the three components of Risk Weighted Assets (RWA) calculation, namely Probability of Default (PD), Exposure at Default (EAD) and Loss Given Default (LGD) to generate the Expected Loss (EL) that would provide a high-level overview of a borrower's business credit quality in terms of potential loss amount, given a certain level of probability of default. • The rating model is subject to enhancement to maintain its predictive power and robustness to suit lending requirements.
Approval	Multi-tiered credit approving authority	• The loan approval process, which consists of a multi-tiered approach, reflects the management of credit risk and BPMB's desire for quality loans. Different levels of approving authorities govern credit approval process according to credit limits.
Disbursement	Independent checking on compliance to credit disbursement condition	• Credit disbursement requisition is independently assessed by Compliance function, as a "final gatekeeper" to ensure adherence to credit disbursement conditions prior to credit disbursement. Credit Compliance also verifies terms and conditions imposed in the Letter of Offer as approved by the approving authorities.

Stage	Risk Mitigation	Description
Monitoring	Credit reviews	• Credits are reviewed at least once a year and more frequent reviews are performed on high-risk credit under "watch – list" accounts to proactively manage any delinquencies, maximise recoveries and ensure timely recognition of asset impairment. Annual credit review will be rated to monitor credit risk migration for effective monitoring. • Regular site visits are carried out with the assistance from Technical function as part of the means to detect any early signs of borrowers' operational aspects. • Submission of quarterly management accounts apart from audited accounts is also included as part of loan covenants to detect any adverse transactions and issues that may affect the financial health of the borrowers that would give rise to loan repayment risk. • Watch-list accounts (based on assessment under FRS 139) are reviewed quarterly and half yearly depending on the degree of vulnerability based on the scores established under the internal guidelines of FRS 139. • Tracking of movements of credit impaired rate is incorporated in the monthly Credit Portfolio Report with the objective of monitoring the impairment level. A systematic mechanism for prompt identification/classification of loan/financing is in place, whereby the classification is based on the total scoring assigned to individual borrower. • The movement of delinquent loans is also monitored to gauge deterioration in credit quality that could potentially turn the accounts into impaired status. Limit on delinquent credits has been established to track delinquent credits.
	Post mortem review on impaired credit	• Post mortem reviews are conducted on impaired credit to better understand how problem credit developed and to identify lapses in credit and monitoring process, system and people. Observations and findings are communicated as feedback and actions are taken to improve credit risk management process.
	Post approval credit review	• Internal audit function conducts post credit review on approved credits to analyse 'completeness' of credit decision, that is to determine the compliance of the processes involved in credit evaluation and approval. Feedback is provided on the effectiveness of credit process in identifying emerging problems.
Portfolio Management	Adherence to established prudential limits	• Prudential limits are established according to various categories such as customer and industry sector to minimize concentration risk. Single Customer Limit (SCL) has now been extended to capture Group exposure to manage BPMB's and subsidiaries' concentration risk to common group of customers at group level. • Sector limit for commercial lending is observed to monitor undesirable concentration which could expose BPMB to higher risk of lending. • Counterparty limits are in place to control over exposure to a single financial institution.
	Close monitoring of credit risk profile	• Credit risk exposures are managed through a robust credit monitoring process. The process includes monitoring of risk profile of credit portfolio, where any changes in credit quality and significant movement in risk profile of credit portfolio are reported to Risk Management Committee.
	Stress testing of credit portfolio	• The overall credit risk profiles of credit portfolio are reviewed and monitored by conducting stress tests on credit portfolio based on selected scenarios, which include possible downgrading of the accounts to assess the impact on the Bank's earnings and capital.

Other governance:

- Reporting of credit risk activities is made to the ERMC before deliberations at the RMC. The ERMC that meets once a month deliberates issues on the quality of credit risk of borrowers to preserve the quality of loan assets, with the objective of preventing them from turning impaired. The ERMC recommends action on all credit risk related matters including loan asset quality, credit portfolio composition and adequacy of strategies and controls to manage overall credit risk activities. The ERMC also deliberates periodical report on credit portfolio prior to submission to RMC.

- As part of the corporate governance, Group Audit & Examination (GAE) undertakes an independent assessment of "credit compliance" to policies and procedures. Findings are communicated to the respective functions and further deliberated at the Audit Committee meeting. Issues raised are followed-up by GAE to ensure that corrective measures are implemented.

MANAGEMENT OF MARKET RISK

Market risk is defined as the potential loss in value to the Bank due to changes in market prices and rates including interest rates, credit spreads, equity prices, foreign exchange rates and commodity prices. Market risk has a direct impact on earnings and impacts the economic value of BPMB for structural interest rate risk and banking book assets.

BPMB does not have any exposure that falls under trading activity but give prominence effort in managing its funding and liquidity requirements. Hence, the increased focus in managing BPMB's balance sheet which includes assets, liabilities and capital in order to maximize earnings and attain strategic goals within the overall risk/return preferences. BPMB manages its market risk exposure guided by the Market Risk Management Framework that specifies the risk identification, measurement and control principles and processes. It adopts a consistent quantification method to analyse interest rate risk arising from re-pricing mismatches between rate sensitive assets and rate sensitive liabilities. BPMB also performs simulation analysis to assess the impact on earnings under various interest rate scenarios. Activities and transactions that give rise to market risks are controlled via observation of relevant set of approved limits. The oversight on market risks limits and other compliance requirement is being carried out by Group Risk Management.

MANAGEMENT OF LIQUIDITY RISK

Liquidity risk is the risk that BPMB is unable to generate or obtain sufficient funding to meet its payment obligations when due in a timely and cost-effective manner.

The common source of liquidity risk arises from mismatches in timing and value of cash inflows and outflows, both from on and off-balance sheet exposures.

BPMB's liquidity position is established to satisfy the current and prospective commitments under normal business conditions while also incorporating the safety and soundness in times of stress. To achieve the objective, BPMB is guided by its Liquidity Management Framework and employ key liquidity risk mitigation strategies that include the following:

- An appropriate balance between the level of exposure allowed under BPMB's risk appetite and the cost of its mitigation, taking into account the potential impact of extreme but plausible events.

- Broad funding access, including preserving and promoting reliable base of core deposit clients, continual effort for a diversified funding source and demonstrate capacities to monetize specific asset classes.

- A comprehensive contingency funding plan that is supported by unencumbered marketable securities that provides assured access to cash and is available to supplement other sources of cash during crisis.

Controlling liquidity risk implies spreading over time amounts of funding, avoiding unexpected important market funding and maintaining a cushion of liquid short term assets so that selling them provides liquidity without incurring capital gains and losses. Asset Liability Management (ALM) structures the time schedule of debt issues or investments in order to close the deficits or excess liquidity gaps.

BPMB adopts multiple measures in monitoring its liquidity and funding needs, including liquidity parameters/indicators, conduct stress testing, observe funding mix ratios and compliance to liquidity limits. The liquidity position of BPMB is monitored regularly. The controls currently being observed are:

- New Liquidity Framework (NLF) Compliance Requirement
- Single Depositor Limit
- Interbank Borrowings Limit
- Loan to Deposit Ratio (LDR) adopted from Standard Practice

In addition to the above measures and controls, BPMB also observes the following:

i. Liquidity Coverage Ratio (LCR) based on Basel III Liquidity Standards for internal consumption only to indicate BPMB's high quality liquid assets position in stress conditions that can be converted into cash to meet liquidity needs;

ii. Net Stable Funding Ratio (NSFR) based on Basel III Liquidity Standards for internal consumption. The NSFR is designed to promote the medium- and long-term funding of assets and activities over a one-year time horizon;

Bank Negara Malaysia (BNM) had approved BPMB to participate in the interbank money market in 2012. This is another avenue for BPMB to manage its liquidity requirement. This enables BPMB to leverage on a wide range of financial instruments to manage its short-term liquidity mismatches.

INTEGRATED STRESS TEST

BPMB had conducted four (4) quarterly Integrated Stress Testing exercises for 2012 in order to simulate events or influences that could potentially impact its capital position. The main emphasis was on credit, liquidity and market risks (in respect of interest rate and investment risks).

For credit risk, the stress testing has taken into account the possible deterioration in the quality of credit portfolio and collateral value, while liquidity risk looked at the cash (liquidity) position of BPMB, where the New Liquidity Framework (NLF) under DFI/GP5 was used as a basis of measurement. In terms of market risk, the variables for stressed case were treasury borrowings and securities portfolio, corporate financing as well as investment portfolio.

Collectively, the integrated stress test seeks to quantify the potential impact of shocks arising from the combined effect of credit, liquidity and market risks events on the balance sheet and liquidity position. This forms the basis to identify viable funding alternatives that can be utilized and appropriate mitigation actions put in place.

From all the integrated stress test done for 2012, it was found that BPMB would continue to be able to absorb the shock arising from the stress assumptions as approved by the RMC.

MANAGEMENT OF OPERATIONAL RISK

For effective management of operational risk, BPMB is guided by the Operational Risk Management (ORM) Framework which was developed in line with Basel publications to provide clear, consistent and systematic ORM approach. BPMB has also established the Shariah Risk Management Framework which forms part of the ORM Framework to outline the manner Shariah non-compliance risk is internally managed, in line with BNM's Shariah Governance Framework (SGF).

BPMB recognizes that continuous review and monitoring of risks and control effectiveness is vital for effective management of operational risk. To facilitate this, a variety of tools and methodologies have been implemented as indicated below.

- BPMB has in place a Loss Event Reporting process to facilitate a structured incident management and data collection for analytical risk profiling purposes, as well as to facilitate mitigation actions and control enhancements. Cases are analysed and reported to the Executive Risk Management Committee (ERMC) and the Risk Management Committee (RMC).

- For close monitoring of the Bank's operational risks, Key Risk Indicators (KRIs) with thresholds, in the form of Management Action Trigger (MAT) and Limit were developed to provide early warning signal of potential operational risks and to allow timely mitigation actions. Triggering of the set thresholds are duly reported to the ERMC and RMC.

- The Risk & Control Self-Assessment (RCSA) tool enables a structured and consistent approach towards identification and assessment of operational risks and controls.

- Business Continuity Management is an important component of BPMB's risk management framework to increase the organization's resilience to business disruption arising from internal and external events and to reduce the impact on its business operations, reputation or profitability. BPMB's Business Continuity Management Framework includes the Business Continuity Management policy, the Business Continuity Plan and the Disaster Recovery Plan, which are continuously being updated and tested in line with Bank Negara Malaysia's (BNM) requirements.

- Enhancement of operational risk awareness forms part of BPMB's ORM objective towards cultivating a culture that places high priority on effective management of risk, adherence to sound operating controls, ethics and values. Continuous training efforts are undertaken to achieve this objective. BPMB's operational risk management infrastructure, tools and procedures are also continuously being improved in line with best practices, for better management of operational risks throughout BPMB.