RISK MANAGEMENT IN ISLAMIC BANKING

Jeroen P.M.M. Thijs
Chief Risk Officer
BANK ISLAM MALAYSIA BERHAD
BEFORE WE START

Why the title “Risk Management in Islamic Banking” instead of “Islamic Risk Management?”

Risk Management in Islamic Banking is not significantly different from conventional banking. There are additional risks that are unique to Islamic Banking.
CONCEPT OF RISK MANAGEMENT IN ISLAM

➢ Text in Al-Quran

وَقَالَ بَنِي مَيْسٍ لَنَتَّخِلُوا مِن بَابٍ واحِدٍ وَأَدخُلُوا مِن أَبَوَابٍ

مُقَرِّفَةٍ وَمَا أُغْنِي عِنْكُمْ مِنْ أَلَلِّهِ مِن شَيْءٍ إِنَّ الحَكْمَ

إِلَّا اللَّهُ عَلَيْهِ تَوَكَّلْتُ وَعَلَيْهِ فَلِيَتَوَكِّلَ الْمُتَوْسِفُونَ

“O my children, do not enter the capital of Egypt by one gate but go into it by different gates. However, know it well that I cannot ward off you Allah’s will for none other than He has nay authority whatsoever. In Him I have put my trust and all who want to rely upon anyone should put their trust in Him alone.”

(Surah Yusuf: Verse 67)

➢ Hadith from Prophet Muhammad s.a.w

Prophet (peace be upon him) once asked a Bedouin who had left his camel untied, “Why do you not tie your camel?” The Bedouin answered, “I put my trust in God.” The Prophet PBUH then said, “tie up your camel first then put your trust in God.”
AGENDA

- Introduction to Risk Management
- Risk Management in Islamic Banks
- Guiding Principles of Risk Management
- Risk Management Governance
- Risk Management Tools
INTRODUCTION TO RISK MANAGEMENT

- Concept of risk management
- Definition of risk
- Risk management process
WHAT IS RISK?

Risks are *uncertain future events* that could influence the achievement of the Bank’s objectives, including strategic, operational, financial and compliance objectives.

*Uncertain future events* could be:

- Failure of a borrower to repay a financing
- Fluctuation of foreign exchange rates
- Fraud, incomplete security documentations, etc
- Non-compliance with shariah law and principles
- Other events that may result in a loss to the Bank
WHAT IS RISK?

A Bank’s business (whether Islamic or Conventional) is to take calculated risks. As such Risk Management is not the minimization of losses but the optimisation of the risk reward equation.

The competitive advantage of a Bank is dependent on how well it manages risk.
WHAT IS RISK MANAGEMENT?

Risk management is the *process* by which various risk exposures are

(1) identified,

(2) measured/assessed,

(3) mitigated and controlled,

(4) reported and monitored.
EXAMPLES OF RISK MANAGEMENT FAILURES

   ✓ Barings Singapore reported SIMEX trade losses of GBP 850 million
   ✓ Brought down the whole bank…

   ✓ FX derivative losses of AUD 360 million…

   ✓ US subsidiary Allfirst reported FX Options trading losses of USD 750 million
EXAMPLES OF RISK MANAGEMENT FAILURES

   ✓ Bond Market losses wiping out capital of USD3.9 billion
   ✓ Fed and consortium of US Banks bailout

5. Sumitomo / Yasuo Hamanaka (1996)
   ✓ Commodity (copper) trading losses of USD1.8 billion…

6. Orange County, CA, USA (1994)
   ✓ Equity losses of USD2 billion
   ✓ Reverse repos / over-leveraged

7. Societe Generale, France (2008)
   ✓ Jerome Kerviel traded Euro stock index futures and concealed losses up to almost EUR 5.0 bio
8. The 2008 -… Financial Crisis

✓ Lack of Management / Board oversight
✓ Weak risk culture
✓ Risk Management function marginalized
✓ Over-reliance on quantitative tools / methodologies
✓ Poor liquidity management
✓ Lack of relevant internal valuation models
AGENDA

- Introduction to Risk Management
- Risk Management in Islamic Banks
- Guiding Principles of Risk Management
- Risk Management Governance
- Risk Management Tools
ISLAMIC BANKING BUSINESS ACTIVITIES

Diagram showing the flow of activities in an Islamic bank, including financing, investment, money market, shareholders, depositors, Al-Wadiah (Trust), Al-Mudharabah (Profit-Sharing), and revenue flows.
RISK PROFILE OF ISLAMIC BANK

Islamic bank

**Unique**
- Rate of return risk
- Credit Risk
- Shariah non-compliance risk
- Displaced Commercial risk
- Equity Investment risk

**Generic**
- Market risk
- Liquidity risk
- Operational risk

<table>
<thead>
<tr>
<th>Strategic</th>
<th>Legal</th>
<th>Fiduciary</th>
<th>Reputation</th>
<th>Transparency</th>
<th>Regulatory compliance</th>
</tr>
</thead>
</table>

BANK ISLAM
# GENERIC RISKS FOR BANKS

<table>
<thead>
<tr>
<th>Types of risks</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Credit risk</strong></td>
<td>The potential that a counterparty fails to meet its obligations in accordance with agreed terms and conditions of a credit-related contract</td>
</tr>
<tr>
<td><strong>Market risk</strong></td>
<td>The potential impact of adverse price movements such as benchmark rates, foreign exchange rates, equity prices on the economic value of an asset</td>
</tr>
<tr>
<td><strong>Liquidity risk</strong></td>
<td>The potential loss arising from the Bank’s inability either to meet its obligations or to fund increases in assets as they fall due without incurring unacceptable costs or losses</td>
</tr>
<tr>
<td><strong>Operational risk</strong></td>
<td>The potential loss resulting from inadequate or failed internal processes, people and system or external events</td>
</tr>
</tbody>
</table>
RISKS TRANSFORMATION FOR FINANCING OF ASSETS

- But even generic risks are not that straightforward in Islamic banking.

- For financing that involves financing assets e.g. Murabahah, Salam, Istisna and Ijarah, the risks of financing may transform from credit to market and vice versa at different stages of the contract.

- Hence capital management needs to take into account both the credit and market risk.
### RISK TRANSFORMATION UNDER MURABAHAH & MPO

Murabahah - Bank sells assets it already owns to customer at cost +
Murabahah Purchase Orderer (MPO) - Bank sells assets it acquires to customer at cost +, based on promise to purchase (PP) by customer

<table>
<thead>
<tr>
<th>Type of contract</th>
<th>Stage of contract</th>
<th>Credit risk</th>
<th>Market risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Murabahah and non-binding</strong></td>
<td>Asset available for sale (asset on balance sheet)</td>
<td>-</td>
<td>X</td>
</tr>
<tr>
<td><strong>Murabahah purchase order</strong></td>
<td>Asset is sold to and payment is due from customer</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Maturity of contract or upon full settlement</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Binding Murabahah Purchase Order</strong></td>
<td>Asset available for sale (asset on balance sheet)</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Asset is sold to and payment is due from customer</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Maturity of contract or upon full settlement</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### UNIQUE RISKS FOR ISLAMIC BANKS

<table>
<thead>
<tr>
<th>Types of risks</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shariah non-compliance risk</td>
<td>Risk arises from the failure to comply with the Shariah rules and principles</td>
</tr>
<tr>
<td>Rate of return risk</td>
<td>The potential impact on the returns caused by unexpected change in the rate of returns</td>
</tr>
<tr>
<td>Displaced Commercial risk</td>
<td>The risk that the bank may confront commercial pressure to pay returns that exceed the rate that has been earned on its assets financed by investment account holders. The bank foregoes part or its entire share of profit in order to retain its fund providers and dissuade them from withdrawing their funds.</td>
</tr>
<tr>
<td>Equity Investment risk</td>
<td>The risk arising from entering into a partnership for the purpose of undertaking or participating in a particular financing or general business activity as described in the contract, and in which the provider of finance shares in the business risk. This risk is relevant under Mudharabah and Musharakah contracts.</td>
</tr>
</tbody>
</table>
SHARIAH COMPLIANCE IS PARAMOUNT

- Original basis for having a banking system that meet the religious requirements of Muslims
- Factor that distinguishes Islamic banking from conventional banking.
- Ensures acceptance, validity and enforceability of contracts from Shariah point of view.
- Fulfills the objectives of Islamic finance i.e. to achieve justice and fairness in the distribution of resources.
IMPLICATIONS OF SHARIAH NON-COMPLIANCE

**Non Financial Impacts**

- Against the commands of Allah.
- Impediment from Allah’s blessing or *barakah*
- Contravention of the provision of Islamic Banking Act 1983 (Section 3(5)(a) & Section 4)
- Jeopardize the Bank’s reputation as an Islamic bank

**Financial Impacts**

- Invalidation of contract (‘*aqad*
- Non-halal income
- Capital adequacy ratio (CAR) Impact
RATE OF RETURN RISK

“Refers to the potential impact on an Islamic Financial Institution’s (IFI) net income / net income margin or market value of equity arising from changes in the market rate of returns”

✓ Gap/Mismatch Risk or

✓ Re-pricing Risk or

✓ Benchmark Rate Risk
RATE OF RETURN RISK

- Associated with the management of assets and liabilities
- Fixed rate long term assets funded by variable rate short-term liabilities
- Movement in benchmark rates may result in fund providers having expectations of a higher rate of return
- Subsequently, it may result in displaced commercial risk where due to market pressure, an Islamic bank needs to pay a return that exceeds the rate that has been earned on its assets.
- If Islamic bank does not yield to market pressure, they may lose their fund providers which could consequently lead to liquidity risk
Given the nature of business of an Islamic Bank: short term variable funding and long term (mostly fixed) financing and investing, the GAP of the Bank is usually much larger than in a Conventional Bank.

- Not many liquid hedging instruments to hedge the gap
- No way to sell asset through credit derivative transaction (not Shariah compliant)
MANAGING THE GAP

- Duration matching
- Securitization in form of Sukuk certificates
- Islamic Profit Rate Swap

However, equity type structures might significantly complicate accurate assessment of the mismatch Gap.
Displaced Commercial Risk

"Investment deposits based on Mudarabah should be a powerful risk mitigant for Islamic Banks, but..."

Displaced Commercial Risk

"Refers to the risk arising from assets managed by the IFI on behalf of investment account holders (IAHs) which is effectively transferred to the IFI’s own capital because the IFI follows the practice of foregoing part or all of its Mudarib share of profit on such fund..."...IFSB

= Smoothening to ensure competitive returns comparable with conventional banks.
DISPLACED COMMERCIAL RISK - Mitigants

- PER & IRR
  - Reserves for the purpose of income smoothening

- Adjust PSR

- Alternative deposit instruments
  - Islamic Negotiable Instrument of Deposits (INIDs)
  - Commodity Murabahah

- However, probably not in the spirit of Islamic Finance which encourages entrepreneurship...

- Best to focus on optimizing income / revenues from sources of funds i.e. Mudharabah Depositors / investors

- Efficient Management of funds...ISLAMIC BANKING IS ESSENTIALLY ABOUT FUND AND ASSET MANAGEMENT
“Refers to the risk of a decline in the fair value of equity positions held by the IFI in its trading and banking books”

BNM classifies the following as equity positions:
- Ordinary shares; voting or nonvoting (common or preferred)
- Convertible Securities
- Commitments to buy or sell equity securities
- Equity Derivatives
- Off-balance sheet items i.e. swaps and options
- Underwriting of equities

- Equity-type Shariah Contracts:
  - Mudharabah
  - Musharakah
  - Musharakah Mutanaqissah (Diminishing Musharakah)
risk arising from holding items in inventory either for resale under a Murabaha’ contract, or with a view to leasing under the ijarah contract “

- Items held under Non-binding Murabaha’ for Purchase Order (MPO)
- Items purchased under Istisna’ contract (‘unbilled work-in-progress’)

### AGENDA

- Introduction to Risk Management
- Risk Management in Islamic Banks
- Guiding Principles of Risk Management
- Risk Management Governance
- Risk Management Tools
GUIDING PRINCIPLES OF RISK MANAGEMENT

- BASEL Committee on Banking Supervision
- Islamic Financial Services Board (IFSB)
- Bank Negara Malaysia (BNM)
- Institute of International Finance (IIF)
BASEL

- 1988 Capital Accord (Basel I)
  - Regulatory based
  - Set out requirements to calculate capital charge i.e. the amount of capital to be set aside to absorb potential loss across banks and across countries
  - One size fits all

- 1996 Basel I (Amendments)
  - Market Risk was incorporated into Basel I

- 2004 International Convergence of Capital Measurement and Capital Standards (Basel II)
  - Aims to make capital requirements more risk sensitive
  - Includes Operational Risk
  - Bank shall be subject to 3 mutually reinforcing pillars

- 2010 Basel III (Response to Financial Crisis)
  - Enhanced capital ratios, liquidity ratios, leverage ratio
IFSB STANDARDS

- IFSB-1 Guiding Principles of Risk Management
- IFSB-2 Capital Adequacy Standard
- IFSB-3 Corporate Governance
- IFSB-4 Transparency and Market Discipline
- IFSB-5 Supervisory Review Process
- IFSB-6 Islamic Collective Investment Schemes
- IFSB-7 Sukuk, Securitizations and Real Estate
- IFSB-8 Takaful
- IFSB-9 Conduct of Business
- IFSB-10 Shariah Governance Systems

www.ifsb.org
IFSB CAPITAL ADEQUACY STANDARD

The need for RWCR framework

- To ensure that Islamic banks can absorb a reasonable level of losses before becoming insolvent.
- To provide protection to depositors and/or PSIA - the higher the CAR, the higher the level of protection.
- To promote stability and efficiency of the financial system by reducing the likelihood of Islamic banks becoming insolvent.
- To ensure that the Islamic banks’ capital position is commensurate with its overall risk profile and strategy.
Eligible Capital  >  8.00%

Total RWA (Credit + Market Risks) + Operational Risk
Less
RWA funded by PSIA (Credit + Market Risks)

PSIA is Profit Sharing Investment Account
Islamic Banking Act 1983
Guidelines on Capital Adequacy (CAFIB)
Guidelines on Financial Reporting
Guidelines on Anti Money Laundering
Guidelines on Prudential Limits and Standards

www.bnm.gov.my

www.iif.com
AGENDA

- Introduction to Risk Management
- Risk Management in Islamic Banks
- Guiding Principles of Risk Management
- Risk Management Governance
- Risk Management Tools
RISK GOVERNANCE - STRUCTURE

- Board
  - Other Board sub committees
  - Board Audit Committee
  - Board Risk Committee

- Managing Director
  - Compliance / Shariah
  - Chief Internal Auditor
  - Chief Risk Officer

- Business Divisions
- Operations / Support
- CFO, CTO, etc
- Human Resources
POLICIES & GUIDELINES

- **Policies** for principle risk areas are in place covering areas of credit, market, operational and Shariah compliance

- Policies are supported by **Guidelines** and further supported by **operational manuals** to ensure policies are implemented properly and effectively

- Approving authority
  - ✓ RMF - Board
  - ✓ Policy - Board
  - ✓ Guideline - MRCC
  - ✓ Manual - Stakeholders

- The RMF and all policies are reviewed at a minimum once in 2 years

- All Guidelines and Manuals are reviewed annually (at a minimum)
### CREDIT RISK

<table>
<thead>
<tr>
<th>Policy</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| **Credit Risk Policy** - The policy addresses the broad credit management framework that covers the objective, strategy, structure and credit processes in order to establish the best practices in the management of credit risk that are in line with the regulatory requirements. | 1. Pricing Matrix Guidelines  
2. Acceptance Letter Offer Guideline  
3. Negative List Guideline  
4. Collaterals Guideline  
5. Valuation Guideline  
6. Discretionary Power Guideline  
7. Sovereign Risk Guideline  
8. Consumer Grading Guideline  
9. Sectoral Guideline  
10. Business Relationship Etiquette Guideline  
11. Watchlist Guideline  
12. Financing Process Guideline  
13. Credit Recovery Guideline  
## MARKET RISK

<table>
<thead>
<tr>
<th>Policy</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Market Risk Policy | 1. Market Risk Limits Guideline  
2. Hedging Guideline  
3. Mark-to-Market Guideline  
4. Rate Reasonability Check Guideline  
5. Value-at-Risk (VaR) Guideline  
6. Asset and Liability Management Guideline |
| Trading Book Policy | - Addresses market risk factors which include but not limited to profit rate or rate of return, foreign exchange, equity and commodity risks inherent in the Bank’s trading and banking books |
## OPERATIONAL RISK

<table>
<thead>
<tr>
<th>Policy</th>
<th>Guidelines</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operational Risk Policy</strong> - The policy provides the effective and</td>
<td>1. Operational Risk Management Guideline</td>
</tr>
<tr>
<td>efficient operational risk management throughout the Bank through its</td>
<td>2. Management Awareness and Self-Assessment (MASA) Reporting Guideline</td>
</tr>
<tr>
<td>strategies in terms of organization structure, process, risk tolerance,</td>
<td>3. Fraud Handling and Reporting Guideline</td>
</tr>
<tr>
<td>risk measurement and analytic model management information system</td>
<td>4. Takaful/Insurance Guideline</td>
</tr>
<tr>
<td></td>
<td>5. Key Risk Indicators (KRI) Guideline</td>
</tr>
<tr>
<td></td>
<td>6. Outsourcing Guideline</td>
</tr>
<tr>
<td></td>
<td>8. Customer Complaint Guideline</td>
</tr>
</tbody>
</table>
**SHARIAH COMPLIANCE RISK**

<table>
<thead>
<tr>
<th>Policy</th>
<th>Guidelines</th>
</tr>
</thead>
</table>
| Shariah Compliance Risk Management Policy - The policy provides the Shariah requirements applicable throughout the Bank in its activities, products and services in compliance with the Shariah principles, provisions of the Islamic Banking Act 1983 and Bank Negara Malaysia’s rules and regulations. | 1. Wadiah Contract Guideline.  
2. Ijarah and Ijarah Muntahiah Bit Tamlik Guideline  
3. Murabahah and MPO Contract Guideline  
4. Mudharabah (financing) Contract Guideline  
5. Musharakah (financing) Contract Guideline  
6. Handling and Reporting of Shariah Non Compliances Guideline  
7. Mudharabah (Deposit) Contract Guideline  
8. Musharakah Mutanaqisah Contract Guideline  
10. Kafalah Contract Guideline  
11. Wakalah Contract Guideline  
12. Tawarruq Contract Guideline |
AGENDA

- Introduction to Risk Management
- Risk Management in Islamic Banks
- Guiding Principles of Risk Management
- Risk Management Governance
- Risk Management Tools
**RISK MANAGEMENT ROADMAP**

- **Maximise Earnings Potential**
  - **Earnings Stability**
  - **Protection Against Unforeseen Losses**

- **Active Portfolio Management Framework**
  - Economic capital
  - RAROC
  - Bank-wide VaR
  - Incremental VaR
  - RMS (economic capital, Raroc, IRB)
  - Full Pillar 2 Compliance

- **Increased Risk Management Sophistication**
  - Risk Identification
  - Risk Management/Assessment
  - Risk Reporting
  - Processes & Procedures
  - RMS (datamart, credit risk, Basel II)

- **RAPM Framework**
  - Risk based product pricing
  - Linking risk and return
  - Measuring risk adjusted performance
  - RMS (market, operational)

- **Loss Minimization/Risk Control Framework**

- **Proactive**
RISK MANAGEMENT SYSTEM

Firmwide Risk System

Market Risk
- IR, EQ, FX Risk
- Stress Testing
- Liquidity Risk
- Market VaR

Credit Risk
- Risk Weighted Assets
- Stress Testing
- Potential Future Exposure
- Credit VaR
- Credit Risk Analysis

ALM
- GAP Analysis
- Stress Testing
- Liquidity Risk
- Net Interest Income

Operational Risk
- Loss Data
- Qualitative Assessments
- Control Testing
- Workflow
- Capital Calculation

Risk Data Mart

Source Systems
- Core
- Treasury
- Trade
- Other (core) systems
RISK MANAGEMENT SYSTEM CONSIDERATIONS

- Data cleansing and enrichment: wrong input, wrong conclusions.

- Not every system provider can cater to complexity of Islamic Banking Products!

- Efficient data integration between RMS and various source systems is key. Don’t just go for risk functionality; treat data integration very seriously.
CREDIT RISK

- **Application Scorecards**
  - Statistical Scorecards for Retail
  - Financial Ratio + judgmental scorecards for Corporate
  - Behavioral application scorecards for SMEs (credit bureau)

- **Behavioral Scorecards**
  - Application card only valid for 6-12 months; client circumstances can change
  - Enable Bank to take preventive action
WATCHLIST

- Behavioral Triggers
  - Habitual delinquencies
  - Adverse media reports
  - Delay in preparation / fling financial statements

- Financial Triggers
  - Credit rating downgrade by 2 or more notches
  - Deterioration in financials and or collateral value
  - Financing covenant breaches

- Other Triggers
  - Project delays/cost overruns
  - Sector weakening
  - Supply / demand concentration
MARKET RISK - TRADING

➢ Value at Risk
  ✓ Historical simulation
  ✓ VaR/CoVaR methodology
  ✓ Monte Carlo Simulation

➢ Issues for Islamic Bank
  ✓ Limited data
  ✓ Illiquid Instruments
  ✓ Need to use conventional price proxies
  ✓ Higher Confidence Interval? Longer Time Horizon?
OPERATIONAL RISK

➢ Risk Control Self Assessment (RCSA)
  ✓ Generic RCSA
  ✓ Specific RCSA

➢ Key Risk Indicators (KRI)
  ✓ Reflective of Risk
  ✓ Measured on regular basis
  ✓ Should detect changes in risk profile before op risk events manifest

➢ Loss Event Database
Actual historical events such as the 1997/1998 crisis or the 2001 bond crisis

Scenarios
- Unlikely but plausible events
- Regression of macro factors such as GDP to provision / non performing levels

Reverse stress tests
ENTERPRISE WIDE RISK MANAGEMENT

➢ RAROC

✓ Most Islamic Banks cannot measure economic capital: use regulatory capital as proxy
✓ Need to take expected loss or at least actual provisions into account

➢ Risk Based Pricing

➢ Risk Appetite Framework

✓ Risk capacity versus risk appetite
✓ In absence of economic capital, use regulatory and other stakeholder measures as basis
ICAAP PROCESS

Measurement of risk and required capital under BIS2

- **Pillar 1 risks**
  - Credit risk
  - Credit risk data issues
  - BIS1
  - Market risk data issues
  - Market Risk
  - Operational Risk
  - Liquidity risk
  - Business risk
  - Strategic risks

- **Pillar 2 risks**
  - Concentration risk
  - Country & transfer risk
  - Securitization risk
  - Reserve risk
  - Interest rate risk bank book

- **External factors**
  - Stress tests / scenarios

Integration of risk and capital in strategic decisions and planning

- **Risk governance and control**
  - Coherence of risks and results (EL vs LLP)
  - Risk appetite / capital management
  - Business planning and budgeting
  - Active credit portfolio and capital management
  - Risk adjusted performance management
  - Risk based pricing

Risk Issues

- Finance Issues

Corporate Governance

Roles and responsibilities
- Supervisory Board
- Executive Committee
- Internal audit
- Risk Department
- Finance Department
- Strategic Planning
- Investor relations
- Branches

Risk governance
- Committees
- Limit system
- Reporting
- Escalations

Minimum Standards for risk
- Independent internal control
- Sound risk assessment
- Risk disclosure

ICAAP = “Internal Capital Adequacy Assessment Process”
Thank You

وَالسَّلَام

Wassalam