Risk Management framework in Islamic Banking: Basel II and III, challenges and implications in Islamic Banking

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“It is hard to imagine, given the scale of Islamic finance today, that another capital accord can be developed without taking account of the particular needs of Islamic banks, as the Basel II accord was.”
Risk Management is the name given to a logical and systematic method of identifying, analysing, measuring, treating, monitoring and hedging the risks involved in any activity or process.

**Conceptual Model**

- RMP = f(URM, RI, RAA, RM)
- Where:
  - RMP = Risk Management practices
  - URM = Understanding risk and risk management
  - RI = risk identification
  - RAA = risk analysis and assessment
  - RM = risk monitoring
**Sources of funds**

<table>
<thead>
<tr>
<th>ISLAMIC BANKS</th>
<th>TRADITIONAL BANKS</th>
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</thead>
<tbody>
<tr>
<td>Tier – 1 Capital (equity)</td>
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<tr>
<td>Tier – 2 Capital (?)</td>
<td>Tier – 2 Capital (Subordinated loans)</td>
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<td>Current accounts</td>
<td>Current accounts</td>
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<td>Saving accounts</td>
<td>Interest-based Saving accounts</td>
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<tr>
<td>Unrestricted Profit Sharing Investment Accounts (PSIAs)</td>
<td>Time &amp; certificates of deposits</td>
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<tr>
<td>Profit equalization reserves (PER)</td>
<td>Reserves</td>
</tr>
<tr>
<td>Investment risk reserve (IRR)</td>
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</tbody>
</table>

**Cost of funds:** Variable

**Banks in both cases use shareholders’ equity to protect these deposits**

- **ISLAMIC BANK**
  - Current accounts
  - Profit sharing investment accounts (PSIA)
  - Shareholders’ equity protects these liabilities only in case of fiduciary risks (theory); Profit Equalization Reserve (PER) & Investment Risk Reserve (IRR)
  - Cost of funds: Variable

- **TRADITIONAL BANK**
  - Current accounts
  - Time deposits, certificates of deposits, etc – fixed income liabilities
  - Shareholders’ equity and subordinated loans protect these liabilities against all risks
  - Cost of funds: Fixed
Uses of Funds

**ISLAMIC BANKS**
- Cash & balances with other banks
- **Sales Receivables** (Murabaha, Salam, Istisna’a)
- Investment securities
- Musharaka financing
- Mudaraba financing
- Investment in real estate
- Investment in leased asset
- Inventories (including goods for Murabaha)

**TRADITIONAL BANKS**
- Cash & balances with other banks
- Loans
- Mortgages
- Financial leases
- Investment in real estate
- Securities

Sustaining losses

- **Frequency of losses**
- **Unexpected losses from Credit, market & Operational risks**
- **Size of losses**

- Income
- Capital
- Insurance
Ensuring the stability of an Islamic bank

- Unexpected losses from PSIA financed assets
- Unexpected losses from current account and capital financed assets
- Provisions from Income
- PSIA, Capital & PER
- Capital & IRR
- Takaful

Risk Identification

- Complexities of products
- Combined with fiduciary obligation of Islamic Banks
- IFSB: In case of Investment Account Holders in the absence of misconduct and negligence by the Islamic bank
- Nature of risks arising from profit sharing investment deposits
- Bankers Judge: profit sharing modes of financing and product deferred sales are riskier than Murabaha and Ijareh.
Industry averages

Credit risk average in the industry: 2.7
Market risk

Average market risk in the industry: 3.05

Liquidity risk

Average liquidity risk in the industry: 2.8
Average operational risk average in the industry: 2.9

Severity of risks

credit risk  market risk  liquidity risk  operational risk
Risk Analysis and Assessment

• Application of modern approaches to risk measurement, particularly for credit and overall banking risks is important for Ibs (critical: role of IAH)
• Systematic risk data collection; Pooling info; common definition, standards and methodologies

Common Risks faced by Conventional and Islamic Financial Institutions

<table>
<thead>
<tr>
<th>Financial Risk</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit risk</td>
<td>The risk of counterparty failure to meet their obligations in a timely manner</td>
</tr>
<tr>
<td>Market risk</td>
<td>Risk common to entire class of assets and liabilities due to economic changes or external events</td>
</tr>
<tr>
<td>Liquidity risk</td>
<td>Risk that arises from the difficulty of trading on asset and difficulty in obtaining funding at a reasonable cost</td>
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<tr>
<td>Prepayment risk</td>
<td>The risk of financing being prepaid before maturity due to a drop in interest rate</td>
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<tr>
<td>Settlement risk</td>
<td>Risk that a counterparty does not deliver security or its value in cash as per agreement when the security is traded after other counterparty (ies) have delivered security or cash as per agreement</td>
</tr>
</tbody>
</table>
Common Risks faced by Conventional and Islamic Financial Institutions

- **Volatility risk**: Fluctuations in the exchange rate of currencies.
- **Country risk**: Potential volatility of foreign assets due to political or financial events in a particular country.
- **Equity risk**: Depreciation of investments due to stock market fluctuations.

**Operational risk**
- Risk associated with the potential for systems failure in a given market, usually resulting from inadequate internal processes and strategies, people, system or from external event.

**Event risk**
- Unpredictable risk due to unforeseen events such as banking crisis, contagion effects and such other exogenous factors.

Specific Risks of Shariah Compliant Banking Products

- **Commodities and inventory risk**: Arising from holding items in inventory either for resale under a murabahah contract or with a view to leasing under an ijarah contract.
- **Rate of return risk**: Similar to interest rate risk in the banking book.
- **Legal and Shariah compliance risk**: Risk associated with the potential for system failure in a given market usually resulting from inadequate internal processes and strategies.
- **Equity position risk**: Arises from the equity exposures in mudarabah and musyarakah financing contracts.
- **Mark-up risk risk**: Since Islamic banks do not use interest, they use market rates as benchmarks in pricing their products. Thus, there is a risk associated with the changes to the benchmark rate.
AND Not the Least:

Fiduciary and Reputation Risk

Re-establishing a firm’s reputation takes a long time.

Risk Profile of conventional vs Islamic Banks

<table>
<thead>
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<th>Risk profile of conventional vs. Islamic banks</th>
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<tr>
<td>Conventional bank</td>
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<tr>
<td>1. Credit risk</td>
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<tr>
<td>Equity risk</td>
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<tr>
<td>Commodity risk</td>
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<tr>
<td>Interest rate risk</td>
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<tr>
<td>Foreign exchange risk</td>
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<tr>
<td>3. Operational risk</td>
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Risk
Besides these risks, IBIs are also exposed to reputational risk arising from failures in governance, business strategy and process. Negative publicity about the IBIs’ business practices, particularly relating to Shariah non-compliance in their products and services, could have an impact upon their market position, profitability and liquidity.

**CREDIT RISK:**

Credit risk is generally defined as the potential that a counterparty fails to meet its obligations in accordance with agreed terms. Credit risk includes the risk arising in the settlement and clearing transactions.
**EQUITY INVESTMENT RISK:**

Equity Investment Risk pertains to the management of risks inherent in the holding of equity instruments for investment purposes. Such instruments are based on the Mudarabah and Musharakah contracts.

The capital invested through Mudarabah and Musharakah may be used to purchase shares in a publicly traded company or privately held equity or invested in a specific project, portfolio or through a pooled investment vehicle. In the case of a specific project, IBIs may invest at different Investment stages.

**MARKET RISK**

Market risk is defined as the risk of losses in on- and off-balance sheet positions arising from movements in market prices i.e. fluctuations in values in tradable, marketable or leaseable assets (including sukuk) and in off-balance sheet individual portfolios. The risks relate to the current and future volatility of market values of specific assets (for example, the commodity price of a Salam asset, the market value of a sukuk, the market value of Murabahah assets purchased to be delivered over a specific period) and of foreign exchange rates.

In operating Ijarah, a lessor is exposed to market risk on the residual value of the leased asset at the term of the lease or if the lessee terminates the lease earlier (by defaulting), during the contract. In Ijarah Muntahia Bittamleek, a lessor is exposed to market risk on the carrying value of the leased asset (as collateral) in the event that the lessee defaults on the lease obligations.
LIQUIDITY RISK:

Liquidity risk is the potential loss to IBIs arising from their inability either to meet their obligations or to fund increases in assets as they fall due without incurring unacceptable costs or losses.

IBIs must have a liquidity contingency plan addressing various stages of a liquidity crisis. IBIs should define the classification of these stages but may consider differentiating the stages as follows:

1. Identification of a liquidity gap or a situation which acts as a triggering event where withdrawals do not follow predictable patterns when, for example, the IBIs may suffer an institutional rating downgrade;

2. A need to liquidate assets or investments in an orderly manner to meet such a liquidity gap or situation; and

3. Emergency measures to be taken in the event that the previous steps fail to meet the liquidity gap adequately.
Where appropriate, IBIs shall include in their contingency plans the following factors and define appropriate action points at each stage:

1. Holdings of tradable high quality liquid assets, which may be readily disposed of in sizeable amounts in deep markets taking into account the likelihood that it will not be possible to realise full book value;

2. Profile of other assets and the degree of liquidity of these assets;

3. Assessment of Shariah-compliant and available funding products in the market including possible cooperation agreements with either other IBIs or conventional institutions on an interest-free basis for accessing temporary funding, or sale and leaseback arrangements for longer term funding;

1. Possible liquidity arrangements with the central bank (on an interest-free basis);

2. Establishment of a crisis management team or personnel responsible for taking actions at different stages of the liquidity crisis; and

3. Notification procedures for communication with IBIs’ head office and/or supervisory authorities.

However, to the extent that IBIs intend to rely on the types of cooperation agreements mentioned above, they need to ensure that willing counterparties will exist for such arrangements.
RATE OF RETURN RISK:

IBIs are exposed to rate of return risk in the context of their overall balance sheet exposures. An increase in benchmark rates may result in PLS deposit holders’ having expectations of a higher rate of return. Rate of return risk differs from interest rate risk in that IBIs are concerned with the result of their investment activities at the end of the investment-holding period. Such results cannot be pre-determined exactly.

A consequence of rate of return risk may be displaced commercial risk. IBIs may be under market pressure to pay a return that exceeds the rate that has been earned on assets financed by PLS deposit holders when the return on assets is under-performing as compared with competitors’ rates. IBIs may decide to waive their rights to pay or their entire Mudarib share of profits in order to satisfy and retain their fund providers and dissuade them from withdrawing their funds. Displaced commercial risk derives from competitive pressures on IBIs to attract and retain investors (fund providers).

OPERATIONAL RISK:

IBIs are exposed to risks arising from failures in their internal controls involving processes, people and systems. The controls should provide reasonable assurance of the soundness of operations and reliability of reporting.

IBIs are also exposed to reputational risk arising from failures in governance, business strategy and process. Negative publicity about the IBI’s business practices, particularly relating to Shariah non-compliance in their products and services, could have an impact upon their market position, profitability and liquidity.

IBIs shall consider the full range of material operational risks affecting their operations, including the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events. IBIs shall also incorporate possible causes of loss resulting from Shariah non-compliance and the failure in their fiduciary responsibilities.
IBIs are exposed to risks relating to Shariah non-compliance and risks associated with the IBIs’ fiduciary responsibilities towards different fund providers. These risks expose IBIs to fund providers’ withdrawals, loss of income or voiding of contracts leading to a diminished reputation or the limitation of business opportunities.

A reliable IT system is a must for profit sharing mechanism, failure of which may lead to Shariah non-compliance risk. The bank should identify key risk indicators and should place key control activities like Code of Conduct, Delegation of authority, segregation of duties, succession planning, mandatory leave, staff compensation, recruitment and training, dealing with customers, complaint handling, record keeping, MIS, physical controls etc.

**SHARIAH NON-COMPLIANCE RISK:**

Shariah non-compliance risk is the risk that arises from IBIs’ failure to comply with the Shariah rules and principles prescribed by Shariah Advisor of the IBIs. Shariah compliance is critical to IBIs’ operations and such Compliance requirements must permeate throughout the organization and their products and activities. As a majority of the fund providers use Shariah-Compliant banking services as a matter of principle, their perception regarding IBIs’ compliance with Shariah rules and principles is of great importance to sustainability of IBIs. In this regard, Shariah compliance is considered as falling within a higher priority category in relation to other identified risks.

IBIs shall ensure that they comply at all times with the Shariah rules and Principles as advised by the Shariah Advisor as well as SBP, with respect to their products and activities. This means that Shariah compliance considerations are taken into account whenever the IBIs accept deposits and investment funds, provide finance and carry out investment services for their customers.
IBIs shall ensure that their contract documentation complies with Shariah rules and principles – with regard to formation, termination and elements possibly affecting contract performance such as fraud, misrepresentation, duress or any other rights and obligations.

IBIs shall undertake a Shariah compliance review at least annually, performed either by a separate Shariah audit department or as part of the existing internal audit function by persons having the required knowledge and expertise for the purpose. The objective is to ensure that

(a) the nature of the IBIs’s financing and equity investment and

(b) their operations are executed in adherence to the applicable Shariah rules and principles as per the fatwa, policies and procedures approved by the IBIs’s Shariah Advisor.

IBIs shall keep track of income not recognized arising out of Shariah non-compliance and assess the probability of similar cases arising in the future.

Based on historical reviews and potential areas of Shariah non-compliance, the IBIs may assess potential profits that cannot be recognized as eligible IBIs’ profits.
FIDUCIARY RISK:

Fiduciary risk is the risk that arises from IBIs’ failure to perform in accordance with explicit and implicit standards applicable to their fiduciary responsibilities. As a result of losses in investments, IBIs may become insolvent and therefore unable to

(a) meet the demands of current account holders for repayment of their funds; and

(b) safeguard the interests of their PLS deposit holders.

IBIs shall adequately disclose information on a timely basis to their PLS deposit holders and the markets in order to provide a reliable basis for assessing their risk profiles and investment performance, as prescribed by SBP from time to time.

Basel Accords

- Basel I - Introduced in 1988
- Basel II - Introduced in 2004
- Basel III - Introduced in 2010
Minimum Capital Charges: Minimum capital requirements based on market, credit and operational risk to (a) reduce risk of failure by cushioning against losses and (b) provide continuing access to financial markets to meet liquidity needs, and (c) provide incentives for prudent risk management (¶¶ 40-718)

Supervisory Review: Qualitative supervision by regulators of internal bank risk control and capital assessment process (¶¶ 719-807), including supervisory power to require banks to hold more capital than required under the First Pillar

Market Discipline: New public disclosure requirements to compel improved bank risk management (¶¶ 808-822)
Basel II – Credit Risk Measuring Approaches

- Measure credit risk pursuant to fixed risk weights based on external credit assessments (ratings)
- Least sophisticated capital calculations; generally highest capital burdens
- Most Japanese banks have started Basel II as standardised banks

- Measure credit risk using sophisticated formulas using internally determined inputs of probability of default (PD) and inputs fixed by regulators of loss given default (LGD), exposure at default (EAD) and maturity (M).
- More risk sensitive capital requirements
- Most European banks have been qualified for Foundation IRB status at start of Basel II

- Measure credit risk using sophisticated formulas and internally determined inputs of PD, LGD, EAD and M
- Most risk-sensitive (although not always lowest) capital requirements
- Transition to Advanced IRB status only with robust internal risk management systems and data
- Top 10 US banks implemented Advanced IRB at start of Basel II

Under Basel II, Islamic banks have strong incentive to move to IRB status and reduce capital charges by improving risk management systems.

Basel III

The Basel III reform of bank capital regulation

- New capital ratios
  - Common equity
  - Tier 1
  - Total capital
  - Capital conservation buffer
  - capital ratio = capital / Risk-weighted assets

- Raising the quality of capital
  - Focus on common equity
  - Stricter criteria for tier 1
  - Harmonised deductions from capital

- Macroprudential overlay
  - Leverage ratio

- Mitigating procyclicality
  - countercyclical buffer

- Mitigating systemic risk
  - (work in progress)
  - Systemic capital surcharge for SIFIs
  - Contingent capital
  - Bail-in debt
  - OTC derivatives

Enhancing risk coverage
- Securitisation products
- Trading book
- Counterparty credit risk
Basel Risk Management Info

RWCR requirement based on Basel II

**RWCR =** 
\[
\text{Capital Base} = \frac{\text{Credit Risk-Weighted Asset (RWA) + Large Exposure Risk RWA for Equity Holdings}^* + \text{Market RWA} + \text{Operational RWA}}{\text{Credit Risk-Weighted Asset (RWA)}}
\]

*Large Exposure Risk RWA for Equity Holdings is as specified in the Bank’s “Guidelines on Investment in Shares and Interest in Shares”

**For Investment Banks, the Credit RWA shall include Counterparty Risk RWA and Large Exposure Risk RWA for single counterparty
Risk-Weighted Capital Ratio (RWCR) with Islamic Banking Windows

For banking institutions with an Islamic banking subsidiary (IS), the consolidated RWCR shall incorporate the IS RWA which will be computed based on a separate guideline for IS to be issued by the Bank at a later date.
Where PSIA placements are recognised as risk absorbents, the RWCR of the Islamic banking operations will be computed as follows:

\[
\text{RWCR}_{\text{Islamic}} = \frac{\text{Capital Base}}{\text{Total Risk-Weighted Assets}} - (1-c) \times (\text{Credit and Market Risk-Weighted Assets funded by PSIA}) - (\alpha) \times (\text{Credit and Market Risk-Weighted Assets funded by PER of PSIA})
\]

1. Total risk-weighted assets is the sum of credit, market and operational risk-weighted assets of Islamic banking operations.
2. \((1-c)\) represents the quantum of PSIA that is recognised as risk absorbent for RWCR computation purposes and approved by the Bank.
3. \((\alpha)\) (PSIA balances include its PER).

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**Tier 1 capital (core capital)**

- Capital instruments that qualify as Tier 1 Capital should possess the following characteristics:
  i) It should be **fully paid-up** and **permanently** available;
  ii) It should be **freely available** and not earmarked to particular assets or banking activities;
  iii) It should be able to **absorb losses** occurring in the course of on-going business; and
  iv) It should represent **no fixed charge** on the earnings of the banking institution.
Items which qualify as Tier 1 capital

Ordinary paid-up share capital;
Share premium;
Statutory reserve fund;
General reserve fund;
Retained profits brought forward from previous financial year
Surplus after tax arising from the sale of fixed and long-term investments
Current unaudited net profits on a half-yearly basis,
Non-innovative Tier 1 (Non-IT1) capital, subject to prescribed limits;
Innovative Tier 1 (IT1) capital, subject to prescribed limits; and
Minority interests, consistent with the above Tier 1 share capital characteristics,

Sources of funds for Islamic and conventional banks

<table>
<thead>
<tr>
<th>Islamic bank</th>
<th>Conventional bank</th>
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<tbody>
<tr>
<td>Current Accounts</td>
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<td>Savings Accounts</td>
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</tr>
<tr>
<td>Unrestricted</td>
<td>Time Deposits</td>
</tr>
<tr>
<td>Investment Accounts (UIA)</td>
<td>Certificate of Deposits</td>
</tr>
<tr>
<td>Equity: Share capital+Reserves-Tier 1</td>
<td>Equity: Share Capital+Reserves-Tier 1</td>
</tr>
<tr>
<td>Donated Land Reserve (No Preferred Shares or Subordinated Debt allowed): Tier 2</td>
<td>Cumulative Preferred Shares+Subordinated Debt-Tier 2</td>
</tr>
<tr>
<td>No Tier 3</td>
<td>Tier 3 portion of subordinated debt available only for market risk</td>
</tr>
</tbody>
</table>
Capital adequacy methodology for Islamic Banks

- The nature of intermediation and liabilities has serious implications for the determination of adequate capital for Islamic banks.
- Deposits taken on the basis of profit- and loss-sharing agreements should not be subject to any capital requirements other than to cover liability for negligence and misconduct and winding-down expenses.
- Investments funded by current accounts carry commercial banking risks and should be subject to adequate risk weights and capital allocation.
- Restricted investment accounts on the liabilities side form a collection of heterogeneous investment funds resembling a fund of funds; therefore, financial institutions holding such funds should be subject to the same capital requirements as are applicable to fund managers.
- The presence of displaced commercial risk and the practice of income smoothing have indirect implications for the Islamic bank’s capital adequacy, which a regulator may take into account when determining the CAR.
- Islamic banks acting as intermediary can face a moral hazard issue.

A major difference between Islamic banks and conventional banks relates to investment account deposits.

- For Islamic banks, the expected losses would be hedged by income, and so the risk capital needed to meet unexpected losses may be less for Islamic banks than for conventional banks.
- Theoretically, Islamic banks accept investment deposits that are risk sharing contracts. The Islamic financial intermediary, as an agent (mudarib), would share profits with the depositor, but the depositor would bear losses that are the outcome of market conditions, but not of a mudarib’s misconduct.
Adopting Basel II Standards in Islamic Banks

• the risks associated with *specialised Islamic products* and their unique nature, Islamic banks face a challenge in adopting international standards.

• The methods that are developed for conventional banks should be amended and *tailor-made* for Islamic banks and such procedures may require extensive input in terms of data availability.

• As Islamic banks should keep profit and loss sharing *accounts off the balance sheet*, such accounting treatment would expose Islamic banks to capital adequacy risk.

Standardised Approach

• As Islamic banks categorised as small and medium they may be required to comply with the standardised approach to classify and measure risk exposure for capital adequacy.

• Currently, the majority of the Islamic banks assess their credit risk by applying the standardised approach, in which capital weighing is based on ratings from external rating agencies such as Standard and Poor’s, Fitch Ratings or Moody’s.

• Lack of data in moving to more advanced approaches.
Standardised approach

- Risk mitigants, including collateral, guarantees, are recognized within the standardized approach with a wider range. However, lack of derivatives could potentially increase the risk.
- Parallel salam may be used to hedge against risks arising from salam contracts. Parallel salam contracts may not be derivative products, but the application of salam is very much in line with the intent of derivatives.
- Transactions such as murabahah and ijarah are structured similarly to conventional transactions.
- The definition of collateral for partnerships such as mudarabah and musharakah are very troublesome for Basel II.

Standardised approach

- Basel II will treat the two salam transactions as two separate deals and double the risk. If parallel salams are to be included within the Basel II expanded derivative treatment, banks would match two contracts and deduct the amount of parallel salam from the original salam contract. The resulting reduced risk exposure is similar to that of credit derivatives that conventional banks utilize to hedge their credit risk.
- Islamic banks will benefit from reduced risk weights, because the available Islamic financial instruments make it possible for Islamic banks to work extensively with small and medium enterprises. Some of the Islamic financial instruments especially designed for this purpose include istisna, salam and mudarabah.
Internal Ratings-Based Approach

• The internal ratings based (IRB) approach uses four quantitative areas of data:
  • Probability of default (PD) is the probability that a borrower will default within a time period.
  • Loss given default (LGD) is the percentage of the risk exposure that will be loss in case of default.
  • Exposure at default (EAD) is the amount of risk exposure at the time of default.
  • Maturity (M) is the days left for the risk exposure to end.

Internal Ratings-Based Approach

• With the IRB approach, banks are permitted to alter the risk weight formula for small and medium enterprise borrowers. (useful for Islamic banks)
• The IRB approach also provides extended coverage for risk mitigation techniques, including collateral and risk derivatives. (disadvantages for Ibs)
• On the other hand, regarding collateral, extended treatment will benefit Islamic banks a great deal.
• Equity participation is also handled differently under the IRB approach. Islamic financial instruments such as mudarabah and musharakah benefit from such special treatment.
Internal Ratings-Based Approach

- There are two different methods described for handling equity participation: 1. Banks can provide their own default probabilities for equity participations; and 2. Banks can estimate the market value decrease of the equity participation. In either case, Islamic banks can take advantage of special treatment.
- In fact, the IRB approach to equity participation may encourage Islamic banks to utilize more mudarabah and musharakah transactions. But in order to obtain supervisory approval to apply the IRB approach, Islamic banks will have to overcome obstacles in terms of size and risk management.

Model-Based Approach

- Under this system, credit risk is measured in terms of risk portfolios, with utilization of specialized models. Through utilization of pre-defined risk models with computerized systems, banks aim to implement standardized risk measurement procedures. Basel II aims to establish comparable risk measurement techniques between banks. However, banks need necessary infrastructure and model descriptions for a variety of risks. To generate a standardised risk measurement system, Islamic banks will require extensive resources and enough experience in various types of risks to draw upon. In fact, a standardised Islamic banking risk measurement model would be a great achievement.
Transparency and Market discipline - A direct comparison to Basel II

**Basel II - Pillar III**
- To complement the minimum capital requirements (Pillar I) and the supervisory review process (Pillar II)
- Both aim at strengthening the market environment for banking-industry and complementing existing standards

**IFSB - TMD**
- To specify the key principles and practices for IFSB in making disclosure to achieve transparency and promote market discipline
- Need for Transparency as a Shariah consideration based on principles of justice & fairness

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**IFSB - TMD as Pillar III equivalent**
- Introduces Role of Islamic Windows disclosures
- Focus on Additional risk disclosure such as DCR & Rate of Return Risk
- Equity of IAH in Capital Structure and disclosures
- Capital adequacy differs as IAH as source of funding, requires specific disclosure
- Treatment of IAH and Retail Investor Oriented disclosures
- TMD draws on principles from ISOCO-CIS, AAOIFI, IFRS
Challenges in adopting Capital adequacy models to Islamic Banks

- Complexity of funding contracts (modarabah? Who is bearing the risk? Some clients some customers)
- Islamic banks’ risk profile may not be well reflected by the Basel II taxonomy
- Lack of data (using conventional bank as proxy)
- Islamic capital requirements will be set by a non-Islamic regulator which might not fully understand the complexities involved.

Challenges in adopting Capital adequacy models to Islamic Banks

- The profit and loss sharing mechanism is very complex. It requires greater auditing of projects to guarantee proper governance and suitable valuation.
- Profit and loss sharing cannot be made dependent on collateral or guarantees to decrease credit risk.
- Product standardisation becomes more complex because of the multiplicity of potential financing methods, increased operational risk, and legal uncertainty in interpreting contracts.
- Because of the absence of Shariah-compliant instruments such as treasury bills, it is difficult to manage asset and liability mismatches and hence, liquidity risks are significant.
- Commodity inventories on Islamic bank balance sheets increase price and operational risks.
- Furthermore, due to contracts of Islamic banks with deferred delivery of products, considerable additional price risks arise.
**IFSB proposal**

- Identifying the specific structure and contents of the Shariah-compliant products and services offered by Islamic banks not considered under Basel II or by the AAOIFI.

- Standardising Sharia-compliant products and services by assigning risk weights to those that meet internationally acceptable prudential standards.

- Setting a common structure for the assessment of Islamic financial institutions’ capital adequacy requirements.

- Including market risk not only in the trading book but also in the banking book of Islamic banks due to the nature of the banks’ assets such as Murabaha, Ijara, Salam, Musharaka and Mudaraba.

**Challenge: How to capture the unique risks of IBs?**

- The answer is to develop Internal Rating Systems (IRSs) in IBs

- IRSs can be considered as risk-based inventories of individual assets of banks either based on the loss given default (LGD) of the facility or probability of default (PD) of the obligor or both

- Most IRSs are **JUDGMENTAL NOT STATISTICAL**

- Rationale for IRSs
Sources and inputs of IRSs

- Client oriented system - probability of default (PD)
- Facility oriented system - value of an asset expected to be lost in the event of a default (loss given a default: LGD)
- In both cases: balance sheet value of total asset i.e., Exposure-at-Default (EAD)
- Maturity of facility
- Concentration of credit to the specific client as a percentage of total portfolio, etc.

PDs: Starting point in building IRSs

In the framework of Basel II, with the approval of supervisors, banks can use their own internal assessments of their asset risk components for meeting regulatory capital requirements.

**Asset risk components:** Probability of default (PD), loss given default (LGD), exposure at default (EAD), and effective maturity of facility (MOF)

Foundation internal ratings based (IRB) approach – Banks use their own PDs; supervisors assign LGDs, EADs, and MOFs

Advanced IRB approach – banks can use their own PDs, LGDs, EADs, and MOFs
## HEDGING RISK IN ISLAMIC FINANCE

### MURABAHA

**MULTIFACTOR RISK MATRIX**

<table>
<thead>
<tr>
<th>RISK FACTOR</th>
<th>CATEGORY</th>
<th>HEDGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGENCY RISK</td>
<td>CREDIT RISK</td>
<td>Direct payment to the vendor and proper pre inspection</td>
</tr>
<tr>
<td>OWNER RISK</td>
<td>CREDIT RISK</td>
<td>Takaful of goods during transit and induce customers</td>
</tr>
<tr>
<td>TRANSFER: ASSET RISK</td>
<td>CREDIT RISK</td>
<td>to submit declaration immediately after the purchase of goods</td>
</tr>
<tr>
<td>REPAYMENT / DEFAULT RISK</td>
<td>CREDIT RISK</td>
<td>Obtain shariah complaint collateral and adopt staggered payments</td>
</tr>
<tr>
<td>PRICE RISK</td>
<td>MARKET RISK</td>
<td>Secure the collateral upon executing the promise to purchase with the customer</td>
</tr>
<tr>
<td>LIQUIDITY RISK</td>
<td>LIQUIDITY RISK</td>
<td>Make separate pools for different maturities considering their different maturity dates</td>
</tr>
<tr>
<td>PROFITABILITY RISK</td>
<td>OPERATIONAL RISK</td>
<td>A charity may be imposed to discourage a delay in payment of murabaha price</td>
</tr>
<tr>
<td>LEGAL RISK</td>
<td>OPERATIONAL RISK</td>
<td>To secure the legal position , the bank shall ensure that the promise to purchase is properly documented and it is legally enforceable .</td>
</tr>
<tr>
<td>SHARIAH NON COMPLIANCE RISK</td>
<td>OPERATIONAL RISK</td>
<td>Ensure that the relevant staff has appropriate training and has proper knowledge of Shariah principles as well.</td>
</tr>
</tbody>
</table>
### MUSHARAKAH

#### MULTI FACTOR RISK MATRIX

<table>
<thead>
<tr>
<th>RISK FACTOR</th>
<th>CATEGORY</th>
<th>HEDGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPITAL RISK</td>
<td>CREDIT RISK</td>
<td>This can be mitigated by conducting extensive feasibility study prior to entry</td>
</tr>
<tr>
<td>ENTERPRENUERAL RISK</td>
<td>BUSINESS RISK</td>
<td>By proper due diligence and feasibility studies</td>
</tr>
<tr>
<td>PURCHASE PRICE RISK</td>
<td>MARKET RISK</td>
<td>A partner in musharakah cannot guarantee the capital of another partner as per Islamic law</td>
</tr>
<tr>
<td>SHARIAH NON COMPLIANCE</td>
<td>OPERATIONAL RISK</td>
<td>Due attention has to be given to all shari'ah related aspects during the stages of both pre and post approval</td>
</tr>
<tr>
<td>LIQUIDITY RISK</td>
<td>LIQUIDITY RISK</td>
<td>Only long term or deposits having same maturities will be used for Musharakah arrangements</td>
</tr>
</tbody>
</table>

### DIMINISHING MUSHARAKAH

#### MULTI FACTOR RISK MATRIX

<table>
<thead>
<tr>
<th>RISK FACTOR</th>
<th>CATEGORY</th>
<th>HEDGING</th>
</tr>
</thead>
<tbody>
<tr>
<td>OWNERSHIP ASSET RISK</td>
<td>CREDIT RISK</td>
<td>This risk can be mitigated through takaful coverage of an asset.</td>
</tr>
<tr>
<td>COUNTERPARTY RISK</td>
<td>CREDIT RISK</td>
<td>This risk can be mitigated by the assets value as collateral</td>
</tr>
<tr>
<td>CAPITAL IMPAIRMENT RISK</td>
<td>CREDIT RISK</td>
<td>This risk can be mitigated through takaful of goods through transit</td>
</tr>
<tr>
<td>CANCELLATION RISK</td>
<td>MARKET RISK</td>
<td>In order to reduce this risk, the bank must obtain sufficient collaterals</td>
</tr>
<tr>
<td>PURCHASE PRICE RISK</td>
<td>MARKET RISK</td>
<td>In order to reduce this risk, the bank must obtain sufficient collaterals</td>
</tr>
<tr>
<td>LEGAL RISK</td>
<td>LEGAL RISK</td>
<td>This can be executed by proper documentation and timely checking.</td>
</tr>
</tbody>
</table>
### SALAM

**SALAM MULTI RISK FACTOR MATRIX**

<table>
<thead>
<tr>
<th>RISK</th>
<th>CATEGORY</th>
<th>Hedging</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEFAULT RISK</td>
<td>CREDIT RISK</td>
<td>A security in the form of guarantee, mortgage or hypothecation can be obtained</td>
</tr>
<tr>
<td>QUALITY RISK</td>
<td>CREDIT RISK</td>
<td>Seller is bound to deliver the goods of exact quality agreed upon, otherwise the buyer may refuse to accept its delivery</td>
</tr>
<tr>
<td>NON-PERFORMANCE RISK</td>
<td>MARKET RISK</td>
<td>In case of an adverse situation, to avoid losses, ensure the delivery or promise to purchase from a third party</td>
</tr>
<tr>
<td>PRICE RISK</td>
<td>MARKET RISK</td>
<td>This can be mitigated by simply entering into a Pari-passu Salam contract</td>
</tr>
<tr>
<td>STORAGE RISK</td>
<td>MARKET RISK</td>
<td>This can be mitigated by simply entering into a Pari-passu Salam contract</td>
</tr>
<tr>
<td>OPERATIONAL RISK</td>
<td>OPERATIONAL RISK</td>
<td>Ensure that the relevant staff has checked documentation and have proper knowledge of Shariah principles as well</td>
</tr>
<tr>
<td>LIQUIDITY RISK</td>
<td>LIQUIDITY RISK</td>
<td>Accepting partial delivery from the seller/supplier of commodity/asset so as to generate cash in order to meet contractual liquidity requirements</td>
</tr>
</tbody>
</table>

### SUKUK

**SUUK MULTI FACTOR RISK MATRIX**

<table>
<thead>
<tr>
<th>RISK</th>
<th>CATEGORY</th>
<th>Hedging</th>
</tr>
</thead>
<tbody>
<tr>
<td>RE-INVESTMENT RISK</td>
<td>MARKET RISK</td>
<td>Appropriate interest rate forecasting and yield curve policy formulation</td>
</tr>
<tr>
<td>PRICE RISK</td>
<td>MARKET RISK</td>
<td>Calculate modified duration and convexity</td>
</tr>
<tr>
<td>ISSUER RISK</td>
<td>CREDIT RISK</td>
<td>Analyze the Short Term credit rating of the issuer</td>
</tr>
<tr>
<td>MARKET INABILITY RISK</td>
<td>LIQUIDITY RISK</td>
<td>Monitor the trading activity of Sukuk and exchange quotes with brokers on frequent basis</td>
</tr>
<tr>
<td>REPRICING RISK</td>
<td>MODEL RISK</td>
<td>Using appropriate capital preserving methods in line with the industry standards</td>
</tr>
<tr>
<td>SETTLEMENT RISK</td>
<td>CREDIT RISK</td>
<td>Analyze the Long Term credit rating of the issuer</td>
</tr>
<tr>
<td>SPV RISK</td>
<td>OPERATIONAL RISK</td>
<td>Proper documentation and appropriate legal action</td>
</tr>
<tr>
<td>INFLATION RISK</td>
<td>MARKET RISK</td>
<td>Appropriate forecasting of inflation and real returns</td>
</tr>
<tr>
<td>ASSET QUALITY RISK</td>
<td>CREDIT AND/OR MARKET RISK</td>
<td>Proper analysis of the collateral and developing an insolvency activation plan triggered by declination and/or possibility of downgrade in the quality of the asset</td>
</tr>
</tbody>
</table>
### ISTISNA

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Category</th>
<th>Hedging Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery Risk</td>
<td>Credit Risk</td>
<td>Istisna price can be reduced on daily basis to penalize the borrower.</td>
</tr>
<tr>
<td>Default Risk</td>
<td>Credit Risk</td>
<td>The bank must obtain sufficient collaterals.</td>
</tr>
<tr>
<td>Non-performance Risk</td>
<td>Credit Risk</td>
<td>The bank can terminate the istisna agreement and demand the price back from the manufacturer.</td>
</tr>
<tr>
<td>Quality Risk</td>
<td>Credit Risk</td>
<td>Khipur - a - Aht may be exercised and subcontractors may be penalized.</td>
</tr>
<tr>
<td>Price Risk</td>
<td>Market Risk</td>
<td>Parallel istisna or promise to purchase from a third party.</td>
</tr>
<tr>
<td>Order Cancellation</td>
<td>Credit Risk</td>
<td>The bank must obtain sufficient collaterals.</td>
</tr>
<tr>
<td>Inflation Risk</td>
<td>Credit Risk</td>
<td>If increased cost of manufacturing due to external diseconomies of scale comes about, the price of the underlying may be increased with mutual consent.</td>
</tr>
<tr>
<td>Revenue Risk</td>
<td>Market Risk</td>
<td>Conducting feasibility study of the business before entering into Istisna contract.</td>
</tr>
<tr>
<td>Storage Risk</td>
<td>Credit Risk</td>
<td>Insurance of the goods and immobilize the duration between acceptance of delivery and delivery to the ultimate purchaser.</td>
</tr>
<tr>
<td>Non-performance Risk</td>
<td>Credit Risk</td>
<td>A penalty may be imposed to discourage this practice, which will further be given to charity.</td>
</tr>
<tr>
<td>Default Risk</td>
<td>Credit Risk</td>
<td>The delivery against Letter of Confirmation will mitigate default risk because liability of the beneficiary’s bank will remain there.</td>
</tr>
</tbody>
</table>

### IJARAH

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Category</th>
<th>Hedging Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repayment Risk</td>
<td>Credit Risk</td>
<td>Risk mitigated by the market value of ijarah asset</td>
</tr>
<tr>
<td>Default Risk</td>
<td>Credit Risk</td>
<td>which may be repossessed and collateralized</td>
</tr>
<tr>
<td>Price Risk</td>
<td>Market Risk</td>
<td>Ensure that the promise to ijarah is properly documented and is legally enforceable</td>
</tr>
<tr>
<td>Residual Value Risk</td>
<td>Market Risk</td>
<td>Mitigated by the market value of the ijarah asset, which is repossessed.</td>
</tr>
<tr>
<td>Early Termination Risk</td>
<td>Market Risk</td>
<td>Mitigated by taking a profit on sale in case of early termination</td>
</tr>
</tbody>
</table>
Conclusion

- Ibs needs their own risk management
- Risk management of Ibs depends of what we expect from this sys
- Basel II could be adopted in Islamic Banks
- Asset side and liability side unique features of Islamic banks can strengthen linkages between financial and real sectors and enhance financial stability;
- The unique balance sheet features of Islamic banks however, also give rise to significant unique risks;
- The proper management of these risks can strengthen the Islamic banking industry’s role in financing development and enhancing financial markets’ efficiency and stability

….. Conclusion

- The existing standards which are meant for traditional banks need to be complemented with standards covering the unique risks of Islamic banks
- The challenging role is being played by the Islamic Financial Services Board (IFSB)
- Internal Rating Systems are most suitable for Islamic Banks
Thank You