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'Risk Management in Islamic Banking: An Emerging Market Imperative' to appear in Sabri Boubaker, Bonnie G. Buchanan, and Duc Khuong Nguyen (Eds.) *Risk Management in Emerging Markets: Issues, Framework and Modeling*, Emerald.

Running title:

Risk Management in Islamic Banking

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Structured abstract:

Purpose – Review the risks Islamic financial institutions face in an emerging market context, including risk sharing in Islamic financing and Shari'ah (Islamic law) compliance risk.

Design/methodology/approach – Discuss the risks Islamic financial institutions face through their financing and lending and outline the implications for risk management practice. We explore current risk management practices and establish the link between risk management and the financial performance of banks and the efficiency and effectiveness of financial sectors in emerging markets.

Findings – Because of their distinctive risk profile, Islamic finance institutions face challenges in risk management. We show that Islamic banking is riskier in emerging markets because of the presence of immature money markets, limitations in the availability of lender of last resort facilities, and deficiencies in market infrastructure.

Research limitations/implications – The chapter is largely conceptual. There is no attempt to quantify the differences in risk between Islamic and conventional banks or to survey banks in emerging markets on their actual risk management practices.

Practical implications – There is no evidence that Islamic banks have developed effective solutions for managing the risks conventional banks face as well as their own unique risks. We suggest that the countries that do this best are those that prioritize the structure of risk management knowledge and capabilities in a single financial regulator.

Originality/value – We identify the types and sources of risk Islamic banks face and the problems associated with risk management in the context of both *Shari'ah* and emerging markets.

Keywords: Islamic banking, risk management, Shari'ah compliance, risk sharing, credit risk, liquidity risk, operational risk, emerging markets, *Murāba'ah*, *Salam*, *Istisnā*, *Sukuk*.

Article Classification: Research chapter

1. Introduction

Financial institutions have evolved various methods to mitigate risk and improve their overall performance. Risk management is one such practice used by financial institutions to reduce risk of various kinds. Like their conventional counterparts, Islamic banks face a wide range of important risks, even though the business approach used in Islamic banking is quite different. In sum, the unique characteristics and nature of Islamic banking, specifically the profit sharing approach to banking, completely alters the extent of any risks they face. Further, compared with conventional banks, Islamic banks deal with many products not found in conventional banking, with unique and sometimes significant risks. For this reason, it is extremely important for Islamic banks to use risk management techniques to mitigate any present and potential risks (Rahman, Rahman, & Azad, 2015).

Currently, there are more than 400 financial institutions worldwide with operations conducted according to *Shari'ah* (Islamic law). These institutions provide an extensive range of services and products with assets currently in excess of US\$1 trillion. The burgeoning popularity of Islamic finance has encouraged many countries to award licenses to financial institutions so that they can commence operations according to *Shari'ah*. These licensed firms are now present in more than 75 countries, including Muslim states such as Bahrain, Kuwait, Malaysia, and the United Arab Emirates (UAE), and others like Singapore, along with some 50 Islamic financial institutions in Europe, 30 of them currently operating in the UK, and another 20 Islamic financial institutions in the US (Al-Hares, AbuGhazaleh, & El-Galfy, 2013).

Risk management for Islamic banking financial products and services is one of the greatest challenges that many conventional, as well as Islamic banks, face today. The central issue is the implications of *Shari'ah* compliance on the risk management system. Since its conception 40 years ago, Islamic banking and finance has enjoyed impressive growth and has demonstrated it is a feasible and viable form of finance. The benefit to users of Islamic financial products, as well as a notable rate of innovation in these products has meant this sector has presented itself as a practical alternative to conventional finance. Today Islamic finance and banking deserves recognition as a valuable constituent in the global financial system (Bitar, 2015).

Risk management practices are particularly important for Islamic banks in emerging markets. Islamic banks in most of these markets are rapidly increasing their market share. For example, Pakistan currently offers the fastest growing market for *Shari'ah* compliant products and that Islamic banking in Pakistan has been growing at over 30 percent for the last five years. Currently, more than 1,200 branches spread over 80 districts offer *Shari'ah* compliant products and services. However, Islamic banks currently only represent about 10 percent of banking assets and deposits in Pakistan. Analysis of the industry shows that it has a bright future, and it intends to double its market share by 2020.

Globally, Islamic banking has likewise achieved substantial growth worldwide, with cumulative assets of about US\$ 1.3 trillion in 2011, expected to surpass US\$2.8 trillion by the end of 2015. Two of the most important elements to realize further substantial development in the Islamic banking industry are product development and the standardization of regulatory practices. The banking industry also requires the development of human capital and marketing. Recent studies show that Islamic banking have ventured into other banking areas such as investment banking, project finance, capital market, as well as microfinance. However, the most immediate thing Islamic banks need to do is to develop products that can enhance their liquidity (Zamir, 2014).

Following the global financial crisis, some scholars contested that Islamic banks were more stable than conventional banks because they were relatively unaffected. However, others have refuted this claim by arguing that Islamic banks are an integral part of the international financial system, and therefore it is not possible to exclude them from the crisis. The contention is that Islamic banks, although in their infancy, are nonetheless obliged to participate in existing market risks. As a result, Islamic banks and institutions were affected, but they were found to be more stable than the conventional counterparts because they engaged in *Shari'ah*-compliant activities. A report provided by Islamic banks and Global Stability Report (2010) indicated that during the crisis, the Islamic banks experienced 38.2 percent asset growth and 20 percent profit growth. In contrast, conventional banks experienced only 16.3 percent asset growth and -6.1 percent profit growth between 2007 and 2008 (IFSB-IDB-IRTS, 2010). These

findings clearly show that Islamic banks are apparently safer and better performing than conventional banks. However, this can also be attributed to their structure of their products, mainly asset-backed financing. Most studies evaluating the performance of banks during the financial crisis show that Islamic banks performed well when compared with conventional banks (H. Ahmed, Asutay, & Wilson, 2013).

Furthermore, the current globalization and liberalization movement in capital markets is encouraging the development of improved risk management measures for Islamic banks, especially in emerging markets. While extensive risk management is common in conventional financial institutions and markets, it is less common and relatively immature in Islamic financial institutions and markets. Moreover, because of their sometimes limited resources (especially in terms of appropriately trained staff, but also suitable risk management software and procedures), Islamic banks are often unable to afford high-cost management information systems or the technology to assess and monitor risks in a timely fashion. With arguably weaker management and a lack of proper risk monitoring systems, the risk exposure of Islamic banks is potentially higher (Mokni, Echchabi, Azouzi, & Rachdi, 2014).

This chapter is organized as follows. Section 2 describes the nature of risk in Islamic banks. Section 3 explains the unique counterparty risks in Islamic modes of finance. Sections 4 describes bank risk management practices in emerging markets. Finally, Section 5 presents our conclusions.

2. The Nature of Risk in Islamic Banking

There is a substantial difference in the concepts and practices used in Islamic and conventional banking systems [see Gait and Worthington (2014) for a useful introduction]. Both styles of banking differently recognize and manage the differing risk exposure associated with these differences. Moreover, Islamic banks with different characteristics of assets and liabilities face very different kinds of risks not experienced by most conventional banks, including especially risk sharing and *Shari'ah* compliance risk. In addition, Islamic banks are also exposed to the usual risks faced by conventional commercial banks, such as credit, liquidity, and interest rate

risk. However, these risks typically take on different forms based on the differences in the products and services offered in the two types of banks, which in turn affects the characteristics of the assets and liabilities held by the bank (Greuning & Iqbal, 2009).

2.1 Credit Risk

Credit risk is the potential exposure to risk which occurs when one of the parties to a deal makes a payment, as in *Salam* (sale by advance payment for the future delivery) or *Istisnā* (contract for manufacture) contract, or with the delivery of assets, as in *Murāba'ah* (sale on goods with markup) contract, before receipt of funds. In the case of finance based on profit sharing, as in *Murāba'ah* and *Mushārah* (profit and loss sharing), credit risk arises when the business owner/entrepreneur fails to pay the bank its share of profits when due. This generally occurs when banks have insufficient information (an asymmetric information problem) about the actual profit of the enterprise owing them money. *Murāba'ah*, basically trading contracts subject to counterparty credit risk, potentially arise because of nonperforming trading partners. The sources of such nonperformance can be of an external systematic nature (Al-Wesabi & Ahmad, 2013).

2.2 Benchmark Risk

Islamic banks may appear immune to market risk caused by interest rate changes in that their deals do not overtly depend on interest rates. However, in contrast to widely held opinion, market interest rate changes do affect Islamic financial institution earnings, as Islamic financial institutions still typically price against a benchmark interest rate. A case in point is the *Murāba'ah* contract where a markup adds a fixed risk premium for the duration of the contract to the benchmark rate (usually the London Interbank Offered Rate or LIBOR). This results in an increase in credit risk for Islamic banks because they usually cannot adjust the markup rate, if the benchmark rate changes (Zepeda, 2013).

2.3 Liquidity Risk

Difficulties in borrowing money at a reasonable rate or selling assets at a reasonable cost give rise to liquidity risk. In either case, this is critical for Islamic banks because *Shari'ah* does not

permit loans based on interest and hence borrowing funds to overcome a liquidity problem is not an option for Islamic banks. Moreover, the sale of debt is also prohibited by *Shari'ah* unless it is at face value, thus making it impossible for Islamic banking institutions to sell debt-based assets in order to improve liquidity (Paldi, 2014).

2.4 Operational Risk

Given the unique nature of Islamic banks, operational risk can arise because of human resource risk. This is a very significant risk for Islamic financial institutions because they may not have enough sufficiently qualified personnel to carry out their relatively new and unique financial operations. In addition, the nature of business in Islamic banks does not make it easy to use off the shelf computer software, thus introducing it may be associated with the adaptation of existing software or the wholesale development of new software (Archer & Karim, 2013).

2.5 Legal Risk

Islamic banks require the use of nonstandard financial contracts and hence are also subject to additional risks associated with documentation and enforcement. Islamic banks have to prepare specific contracts to suit their various financial dealings and instruments based on their needs, their concerns, and their own understanding of *Shari'ah* and local laws. This leaves Islamic banks open to increased legal risks due to the lack of litigation systems dealing with problems arising from the enforceability of contract, related to the Islamic contractual agreement, by the counterparty (Archer & Karim, 2013).

2.6 Withdrawal Risk

Where the rates of return on savings, investments, or deposits are variable, they introduce uncertainty regarding the real value of deposits. In turn, the risk of loss associated with a lower rate of return, and the need to preserve the value of assets, affects decisions by depositors concerning withdrawal. As far as the Islamic banks themselves are concerned, this possibility of a relatively lower rate of return than conventional financial institutions constitutes withdrawal risk (Abedifar, Molyneux, & Tarazi, 2013).

2.7 Fiduciary Risk

A lower rate of return than that in the general market will cause depositors and investors to believe that the low rate of return is an indication of mismanagement of the funds by the bank and/or a potential breach of their investment contract. Banks not being fully compliant with the *Shari'ah* requirements of the contract entered into is one example of a breach of contract that can cause a fiduciary risk, as Islamic banks have no option other than full and strict compliance with *Shari'ah* or else face serious confidence problems arising from the withdrawal of deposits (Abedifar et al., 2013).

2.8 Displaced Commercial Risk

This risk arises when banks forgo part of their profit subject to commercial pressure and pay depositors in order to prevent withdrawals triggered by a low level of return. This is, in fact, a transfer of withdrawal risk to equity holders. Displaced commercial risk means that although the bank may have operations that are fully compliant with the requirements of *Shari'ah*, it will underperform relative to other Islamic banks and other peers by paying less than competitive rates of return causing investors to withdraw their deposits. The bank is then not in the position where it can pay competitive rates of return compared with other Islamic banks and other bank competitors. Depositors will again have the incentive to seek withdrawal. In order to prevent such withdrawals, banks need to forgo to depositors a portion of their own profit (Abedifar et al., 2013).

2.9 Operation of Islamic Banks in Emerging Markets

Notwithstanding the diversity and extensiveness of risk inherent in Islamic banking, a number of additional factors that make the operations of Islamic banks even riskier, and consequently potentially less profitable, in emerging markets. These are:

- Immature money markets are more challenging for Islamic financial institutions. Therefore, it is important to implement systemic liquidity in Islamic money markets (domestic and international) that should comply with *Shari'ah*.

- Lender of last resort (LOLR) features are of limited availability for Islamic banks and other financial institutions because of the prohibition of discount rates. Therefore, one way to solve this limitation for Islamic banks and other financial institutions in emerging markets is to establish a practical approach to provide liquidity according to *Shari'ah* compliance by the central banks.
- Limitations of market infrastructure and legal uncertainties limit the availability of hedging instruments. The absence of a legal context can increase operational risks and weaken market development. For example, derivatives can potentially serve to reduce the risk of Islamic financial transactions. However, the way forward in this area is still not clear (Chattha & Halim, 2014).

Furthermore, foreign exchange and equity risks are some of the major risks that investors in Islamic markets may undertake in these emerging markets, despite these markets often having fewer financial instruments to create common hedges for such financial exposure. In emerging markets, investment portfolios have the potential for higher returns. However, the associated risks, including currency and equity risks can be significant. For instance, many of the standard tools used to hedge currency risk, such as futures, swaps and options contracts, are either unavailable in emerging markets or, where available, are traded in illiquid and inefficient markets, making the overall process of hedging and unwinding a hedge difficult. The lack of adequate foreign exchange and equity risk measurement/management tools is one of the contributing factors leading to major financial losses among national/multinational corporations in emerging countries. As a result, foreign exchange and equity risk management has become an important theme in Islamic markets (Al-Janabi, 2008).

3. Unique Counterparty Risks in Islamic Modes of Finance

As discussed, Islamic banks with their differently characterized assets and liabilities face different kinds of risks, primarily profit sharing risk and *Shari'ah* compliant risk. In addition, they are exposed to the risks faced by conventional commercial banks such as operational, market, credit, liquidity, and interest rate risk, but these take another form because of the profound

differences in the products offered by these two types of banks. This in turn affects the characteristics of assets and liabilities. The risks inherent in particular Islamic banking products and services are as follows.

3.1 *Murāba'ah* Financing

The most commonly used Islamic financial contract is *Murāba'ah*. Its risk characteristics are in fact very similar to interest-based financing if standardized, and *Murāba'ah* is approved as recognized method of finance in many regulatory jurisdictions because of its close resemblance, at least in terms of its risk features, to standard interest-based contracts. Nevertheless, this kind of standardized contract is not acceptable to all *Fiqh* (Islamic jurisprudence) scholars. Furthermore, there is an absence of complete consistency in *Fiqh* viewpoints as the contract stands at present. The diverse viewpoints can be a cause of major counterparty risks because of the prospect for litigation.

The major problem is that *Murāba'ah* is in fact only a relatively modern contract, created by mixing many different existing Islamic finance contracts. However, there is a consensus among nearly all *Fiqh* scholars that it is a type of deferred trading. Its cogency relies on the fact that the bank first ought to purchase the asset (become owner) and following that transfer the ownership right to the customer. The order placed by the customer is then simply a promise to purchase and not a sale contract. A promise can be binding on one party alone, as determined by the Organization of the Islamic Conference's (OIC) *Fiqh* Academy resolution. The Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) and OIC *Fiqh* Academy, and nearly all Islamic banks treat the promise to purchase as binding on the customer. Nevertheless, some scholars are of the view that the contract is not binding on the customer, such that the customer, even after placing an order and paying the commitment fee, can withdraw from the contract. The most significant counterparty risk particular to *Murāba'ah* emerges because of this in that Islamic banks cannot usually charge anything in addition to the agreed upon cost for late payment by the counterparty. Consequently, late payments of dues during the stated period by the counterparty directly imply bank loses (Siti Nor Amira et al., 2014).

3.2 *Salam* Financing

Salam financing is subject to at least two key counterparty risks. First, counterparty risks can result from the failure to supply goods, be they on time or at all, or a failure to supply the goods with the quality contractually agreed. In addition, as the *Salam* contract is primarily for agricultural purposes and knowing that agricultural outcomes are prone to natural conditions that may prevent the client, who may have an excellent credit history, from meeting the contractual obligations, without having anything to do with the actual breaching of the contract. This causes the *Salam* contract to bear more than normal counterparty risk. Second, as *Salam* contracts require the bank to take ownership and physical delivery of the actual goods, these incur costs unique to Islamic banks associated with inventory, storage and other related price risks (Alrukhayyes, Grove, & Feldman, 2014).

3.3 *Istisnā* Financing

Istisnā finance exposes the capital of the bank to a multitude of specific counterparty risks. These include:

- The bank dealing under the *Istisnā* contract faces counterparty risks similar to those for *Salam* contracts. Contract failure relating to quality and the time of delivery may exist. However, the *Istisnā* contract has more control over the counterparty and is less prone to natural calamities. Hence, the *Istisnā* counterparty risk although substantially high, is not as severe as that involved in *Salam*.
- The buyer's default risk, such as a delay in making full and timely payment, is of only a general nature.
- Should the *Istisnā* contract be nonbinding, as required by some *Fiqhī* jurisdictions, the supplier is able to rescind the contract and this would constitute counterparty risk.
- Where in the case of *Istisnā* contract, the client is allowed to rescind the contract, as is the case in the *Murāba'ah* contract, and refuse to take delivery of the goods when due, this would introduce further risks, as the Islamic bank executing an *Istisnā* contract

assumes responsibility for any subcontractors. It therefore has to take full responsibility for these subcontractors, be they trades people, builders, manufacturers or service providers as the bank cannot possibly act in all these capacities itself (Alrukhayyes et al., 2014).

3.4 *Mushārah* (Profit and Loss Sharing) *Mudārah* (Profit Sharing) (M-M) Financing

Numerous academic and banking strategy-oriented works regard that the distribution of funds by Islamic banks based on *Mushārah* and *Mudārah* is better than the fixed returns methods associated with *Murābah*, leasing and *Istisnā'*. However, in practical terms, the use of M-M modes by Islamic banks is minimal, largely because of the extremely high credit risk involved. The credit risk is extremely high because of no need (at least as far as the contract is concerned) for collateral. There is also a high degree of moral hazard and adverse selection and the existing competencies of Islamic banks in project evaluation may be limited. One probable way to decrease the risks in profit sharing methods of financing is for Islamic banks to act as universal banks, providing both equity and conventional debt loans. This would simply mean Islamic banks providing financing solely through the *Mushārah* method. The bank would of course need to undertake a full feasibility study prior to investing in projects, but universal banks can avoid many of the risks involved by becoming more engaged in the decision-making and management of the company by holding equity positions (Greuning & Iqbal, 2009; Iqbal, 2013).

Consequently, the bank will be capable of monitoring the use of funds by the project more closely and decrease the problem moral hazard. Nevertheless, some economists contend that banks are not actually benefiting from portfolio variation and thus, taking on more risks instead of avoiding risks by not choosing these modes. However, the application of M-M methods on both sides of the balance sheet by the bank could provide a benefit in that any shocks on the asset side will be absorbed on the credit side. It is also contended that well-matched contracts can be formulated that can decrease the impact of the moral hazard and adverse selection associated with these contracts. Nevertheless, these disregard the fact that banks essentially should specialize in managing credit portfolios not credit and equity portfolios. In addition, as

the use by Islamic banks of current liabilities (deposits) is extremely high (even more so than conventional banks), shocks on the asset side may not be matched. Thus, greater application of M-M on the asset side could actually lead to systemic instability (Greuning & Iqbal, 2009; Iqbal, 2013).

3.5 Sukuk Financing

AAOIFI defines investment “*Sukuk*” as “certificates of equal value representing undivided shares in ownership of tangible assets, infrastructure and services or in the ownership of the assets of particular projects or special investment activity however, this is true after the receipt of the value of the *Sukuk*, the closing of the subscription and employment of funds received for the purpose for which the *Sukuk* were issued”(AAOIFI, 2004, p. 1). *Sukuk* have to be capable of being owned and sold lawfully, in compliance with *Shari’ah*. *Sukuk* finance models include different risks. These risks comprise both an idiosyncratic risk factor arising from Islamic finance and a systemic market risk factor. The idiosyncratic risk comprises factors such as *Shari’ah* compliance risk, institutional risk, credit risk and operational risk, while the systemic market risk contains factors such as interest rate risk, equity price risk, foreign exchange risk and commodity price risk (Najeeb, 2013; Tariq & Humayon, 2007).

3.6 Counterparty Risk in Emerging Markets

Despite the growth in Islamic banking, Islamic capital markets generally are not very well established. The sector needs to improve the sophistication and variety of the instruments on offer. Consistency across Islamic markets is also desirable, with many pronounced differences in those emerging markets practicing Islamic banking. For example, the trading of derivatives and speculation are obviously not acceptable under *Shari’ah*, but in Malaysia, the secondary market trades only debt contracts, and not equity contracts. Most *Shari’ah* scholars also agree that stock investment is permissible, but they face certain standards designed to reduce activities not permitted in *Shari’ah*, and these can vary by market. Emerging markets especially display significant variations in regulation and market behavior. Typical prohibitions include the trade in unethical services and goods, such as wineries and tobacco, the receipt of earnings from a loan (*Riba* or interest), excessive uncertainty in contracts or any business (*Gharar*), gambling

and other forms of games, transactions in debt agreements at a discount, and forward exchange contracts (Fenech & Watson, 2009). The challenge is that eliminating these entirely from an equity portfolio could be virtually impossible, especially in low-depth and -breadth emerging markets. While *Shari'ah* scholars continuously review the jurisprudences to arrive at uniform rulings on investment procedures, the improvement of equity markets generally in Muslim countries would assist this, especially in relation to market rules, company disclosure and market information.

4 Bank Risk Management Practices in Emerging Markets

The existing literature identifies a number of features of applied risk management practices in the banking sector in emerging markets, whether Islamic or conventional banking. Essentially, we can divide the literature into four basic streams. The first stream of research discusses risks that are currently prevalent in the conventional banking system. Shafiq and Nasr (2010) conducted their study in Pakistan conventional banks and emphasized on risk management practices applied in these banks. They used primary and secondary data sources and claim that there is a vast difference between the application of risk management features of public sector commercial banks and local private banks. In addition, for each type of commercial bank, the financial security indicators differed prominently. Even though the staff of commercial banks have an overall perceptiveness about risk(s) and its management, still it is important for commercial banks to plan training courses/workshops.

With respect to the practice of risk management in commercial banks in the UAE region, Al-Tamimi (2002) found that the two main methods of risk identification are inspection by bank managers and analysis of financial statements. The most common techniques exercised in risk management are benchmarking, credit score, credit worthiness analysis, risk rating, and collateral. More recently, Al-Tamimi and Al-Mazrooei (2007) examined UAE's national and foreign banks, putting focus mainly on their risk management practices. They concluded that the three most prominent categories of risks encountered by UAE's commercial banks are foreign exchange risk (being the highest), credit risk, and operating risk (being the lowest).

Moreover, they found that there is not much difference between the local and foreign banks of UAE. They concluded that banks operating in UAE were able to determine possible risks related to their objectives and goals.

Alam and Masukujjaman (2011) likewise examined risk management practices of conventional banks operating in Bangladesh. They selected data from 25 respondents across five banks with a 5-point Likert scale as a measurement tool. The basic purpose of the study was to scrutinize the risk management practices of Bangladeshi banks, specifically the types of risks faced by the bank and the procedure(s) and techniques used to mitigate this risk. The study also observed the extent to which banks follow the rules and regulations set by the central bank (the Bangladesh Bank) regarding risk management. The results showed that bankers across three levels of management judged credit, market, and operational risks as the major risks. They also found that in terms of bank governance, the board of directors performed the responsibility of the main risk oversight, with the monitoring of risks done by the executive committee whereas the audit committee supervised the operations of the bank. In the context of opinions regarding the usage of risk management methods, they found that bankers considered the internal rating system less important and the risk-adjusted rate of return on capital more important.

A second stream of research explores the risk management practices applied to Islamic banks. Ahmed, Akhtar, and Usman (2011) examined the risk management practices of Islamic banks of Pakistan by specifying credit, operational and liquidity risks as dependent variables and size, leverage, the nonperforming loan (NPL) ratio, capital adequacy and asset management as explanatory variables over a period from 2006 to 2009. The results showed that bank size has a positive and statistically significant relationship with credit and liquidity risks, but a negative relation with operational risk. A positive and significant relationship was observed between asset management, liquidity, and operational risks. The debt equity ratio and NPL ratio had a negative but important relationship with liquidity and operational risks. Moreover, capital sufficiency had negative and significant relationship with credit and operational risks, whereas it had positive relation with liquidity risk. More recently, Khalid and Amjad (2012) evaluated the extent to which Pakistan's Islamic banks use risk management practices (RMPs) and methods in

dealing with different types of risk. A questionnaire was distributed which focused on six features: understanding risk and risk management (URM), risk assessment and analysis (RAA), risk identification (RI), risk-monitoring (RM), credit risk analysis (CRA) and RMPs. The study concluded that Pakistani Islamic banks efficiently managed most aspects of risk, with URM, RM and CRM the keys factors determining RMPs.

The third stream of risk management research explores the link between risk management and the financial performance of banks, which has been mostly theoretical in nature. Schroeck (2002) and, Nocco and Stulz (2006) examined the significance of 'good' risk management practices resulting in the maximization of overall value. This literature clearly showed that there is a strong relationship between good risk management practices and improved financial performance. More specifically, they suggested that prudent risk management practices lessen the volatility in banks' operating income, earnings, firm's market value, share return, and return on equity. Furthermore, Schroeck (2002) advised that banks could achieve increased earnings by ensuring best-practice activities in risk management. However, there is generally little empirical evidence of the link between risk management practices and bank's financial performance. That said, work by Drzik (2005) found that investments in risk management by banks during the 1990s were useful in protecting earnings during the 2001 recession.

A similar study by Pagach and Warr (2007) observed factors that influence risk management practices. They concluded that the more leveraged the firms are, the more unpredictable their earnings. Angbazo (1997) studied the relationship between risk management and financial performance from a different perspective by testing the influence of risk factors in determining bank profitability. He found that default risk was a key determinant of a bank's net interest margin (NIM) and the NIMs of super-regional banks and regional banks were sensitive to interest rate risk as well as default risk. Saunders and Schumacher (2000) provided further support to the importance of mitigating risks as a way of smoothing financial performance by examining the determinants of NIM for 614 banks in European countries (both developed and merging) and the US between 1988 and 1995. They concluded that interest rate volatility has a significant positive impact on bank profitability.

Hakim and Neami (2001) employed a similar approach and examined the link between credit risk and performance for banks in Egypt and Lebanon. The results indicated a positive relation between credit risk and profitability, but an insignificant relation between liquidity and profitability. Ariffin and Kassim (2011) also evaluated the logical connection between risk management practices and financial performance of the Islamic banks in Malaysia following the approach used by Hakim and Neami (2001) and, Saunders and Schumacher (2000) and using both primary data from questionnaires and secondary data from annual reports. They found that Islamic banks need to employ the more advanced risk management techniques common in conventional banks such as value-at-risk (VaR), estimates of worst-case scenarios, stress testing and simulation techniques to measure different types of risks. However, they also concluded that Islamic banks have generally good strategies for risk management practices.

In the final stream of research in this area, some studies have compared Islamic and conventional banks in relation to risk management practices. Tafri, Rahman, and Omar (2011) carried out a survey, the main purpose of which was to explore current practices and future trends in risk management techniques of Islamic and commercial banks in Malaysia. Their results clearly identified the difference in usage of risk management techniques between Islamic and conventional banks, including market VaR, stress testing results, credit risk mitigation methods, and operational risk management tools. The main reason was these risk management tools were new and thus relatively underutilized in many Islamic banks.

Most recently, Nazir, Daniel, and Nawaz (2012) compared the conventional banking system with Islamic banks in Pakistan, with that the suggestion that the method used for credit risk analysis should inherently differ for both sets of banks. They concluded that the lack of innovation in risk management practices tailored to Islamic banking required the wholesale adoption of risk management practices more appropriate for their conventional counterparts. Several extant studies have also wondered whether the lack of conventional-type risk management tools in Islamic banks was primary because of a lack of expertise. For example, the presence of IT professionals who have expertise in the field of risk analytics, IT systems to tackle Islamic styles of risk management, and experienced banking professionals in Islamic banking. Hence, more

product development and innovation was required for Islamic banks so that they can improve risk management.

Many researchers believe that the risks involved in Islamic banking systems in emerging markets are both complicated as well as unique. Ullah and Chowdhury (2013) listed four common problems policymakers generally faced with Islamic finance in this regard, especially in emerging markets. The legal framework is the first, with significant differences from country to country. Some countries have chosen to have separate regulations for Islamic finance, while other countries have chosen to modify existing regulations. Transparency and clarity are vital for the legal framework to guarantee a level playing field among financial institutions in the market and to raise consumer confidence. The second is supervision and the regulation of an operational environment where both Islamic and conventional finance can coexist. This task is complex, as well as facilitated by an early identification of the requirement to develop, and plan for, instruments to manage liquidity and financial policy control. The second is the appropriate choice of a distribution channel for Islamic financial services and products to reach as many consumers as possible. Finally, there is *Shari`ah* structure governance that needs to be clearly addressed, whether in a centralized framework or a more decentralized form.

There is also a recognition that building risk management capabilities in financial institutions, as well as in central banks at a whole of economy level, requires the setting of clear priorities over the medium-term for the growth of *Shari`ah*-compliant markets and the diversity of instruments. The emerging markets most successful in terms of the sustained growth of Islamic banking are those that have prioritized the structure, capabilities, and knowledge in their central bank. Islamic finance in terms of these concerns needs to converge via mutual recognition and harmonization on an expanding range of issues. Cross-fertilization between countries in their experiences with risk management practices in Islamic banks is also taking place as countries adapt and learn from their own experiences and from the experiences of others (Ullah & Chowdhury, 2013).

5 Conclusion

In this chapter, we discussed the various risks that Islamic financial institutions, primarily banks, have faced through their financing activities, to provide a clear picture of the risks facing these institutions including the unique counterparty risks involved in Islamic finance and banking. Due to a distinctive risk profile, Islamic finance institutions have made risk management, especially in an emerging market context, extremely challenging. The final section of this chapter emphasized the risk management practices in both Islamic and conventional banks. Essentially, we divided the literature into four basic streams. The first stream of research discussed risks currently prevalent in the conventional banking system. The second stream explored the risk management practices in Islamic banks. The third stream explored the link between risk management and the financial performance of banks. Lastly, the final stream compared Islamic and conventional banks in relation to risk management practice.

The implications of risk management in Islamic banks in emerging markets are clearly of critical importance. We showed that there are numbers of factors that make Islamic banks even riskier in emerging markets. These include immature money markets, limitations in the availability of lender of last resort facilities, and limitations in market infrastructure. Other problems, more or less common to Islamic and conventional banks, include foreign exchange and equity risks. However, many of the standard tools used to manage currency risk, such as futures, swaps and options contracts, are either not available in emerging markets or, where available, are traded in illiquid and inefficient markets, making the overall process of hedging and unwinding of a hedge a difficult task.

Despite the idealism of Islamic banking principles and practices and the earnest endeavors of Islamic banks to compete with their conventional counterparts, until now Islamic banks have not provided evidence they have developed effective solutions for managing the same risks that conventional banks face as well as their own unique risks. We suggested that countries that do this best are those that prioritize the structure of risk management knowledge and capabilities in the central bank. Islamic banks need to converge via mutual recognition and harmonization on an expanding range of issues. Fortunately, cross-fertilization between

countries in terms their experiences of risk management practices in Islamic banks is taking place as countries adapt and learn from their own experiences, and from the experiences of others.

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