# Challenges in implementing capital adequacy guidelines to Islamic banks

**Rima Turk Ariss and Yolla Sarieddine***

*Department of Finance, Business School, Lebanese American University, Beirut, Lebanon.
Tel: +961 1 786456 1644; Fax: +961 1 786456 1627; e-mail: rima.turk@lau.edu.lb

***Rima Turk Ariss*** *holds a PhD from the University of Wales, Cardiff Business School, United Kingdom, July 2004. She is currently employed at the Lebanese American University as an Assistant Professor of Finance in the School of Business. She teaches undergraduate and graduate courses in finance. Her research interests include the impact of financial liberalisation on bank efficiency; cost efficiency and productivity change; banking concentration and competition; market structure and financial stability; Islamic banking and finance; and law and finance.*

***Yolla Sarieddine*** *holds a Masters Degree in Business Administration from the Lebanese American University (2006). She is currently employed as the manager of the credit department at Kafalat (Guarantees for Loans for Small and Medium Enterprises).*

ABSTRACT

*Throughout the past 30 years or so, the practice of Islamic banking has proved to be a viable alternative and is growing at an estimated annual rate of 15 per cent. Many challenges still lie ahead, however, for Islamic banks to be able to comply with international standards and guidelines. A key issue relates to the implementation of Pillar 1 of the Basel II Accord, or capital adequacy requirements that were originally set to capture different types of risks faced by conventional banks, and that do not cater to the risk specificities of Islamic banks. The objective of this paper is to overview the recent guidelines for risk management and capital adequacy in Islamic banking and to study the implications of applying Pillar 1 to a major Islamic bank. We specifically raise serious issues related to the nature of risks arising from the uses of funds of Islamic financial institutions and their implication on the banking book of the Islamic financial institution. Still other challenges lie ahead of international regulatory bodies in order to cater to other types of risks that are unique to Islamic financial institutions.*

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## INTRODUCTION

In three decades of evolution of the Islamic banking industry, a number of Islamic banks were established under heterogeneous social and economic environments. What started as a small rural banking experiment in a remote village in Egypt has now reached a level where both local and international banks are committed to offering a wide range of Islamic banking products and services. The practice of Islamic banking spreads from East to West all the way from Indonesia and Malaysia towards Europe and the Americas. The successful operations of these institutions and their growth have established that Islamic banking is a viable and robust alternative to commercial banking practices. Islamic finance gained additional momentum when multinational Western banks as well as medium and small conventional banks developed Islamic banking techniques.[1]

Historically, the regulation of other financial institutions and non-profit institutions has typically had a focal point different from that

 

of conventional banks, and its implementation is not always given or delegated to the same regulatory bodies. In contrast, in many countries where Islamic banks coexist with conventional banks, there is a pressure to apply the same regulation for both types of banks and a common legal framework is generally developed. No separate regulatory laws have yet been set to govern the operations of Islamic banks, which have been trying to benefit from the support that the conventional framework can provide. Even in Saudi Arabia, a country that is *Sharia* compliant by nature, the regulatory framework makes no distinction between conventional and Islamic banks. Both types of financial institutions are supposed to follow *Sharia*, but the Saudi Arabian Monetary Agency has not assumed obligations regarding such compliance.[2] In this context, it is not uncommon for Islamic banks to operate under the laws governing commercial banks, which in many instances do not support specific or tailored issues that are inherent only to Islamic banking. Iqbal and Khan[3] propose a 'functional approach' to regulate financial institutions, where the functions performed by Islamic banks are analysed and attempts are made to modify regulation in a way to provide them with better support.

In a global world economy, however, Islamic banks have to face key challenges in order to effectively compete with conventional banks. As of January 2008, commercial banks in OECD countries will start implementing the Basel Committee on Banking Supervision's documents on the Amendment to the Capital Accord to Incorporate Market Risks[4,5] and on the *International Convergence of Capital Measurement and Capital Standards: A Revised Framework*,[6] hereby referenced as Basel II Accord, which set standards for capital adequacy and sound banking practices. This implies that eventually, Islamic banks will need to follow up quickly and abide by international standards as well. Capital adequacy has become the keystone for safety that reflects supervisory concerns. The adoption of international standards by Islamic banks will help enhance their credibility and fuel their growth worldwide. Under the standardised framework, Basel II sets clear guidelines for the calculation of adequate capital. The balance sheet underlying the rules of the Basel Capital Accords, however, belongs to a conventional bank whose structure completely differs from that of an Islamic bank, both in terms of assets and liabilities. No specific requirements addressing the particularity of Islamic banks' balance sheet structure were introduced under Basel II. As a result of the particular nature of their activities, the risks borne by Islamic banking institutions differ to a greater or lesser extent from those outlined in Basel II. Serious attempts are being made by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI)[7] and the Islamic Financial Services Board (IFSB)[8] to develop a better capital adequacy framework that addresses the risk profile of Islamic banks.

The aim of this paper is to provide an empirical fieldwork to study the implications of implementing Pillar 1 of the Basel II Accord to Islamic banks following the IFSB and the AAOIFI guidelines, and to recommend proposals for developing a capital adequacy framework that better accounts for their activities. The risks faced by Islamic banks arising from different uses of funds are examined in order to assess whether and how they are catered to by international guidelines. Much of the AAOIFI and IFSB efforts to develop a regulatory framework for Islamic banks rest on already existing guidelines for conventional banks. We show that many issues still need to be clarified and addressed, given the specific nature of financing techniques developed by Islamic banks.

The rest of the study is organised as follows: The next section reviews the Basel II capital accord. The subsequent section introduces the AAOIFI and IFSB proposals for developing a capital adequacy framework applicable to Islamic banks. The later sections examine the risk exposure of Islamic banks that arises from the different uses of funds and also provide a

fieldwork for investigating the impact of applying Basel II and the AAOIFI and IFSB guidelines to an Islamic bank. The last section concludes.

## OVERVIEW OF THE BASEL CAPITAL ADEQUACY FRAMEWORK

Capital is often considered as a cushion that helps banks absorb their losses and thus avoid failure in the long run. Capital adequacy ratios (CARs) are a measure of the amount of capital that a bank must hold expressed as a percentage of the bank's total risk-weighted assets. Under Basel I and Basel II agreements, in order to be classified as 'adequately capitalised', banks are required to hold a minimum of 8 per cent (Tier 1 representing at least 4 per cent) capital to assets ratio.[9] The objective is to promote financial system stability by first encouraging and later requiring banks to hold strong capital positions. In fact, the purpose of Basel I capital agreement signed in 1988 was to encourage leading banks around the world to retain strong capital positions and to promote fair competition by reducing inequalities in capital requirements among different countries.[4] The keystone of this accord is that banks have to maintain a CAR of at least 8 per cent. The CAR can be computed by dividing total capital by total risk-weighted assets.

Basel I agreement classified assets into five risk groups (0, 10, 20, 50 and 100 per cent) based on credit and counterparty risks. It was later found, however, that the 1998 Accord has many deficiencies that appealed for further review. For instance, short-term funding was considered less risky than long-term financing and thus received a weight of 20 per cent, while anything with a maturity greater than one year was risk-weighed at 100 per cent. Such a risk-weighting system might have contributed to financial instability by encouraging short-term lending at the expense of longer term, stable credit.

Later, a new framework known as Basel II Accord was developed based on three reinforcing pillars: minimum capital requirement, supervisory review and market discipline. Under Pillar 1, banks still must hold a CAR of 8 per cent, but the methodology for calculating this ratio is completely different from the approach adopted by Basel I. Pillar 2 set key supervisory principles to help banks maintain adequate capital and Pillar 3, also known as market discipline, addresses public information disclosure issues in order for market participants to evaluate banks' strengths.[4]

The definition of capital has not changed with the new capital accord. Rather, it is the computation of risk-weighted assets that is modified with the inclusion of two additional types of risk: market risk and operational risk.[10] Market risk results from the risk of losses in on- and off-balance sheet positions arising from movements in market prices. Of the innovations under Basel II, bank activities are classified into either banking or trading books for the purpose of calculating the CAR. While the banking book consists of all banking activities such as the transformation of depositors' funds into loans or instruments provided to users of funds, the trading book clusters the activities that involve buying and selling of securities. Banks' exposure to market risk is reflected in their portfolio of securities and is therefore estimated based on its trading book. On the other hand, operational risk refers to the risk of loss resulting from inadequate internal processes

For conventional banks, the CAR as stipulated in Pillar 1 of Basel II is expressed as:

$$CAR = \frac{Tier1Capital + Tier2Capital}{Risk\ Weighted\ Assets} \quad (1)$$

The methodology for calculating risk-weighting assets is highly important as riskier assets imply that a bank will need to increase its capital base in order to stay adequately capitalised. Pillar 1 of Basel II set a detailed framework for calculating risk-weighted assets to cater to the different levels of risks that conventional banks are exposed to in their daily activities.

 

Basel II standards, however, do not account for the specific risks related to the nature of Islamic banks' activities. The fundamental tenet of Islamic finance is that of fairness, and Islamic financial institutions at a most basic level are often structured towards fee-based revenues for services rendered and profit- and risk-sharing structures. Thus, in essence, Islamic financial institutions are closer in spirit to asset management companies than to conventional banking institutions, and the impact of their operations on the balance sheet is unique. Further, Islamic banks differ from conventional banks in that their activities are not confined to financial intermediation. An Islamic bank acts as an investor, a trader, a financial advisor, a consultant and a financing house. As a result, there exist a variety of Islamic modes of financing, each one having its own risk characteristics affecting both sides of the bank's balance sheet. These particularities highlight the unique characteristics of Islamic banks and raise serious concerns regarding the applicability of the Basel methodology to Islamic banks.

## EARLY CAPITAL ADEQUACY FRAMEWORK PROPOSALS FOR ISLAMIC BANKS

### The AAOIFI proposal

The risks that arise from Islamic banks' operations differ from the conventional risks faced by their peers and are not accounted for in Basel II. In 1999, AAOIFI issued the 'Statement on the Purpose and Calculation of the Capital Adequacy Ratio for Islamic Banks'.[7] This was the first initiative towards developing a tangible framework that properly addresses the risks faced by Islamic banks. The document proposed a method for calculating the CAR for Islamic banks. Much of the suggested methodology is based on Basel II standards, with the key difference relating to the liabilities side of Islamic banks' balance sheet.

It is common knowledge that the sources of funds of Islamic banks differ from those of conventional banks. Table 1 summarises the different sources of funds that appear on the balance sheet of both types of institutions and their implication on the CAR.

When evaluating Islamic banks' CAR according to Equation (1), the calculation of capital is not really problematic as there are neither preferred shares nor subordinated debt, meaning that Islamic banks' capital is only made up of Tier 1 share capital and reserves.

According to Table 1, Islamic banks fund their financing and investing activities through three types of accounts in addition to shareholders' equity: current accounts, saving accounts and unrestricted investment accounts. Similar to conventional banking, current and saving accounts are guaranteed of full payment upon customer request. In contrast, investment account holders require less protection, as their funds are held on a profit-and-loss sharing (PLS) basis and they agree to bear the risks associated with investing these funds.

Investment accounts are of two types: restricted and unrestricted. Funds collected

**Table 1** Sources of funds for Islamic and conventional banks

| *Islamic bank* | *Conventional bank* |
|---|---|
| Current Accounts | Current Accounts |
| Savings Accounts | Saving Accounts |
| *Unrestricted* Investment Accounts (UIA) | Time Deposits, Certificate of Deposits… |
| Equity: Share capital+Reserves → Tier 1 | Equity: Share Capital+Reserves → Tier 1 |
| Donated Land Reserve[1] (No Preferred Shares or Subordinated Debt allowed): Tier 2 | Cumulative Preferred Shares+Subordinated Debt → Tier 2 |
| No Tier 3 | Tier 3 portion of subordinated debt available only for market risk |

[1]Donated Land Reserve is applicable to DIB, where the government of the UAE has donated unrestricted land for the sole benefit of the shareholders. Such land is recorded at fair value at the time of donation.

under restricted investment accounts represent fiduciary services because depositors make all investment decisions and the Islamic bank simply collects a fee for playing the role of agent. As those funds are invested according to clients' directives and are not at the discretion of the banks, they cannot be part of a bank's source of funds. In this context, the AAOIFI recommends that restricted investment accounts be included as off-balance sheet items. The implication is that such investment funds will not be included in the calculation of CAR.

On the other hand, unrestricted investment accounts should be included in the balance sheet of Islamic banks and have to be considered in the CAR. As mentioned previously, the foremost particularity of Islamic banks' liabilities is that unrestricted investment account holders agree to share in the profit and loss with the bank. This implies that such funds cannot be guaranteed by assigning them 100 per cent weight in calculating the CAR, or else this will be contrary to the *Shariah* principle of participation. The purpose of the AAOIFI document on capital adequacy is to address this issue and to determine appropriate risk weights to unrestricted investments.

In conventional banking, shareholders assume all risks arising from financing activities. If a bank's CAR is below requirement (8 per cent), shareholders must increase equity capital.[11] In contrast, in Islamic banks, although unrestricted investment account holders share risks with bank shareholders, their funds cannot be considered as equity. The rationale is that investment depositors can withdraw their funds upon maturity and reduce the sources of funds available to the bank, but the equity base remains unchanged when shareholders 'withdraw their funds' by selling their shares to other investors. Another reason that explains why unrestricted investment accounts cannot be classified under equity or Tier 1 capital is that such account bearers have no voting rights. To sum, unrestricted investment accounts lie 'in between' deposits and equity, and they should be properly acknowledged for capital adequacy purposes.

In the proposed risk-sharing scheme of AAOIFI, investment account holders share part of the risk with shareholders, and the CAR for an Islamic bank is calculated as:

$$CAR = \frac{Total\ Capital}{RWA_{K\&CA} + 50\%(RWA_{ULA})} \quad (2)$$

where $RWA_{K\&CA}$ represents the average risk-weighted assets financed by the bank's capital and depositors' current accounts, and $RWA_{ULA}$ represents the average risk-weighted assets financed by the unrestricted depositors' investment accounts.

## Other proposals

The limitation of the approach developed by the AAOIFI is that it simply focuses on the sources of funds for Islamic banks, overlooking the importance of detailing the calculation of risk-weighted assets. Other proposals are suggested for capital adequacy requirements and for the risk management of Islamic banks. The idea is to put less emphasis than the AAOIFI scheme on developing a framework that has basic similarities with Basel II. For instance, one approach is to 'treat Islamic banks for regulatory purposes as mutual funds, whose obligation is to repay not the original sum invested but that remaining after taking account of gains or losses at the time of redemption'.[12] It can be argued, however, that such an approach will underestimate the account holders' perceptions of their deposits and investments.

A second proposal is to structure liabilities and assets along different objectives following the risk appetite of account holders.[13] Funds belonging to account holders who have a high risk aversion and high liquidity needs would be invested in asset-backed securities with a low risk and acceptable marketability, while funds of account holders having a higher risk appetite would be placed in light of their investment objectives.

 

A third proposal that has some support among regulators in the United Kingdom is to involve the structuring of liabilities according to a scheme of subordination of the rights of different categories of account holders. This would lead to an appropriate categorisation of risks on the asset side and take into account the actual risk experience of Islamic banks.[14] These studies are important contributions to the unexplored topic of how to account for the risk exposure of Islamic banks and develop a reliable capital adequacy framework. None suggest an approach, however, to deal with the specific nature of Islamic banks assets and their related particular risks, probably due to the lack of implementation of industry-wide accepted standards for Islamic banking practices.

## The IFSB proposal

An important step towards the development of the Islamic finance industry was carried out on 3rd November, 2002, with the foundation of the Islamic Financial Services Board (IFSB) headquartered in Kuala Lumpur. The decision to establish such a body was taken by a group of governors, senior officials of central banks and monetary authorities of several Islamic countries, supported by the Islamic Development Bank, the AAOIFI and the International Monetary Fund. The general objective of the IFSB is 'promoting, spreading and harmonizing best practices in the regulation and supervision of the Islamic financial services industry'.[15] The IFSB serves as an international standard setting body of regulatory and supervisory agencies that have an interest in ensuring the reliability and stability of the Islamic financial services industry. It is specifically concerned with the standardisation of *Shariah* committee rulings on Islamic banking practices. The IFSB also aims at standardising the approach in identifying risks in *Shariah*-compliant products and services and in assigning risk weights that meet internationally acceptable prudential standards.

Like the AAOIFI proposal, the IFSB capital adequacy framework serves to complement the Basel Committee on Banking Supervision's guidelines in order to cater to the specificities of Islamic financial institutions. While the AAOIFI focuses on the sources of funds of an Islamic bank, the IFSB, however, goes a step further by considering the uses of funds and assigning appropriate risk weights to each asset item. The major contribution of the IFSB is to acknowledge that the uses of funds for Islamic banks, which are by nature *Shariah* compliant, differ from the typical asset side of the balance sheet for a conventional bank. The IFSB frame of work aims at:

— 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*.

In December 2005, the IFSB issued the 'Capital Adequacy Standard for Institutions (Other than Insurance Institutions) Offering Only Islamic Financial Services'.[8] The recent standard takes into consideration the specificity of investment account holders who share part of the risk with shareholders as follows:

$$CAR = \frac{Tier1 + Tier2}{\left[\begin{array}{l}\mathrm{RWA}_{(Credit\ risk+Market\ risk+Operational\ risk)} \\ -\mathrm{RWA\ funded\ by\ PSIA}_{(Credit\ risk+Market\ risk)}\end{array}\right]} \quad (3)$$

where $RWA_{(Credit\ risk\ +\ Market\ risk\ +\ Operational\ risk)}$ include those financed by both restricted and unrestricted Profit Sharing Investment

Accounts (PSIA). The capital amount of PSIA is not guaranteed by the Islamic financial institution and any losses arising from investments or assets financed by PSIA are to be borne by the Investment Account Holders, and thus do not command a regulatory capital requirement. This implies that assets funded by either unrestricted or restricted PSIA should be excluded from the calculation of the denominator of the capital ratio.

## RISK SPECIFICITIES OF ISLAMIC FINANCIAL INSTITUTIONS

Islamic banks' activities differ in substance and in form from conventional banks' operations and they thus face a different risk profile. Basel II identified three types of risk exposures for conventional banks: credit risk, market risk and operational risk. Table 2 draws a comparative risk profile for conventional and Islamic banks.

Credit risk is the default payment risk and risk weights are assigned based on the counterparty risk. Market risk results from the risk of losses in on- and off-balance sheet positions arising from movements in market prices. It applies to the portfolio of financial instruments held by the bank and is composed of four elements: interest rate risk (further divided into specific and general market risk), equity position risk, foreign exchange risk and commodity risk. Finally, operational risk represents the risk of loss resulting from inadequate internal processes.

**Table 2** Risk profile of conventional vs. Islamic banks

| *Conventional bank* | *Islamic bank* |
|---|---|
| 1. Credit risk | 1. Credit risk |
| 2. Market risk: | 2. Market risk: |
| Equity risk | Equity risk |
| Commodity risk | Commodity risk |
| Interest rate risk | Rate of return risk |
| Foreign exchange risk | Foreign exchange risk |
| 3. Operational risk | 3. Operational risk |
| — | 4. Price risk |
| — | 5. Fiduciary risk |
| — | 6. Displaced commercial risk |

Early attempts by scholars to cater to the specificities and characteristics of *Shariah*-compliant products and services identified at least four different types of risks that are not accounted for under Basel II.[16] This section introduces the risk implication on the trading and banking book of Islamic banks.

While it can be argued that credit and operational[17] risks can be accounted for in a similar way for both Islamic and conventional banks, special attention has to be paid to market risk. Although Islamic banks' operations are free of interest, interest rate risk is present to a certain extent because the London Interbank Offering Rate (LIBOR) is generally used as a benchmark in pricing. Thus, a change in the reference rate is likely to affect the rate of return that the bank expects to collect on its uses of funds and pay to its depositors. This is referred to as *rate of return risk*.[16]

Three additional risks identified for Islamic banks include price, fiduciary and displaced commercial risks.[16] Price risk refers to the risk that the price of the underlying asset might change over the course of the transaction. If a conventional bank acquires a commodity for trading purposes, it is exposed to a form of price risk, or market risk. Islamic banks, in contrast, have to own different assets before they can sell them to clients in need of financing, in order to be compliant with the *Shariah* rule that 'one cannot sell what one does not own'. This exposes the majority of Islamic banks' transactions to price risk resulting from the acquisition of various assets, which, in turn, introduces a new risk dimension to the banking book of Islamic banks. Basel II recommends that banks keep track of their activities on the basis of either the banking book or the trading book of the institution. Figures 1 and 2 illustrate the implications of the different risk exposure of conventional and Islamic banks on their banking book and trading book.

 

Figures 1 and 2 illustrate that, for conventional and Islamic banks, market risk exposure is calculated in a similar manner (except for interest rate risk) on the basis of their trading book, and that credit risk is computed using their banking book. Figure 2, however, further shows that commodity price risk exposure of Islamic banks resulting from the acquisition of various physical assets is also reflected in the banking book of the Islamic bank. This introduces a new specificity that is not addressed by Basel II, namely that market risk exposure has to be calculated not only on the basis of the trading book of the financial institution, but on the basis of the banking book as well.

On the other hand, Islamic banks are also confronted with unique risks resulting from the management of investment accounts. Fiduciary risk refers to the probability of the bank being guilty of negligence or misconduct in implementing the deposit (*mudaraba*) contract. The depositors may, as a result, lose confidence in the bank and withdraw their deposits.

Finally, displaced commercial risk arises from the probability of the bank not being able to compete with other Islamic or conventional banks.[16] To counter such risk, it is proposed that Islamic banks should hold a profit equalisation reserve account. A provision is deducted from the investment account holder's earnings and is set apart for later distribution. Thus, Islamic banks can still pay a competitive return on these accounts even if they yield a lower rate of profits than market interest rates. The question that arises is to which extent this practice might be *Shariah* compliant.

In December 2005, the IFSB published a set of best practice guidelines for establishing and implementing effective risk management in Islamic financial institutions.[18] The document represents an important milestone in harmonising and standardising the risk exposure of Islamic financial institutions by identifying the six risk categories: credit risk, equity investment risk, market risk, liquidity risk, rate of return risk and operational risk. Still, more effort is required in order to provide guidelines

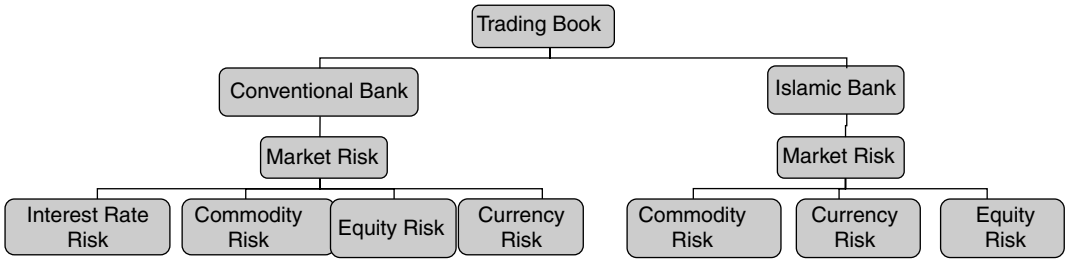


**Figure 1** Trading book: Islamic vs conventional banks

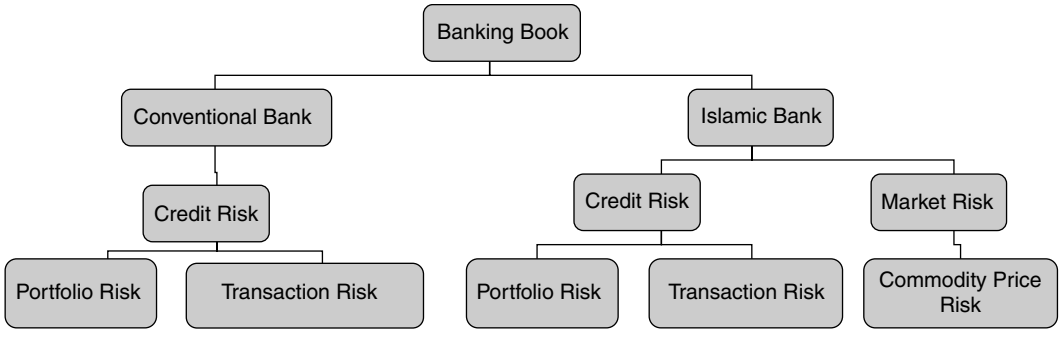


**Figure 2** Banking book: Islamic vs conventional banks

that account for some of these risk exposures, especially liquidity risk and operational risk.

## CAPITAL ADEQUACY ANALYSIS OF AN ISLAMIC BANK

This section investigates the implication of applying the IFSB capital adequacy recommendations on a major Islamic bank in the Gulf Cooperation Council region. The contribution of the paper lies in considering separately each use of fund on the balance sheet of the Islamic banks and assigning a proper risk weight to it in order to calculate the CAR following international guidelines. The case study pertains to Dubai Islamic Bank (DIB) in the United Arab Emirates (UAE), which is among the oldest institutions in the Islamic finance industry. In this section, we present a brief overview of the Islamic banking industry in UAE, followed by the calculation of risk-weighted assets of DIB.

### Overview of Islamic banking in the UAE

Islamic Banking in UAE was launched with the establishment of the largest Islamic bank in the country, Dubai Islamic Bank, in 1975.[19] Its foremost competitor, Abu Dhabi Islamic bank (ADIB), started operating in 1997.[20] Since then, two more banks have joined the drive, namely Sharjah Islamic Bank and Emirates Islamic Bank. New entrants in the Islamic banking industry realised its huge growth potential and are trying to get a slice of the lucrative market through either an Islamic window or through a fully dedicated Islamic financial institution.[21]

Figures 3 and 4 show the assets and equity segmentation in the UAE Islamic banking sector. DIB accounts to more than 60 per cent of the sector's total assets, and its capitalisation level almost reaches half of total industry capitalisation.

It is worth mentioning that DIB is growing at a much faster rate than the major conventional bank operating in UAE, or National Bank of Abu Dhabi (NBAD). Between the years 2000 and 2004, NBAD's total assets grew from AED 36.434 to 56.331bn while DIB total assets grew from AED 11.753 to 30.613bn. In absolute terms, NBAD and DIB asset base both grew by an amount close to 20bn AED. The assets of DIB, however, grew over this period at a much faster rate of 27.04 per cent compared to the 11.51 per cent asset growth for NBAD.[22]

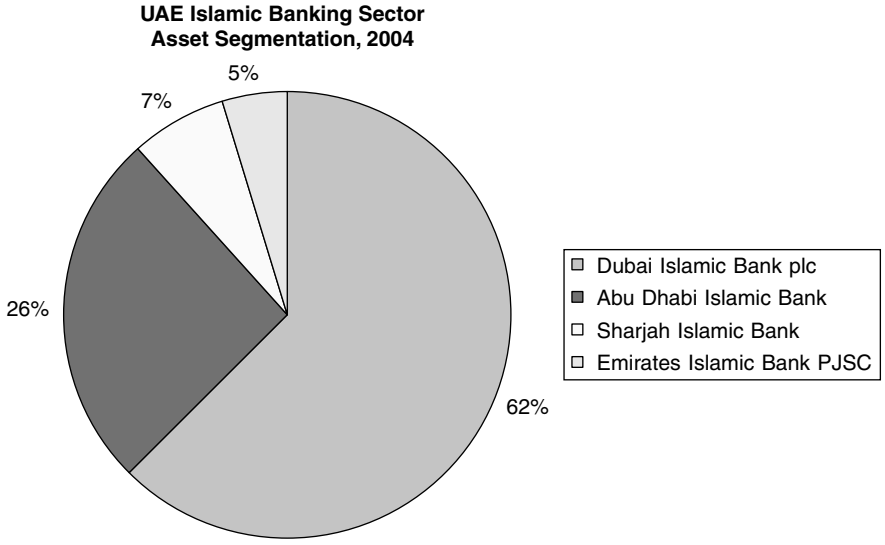


**Figure 3** UAE Islamic banking sector asset segmentation, 2004
*Source*: Bankscope

 

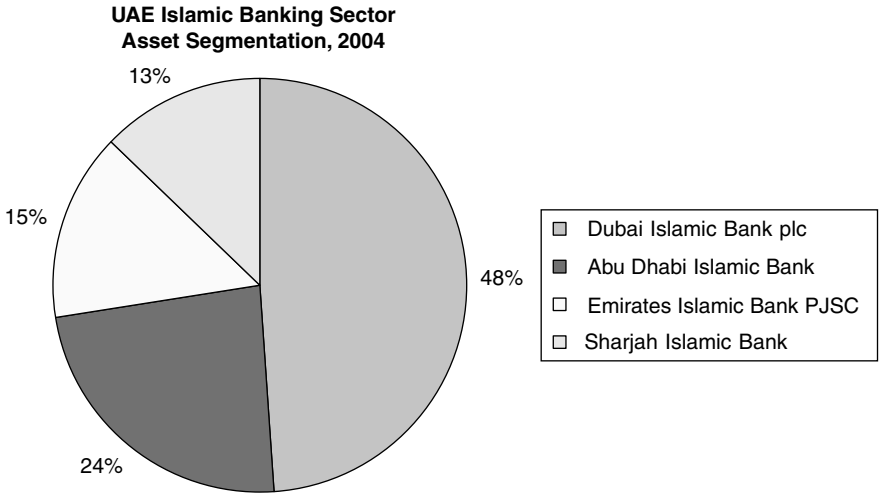


**Figure 4** UAE Islamic banking sector equity segmentation, 2004
*Source*: Bankscope

## Risk-weighted assets of an Islamic bank: The case of DIB

This section calculates risk-weighted assets of Dubai Islamic Bank using the IFSB-proposed guidelines for capital adequacy and following Equation (3). Data are taken from DIB Annual Report for the year 2004. The methodology applied for calculating risk-weighted assets, and consequently the CAR of DIB, consists of considering each asset item on the balance sheet and assigning an appropriate credit and/or market risk weight to it.[23]

Given the above assumption, Table 3 presents the calculation of risk-weighted assets (RWA) CAR for Dubai Islamic Bank following the new IFSB Capital Adequacy Standard.[8]

In obtaining the CAR as per Equation (3), the regulatory capital (the numerator) is computed in relation to the total risk-weighted assets (the denominator). The total of RWA is determined by multiplying the capital requirements for market risk and operational risk by 12.5 (which is the reciprocal of the minimum CAR of 8 per cent) to convert into risk-weighted equivalent assets, and adding the result to the sum of RWA calculated for credit risk. As the bank's funds are commingled, the RWA funded by PSIA are calculated based on their pro-rata share of the relevant assets.

The results of the lengthy calculations above show that DIB is very well capitalised according to international guidelines as its current capital ratio following ISFB guidelines is 12.78 per cent and that exceeds the recommended minimum of 8 per cent. It appears that DIB is carrying enough adequate capital to cover market, credit and operational risk. Further, if DIB is to abide by the 10 per cent minimum capital requirement of the UAE central banks, it is still over capitalised by ADD 584,015,000.

It is interesting to note that the CAR obtained (12.78 per cent) is in line with the published ratio of 13.5 per cent in DIB's Annual Report for the year 2004 (p. 18).

## CONCLUSIONS

The prime role of any supervisory monetary body is to protect depositors. Pillar 1 of the Basel II Accord set capital adequacy recommendations for internationally active banks. The proposed guidelines disregard the sources of funds of a conventional bank and assess the risk of its activities arising from the uses of funds. The objective is to ensure the safeguard of deposits that are at the disposition of the bank and that should be guaranteed of full payment. Thus, when a conventional bank

**Table 3** Calculation of RWA for DIB (figures in AED '000)[1]

| *Credit risk* | *Amount* | | *Credit risk weight (%)* | *Capital charge* |
|---|---|---|---|---|
| *Balances with Central Banks* | | 1,833,992 | 20 | 366,798 |
| *Balances and deposits with banks* | 225,759 | | | |
| Within 3 months' deposits | | 189,029 | 20 | 37,806 |
| Greater than 3 months | | 36,730 | 50 | 18,365 |
| *International Murabahat (short term)* | 7,502,571 | | | |
| Within 3 months' deposits | | 4,905,383 | 20 | 981,077 |
| Greater than 3 months | | 2,597,188 | 50 | 1,298,594 |
| *Financing activities* | | | | |
| (1) Commodities and vehicles Murabahat | 5,240,865 | | | |
| To government | | 1,573,960 | 20 | 314,792 |
| To corporate | | 2,038,430 | 100 | 2,038,430 |
| To retail sector | | 1,628,475 | 75 | 1,221,356 |
| (2) International Murabahat | 2,433,891.92 | | | |
| To government | | 867,192 | 20 | 173,438 |
| To corporate | | 1,123,097 | 100 | 1,123,097 |
| To financial institutions | | 443,603 | 20 | 88,721 |
| (3) Real estate Murabahat (50–50 Comm/ Resid) | 810,580.06 | | 100 and 35 | 547,142 |
| (4) Istisna' | 1,598,078 | | 100 | 1,598,078 |
| (5) Ijara | 4,127,958 | | | |
| To real estate (25% comm., 75% resid.) | | 1,257,713 | 100 and 35 | 644,578 |
| To corporate clients | | 1,979,574 | 100 | 1,979,574 |
| To retail clients | | 890,671 | 75 | 668,003 |
| *Investing activities* | | | | |
| (1) Mudarabat | 1,298,388 | | 135 | 1,752,824 |
| (2) Wakalat | 283,665 | | 100 | 283,665 |
| (3) Musharakat in bldgs (25% comm., 75% resid.) | 1,677,192.56 | | | 859,561 |
| *Investment in securities* | | | | |
| Held to Maturity (Sukuk with UAE Government) | 50,103 | | 20 | 10,021 |
| Investment in Associates (Other Investments) | 73,566 | | 100 | 73,566 |

 

**Table 3** Continued

| *Credit risk* | *Amount* | | *Credit risk weight (%)* | *Capital charge* |
|---|---|---|---|---|
| *Off balance sheet items* | | Credit Conversion Factor | | |
| Total guarantees (Notes 26-2, p. 6, IFSB) | 2,235,337 | | | |
| With maturities less than one year | 1,117,668 | 20% | 100 | 223,534 |
| With maturities over one year | 1,117,669 | 50% | 100 | 558,835 |
| Total Letters of credit | 549,924 | 20% | 100 | 109,985 |
| Total credit-weighted assets | | | | 16,971,839 |
| *Market risk* | *Amount* | | *Market risk weight (%)* | *Capital charge* |
| (1) Equity risk | | | | |
| (a) Specific risk | | 1,261,449 | 4 | 50,458 |
| (b) General market risk | | 1,261,449 | 8 | 100,916 |
| (2) Istisna' Price risk | | 1,598,078 | 8 | 127,846 |
| (3) Commodity risk | | | | |
| International Murabahat | | 2,433,892 | 15 and 3 | 438,101 |
| Commodities and vehicles Murabahat | | 5,240,865 | 15 | 786,130 |
| (4) Foreign exchange risk (open position) | | 12,072,000 | 8 | 965,760 |
| Total market risk-weighted assets | | | | 2,469,210 |
| Market risk capital charge ( × 12.5) | | | | 30,865,130 |
| *Operational risk* | | | | |
| Average gross income for 3 years | 369,848 | | 15 | 55,477.25 |
| Operational risk capital charge ( × 12.5) | | | | 693,465.63 |
| *Total risk-weighted assets (credit risk+market risk+operational risk)* | | *48,530,434.51* | | |
| Tier 1 capital | | | | 2,402,728 |
| Tier 2 capital | | | | 284,701 |
| Tier 1+Tier 2 | | | | 2,687,429 |
| *Total liabilities and equity* | 30,613,361 | | | |
| Investment Accounts (PSIA) | 17,596,304 | or 57.48% | | |
| Customers Investment Deposits | 16,100,128 | | | |
| Profit Equalisation Provision | 126,102 | | | |
| Banks Investment Deposits | 1,370,074 | | | |
| Current Accounts and Equity | 13,017,057 | | | |
| Ratio: (Tier 1+Tier 2)/(RWA−PSIA × RWA) | 12.78% | | | |
| Required Capital: 10%(RWA−PSIA × RWA) | 2,103,414 | | | |
| Excess Capital | 584,015 | | | |

[1]For more details on the calculations, please contact the corresponding author.

invests depositors' funds into yielding assets, it must bear all risks associated with such activities.

Under Islamic banking, depositors are not *neutral providers* of funds and the majority of deposits fall under unrestricted investment accounts. Such depositors instead supply investment accounts and participate in the bank investment activities through risk-sharing schemes. As such, Islamic bank depositors require less protection than conventional bank depositors.

The proposed solution by AAOIFI is to include only 50 per cent of the risk-weighted assets financed by investment accounts (instead of 100 per cent) in the calculation of the required CAR. A major shortcoming of the AAOIFI proposal, however, is the lack of consideration to the asset side of the Islamic bank's balance sheet. Islamic banks are exposed to different risks than conventional banks that arise from the uses of funds. Islamic financing activities are generally backed by real assets, exposing them to substantial commodity price risk. Their financing and investing activities are thus exposed to a new market risk dimension that is applicable to their banking book (and not only to their trading book as is the case for conventional banks), leading to an overall higher market risk exposure. Consequently, the risk-weighted assets of Islamic banks are likely to be higher than their peers.

Recently, the IFSB published a Capital Adequacy Standard based on Basel II guidelines. The Standard addresses the different risks faced by Islamic banks arising from the nature of their activities and assigns adequate risk weights to different Islamic financing modes. The new framework considers credit, market and operational risks of the Islamic bank's assets and, most importantly, does not require regulatory capital for risk-weighted assets that are funded by profit-sharing investment accounts.

This study focuses on the implication of the new IFSB capital adequacy recommendation to a major Islamic bank in the GCC region. The analysis rests on a set of conservative assumptions in order to calculate credit and market risks, given the insufficiency of information provided by the Annual Report. The results show that the Islamic bank is very well capitalised and will confidently meet the recommended level of 8 per cent set by international regulatory bodies and the 10 per cent level set by UAE central bank.

Islamic banks, however, still have to face other challenges. They are exposed to a significant liquidity risk, which is not yet catered to by current proposals. Islamic financial markets are still in the infant stage of development, and the only money market instruments that Islamic banks can rely on are Short-Term Murabahat. More work is needed in order to better account for liquidity risk exposure.

Further, Islamic banks are not allowed to use the wide range of derivative instruments such as swaps available to conventional banks for hedging purposes or transfer of risks. Basel II set guidelines to reduce the amount of capital needed by a bank that effectively uses hedging techniques to mitigate the risk exposure of conventional banks.[24] Islamic financial institutions can, however, implement *Sharia*-compliant hedging techniques, and it is recommended that future proposals consider the impact of such activities on the calculation of adequate regulatory capital.

Finally, more complications arise when attempting to measure *Sharia* compliance risk. Islamic financing and investing activities are not standardised across Islamic financial institutions or across countries. *Sharia* compliance risk is present in every single transaction conducted by an Islamic bank. Yet, no regulatory body has yet figured out a way to measure such risk.

## References

(1) In 1998, Hong Kong Shanghai Banking Corporation (HSBC), one of the leading banks in the financial intermediation international landscape, opened *HSBC Amanah*, a

 

global Islamic division dedicated to catering to the demand for *Sharia*-compliant products.

(2) Only Malaysia and Indonesia have made efforts to develop a separate legal framework under which Islamic banks can operate in a dual banking system.

(3) Iqbal, M., Ahmad, A. and Khan, T. (1998) Challenges facing Islamic banks, Islamic Research Institute, Islamic Development Bank.

(4) Basle Committee on Banking Supervision (2001) The New Basel Capital Accord, Bank for International Settlements.

(5) Basle Committee on Banking Supervision (1996) Amendment to the Capital Accord to Incorporate Market Risks, Bank for International Settlements.

(6) Basle Committee on Banking Supervision (1988) International Convergence of Capital Measurement and Capital Standards: a Revised Framework, Bank for International Settlements.

(7) Accounting and Auditing Organization for Islamic Financial Institutions (1999) 'Statement on the Purpose and Calculation of the Capital Adequacy Ratio for Islamic Banks', AAOIFI, Bahrain.

(8) Islamic Financial Services Board (2005) Capital Adequacy Standard for Institutions (Other than Insurance Institutions) Offering Only Islamic Financial Services. Available from www.ifsb.org.

(9) Tier 1 capital is defined as core capital that comprises common stock, noncumulative perpetual preferred stock and reserves. Tier 2 is often referred to as supplementary capital and it includes financing funds such as long-term subordinated debt, preferred stock (not included in tier 1) and loan loss reserve, all up to 100 per cent of tier 1.

(10) Under the old accord, market risk was only applied to off-balance sheet items such as derivatives. The new accord extends the applicability of market risk to the trading book activities of a bank as well, that is, to cover the investments held with a trading intend. For more details, see *International Convergence of Capital Measurement and Capital Standards: a Revised Framework*, Basel Committee on Banking Supervision.[6]

(11) Another possibility is for the bank to shift its asset allocation to a less risky distribution although this might impact its profitability.

(12) Cunningham, A. (2000) 'Islamic banks — In for a pound, in for a penny', *The Banker*, February.

(13) El-Hawary, D., Grais, W. and Iqbal, Z. (2004) 'Regulating Islamic financial institutions: The nature of the regulated', Policy Research Working Paper 3227, World Bank.

(14) Davies, H. (2004) Regulatory issues facing Islamic financial institution. IFSB Summit, London, 9th May, 2004.

(15) Foot, M. (2004) The future of Islamic banking in Britain. IFSB Summit, London, 9th May, 2004.

(16) Chapra, U. and Khan, T. (2000) Regulation and Supervision of Islamic Banks. Islamic Research Institute, Islamic Development Bank.

(17) Islamic banks are exposed to a unique type of operational risk, or *Shariah* compliance risk.

(18) Islamic Financial Services Board (2005) Guiding Principles of Risk Management for Institutions (Other than Insurance Institutions) Offering Only Islamic Financial Services, www.ifsb.org.

(19) The central bank of UAE was only established in 1980 after the collapse of two banks in 1977.

(20) In 2004, total assets amounted to AED 30.613 and 12.687bn, respectively, for DIB and ADIB.

(21) Augustine, B.D. (2005) 'Four new entrants — RAKBank, Mashreqbank, Union National Bank and First Gulf Bank — have pending applications to start Islamic financial institutions', *Khaleej Times*, 31st October, 2005.

(22) As measured by the geometric mean over a period of five years.

(23) For further details on the treatment of the different uses of funds and the set of conservative credit and market risk assumptions that were made for the CAR calculation, please contact the corresponding author.

(24) For instance, allowances to the market risk capital charge are made for derivatives held for the sole purpose of hedging or when the value a two-leg instrument moves in the opposite direction and 'broadly to the same extent' (BIS, 2005).