Capital Structure and Financial Risks in Non-Conventional Banking System

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Abstract

We discuss issues of capital structure and enforcement in Islamic finance only to the extent that Islamic financial institutions differ from their conventional counterparts. Substantive differences do in fact exist. This paper presents the capital adequacy framework for Islamic banks compared to the setting up of the Basel II capital adequacy framework. We discusses of the risk profile of an Islamic banking and on the relationship between risk management and capital structure, it overviews specific risk categories for Islamic banks as an initial step in risk management, and highlight the differences and similarities in importance of these causes for Islamic banks. We present appropriate risk weights to unrestricted investments in order to defining their own capital requirements with regard to loss tolerance.

Keywords: Capital Structure, Capital Adequacy Framework, Islamic Banks

JEL classification: G01, G21, G32, G33.

Introduction

Banks operating under asymmetric information will tend to take more risk. Nevertheless, the risk-taking of banks is limited by regulatory capital requirements to prevent bank insolvency. Capital adequacy requirements is the most frequently cited form of prudential regulation. Maintaining a high level of capital impedes their ability to compete because equity is more costly than debt. Capital requirement for a banking institution is function of the portfolio composition, flow of liquidity, management and the environment in which it evolves. According to Kim and Santomero (1988), the use capital requirement is an ineffective means to bound the insolvency risk of banks. Authors claimed that banks may increase their risks in response to regulatory requirements for higher levels of capital, since such actions by regulators limits the return-risk frontier and therefore encourages banks to select riskier asset portfolios. Repullo (2004) used a dynamic model of imperfect competition in banking to show that in the absence of regulation, more competition (i.e., lower bank margins) leads to more risk. The taking risk will be lower if the bank has significant market power and an important capital.(Note 1) To analyze the role of preventive equity it is necessary to examine the relationship between the level of capitalization and the risk of insolvency, the relationship is it the same as the structure of the banking market. Capital Structure is a buffer against negative shocks to firm value (Froot, 2001). The capital structure of IIFS includes shareholders' equity (Note 2) and three broad categories of deposit accounts: current, unrestricted investment (PSIA^U) (Note 3) and restricted investment (PSIA^R). (Note 4) The capital value and returns on investment deposits depend on banks' profits according to the PLS ratio stipulated in their contracts. Islamic banks pool depositors' funds in providing them with professional investment management with associated returns and risks. Neither the face value of investment deposits nor their return is guaranteed. In addition, investment deposits can be withdrawn only on maturity. Islamic banks provide only administrative services to the PSIA^R since the depositors are themselves actively involved in investment decision making. (Note 5) This demonstrates that Islamic banks perform fiduciary and agency roles at the same time.

However, the proportion of PSIA^U to total assets varies depending upon the preferences of the investors; the higher the proportion of PSIA^U, the more significant the agency role undertaken. (Note 6) Capital Structure with due regard to the characteristics of Islamic banks, constitutes a key organ in an Islamic bank. Capital structure of Islamic banks imposes an important constraint on Islamic banks operations. This combination of requirements of *Sharia*-compliance and business performance raises specific challenges and agency problems, and underlines the need for distinctive capital structures.

We discuss issues of capital structure and enforcement in Islamic finance only to the extent that Islamic financial institutions differ from their conventional counterparts. Substantive differences do in fact exist. This section presents the capital adequacy framework for Islamic banks compared to the setting up of the Basel II capital adequacy framework. We discusses of the risk profile of an Islamic banking and on the relationship between risk management and capital structure, it overviews specific risk categories for Islamic banks as an initial step in risk management, and highlight the differences and similarities in importance of these causes for Islamic banks. We present appropriate risk weights to unrestricted investments in order to defining their own capital requirements with regard to loss tolerance. We try to answer the question, what links can be established between the financial structure and insolvency in conventional and Islamic banking system?

The Theory of Capital Structure Revisited for Islamic Banking

Modigliani and Miller (1958) argued that firm's capital structure is not always neutral to the firm's performance in the product market, but does influence it from the view point of asymmetric information and trade off theory. According to Modigliani and Miller (1958) in the absence of costs of bankruptcy, transaction costs, asymmetric information, or taxes, the value of a firm would be independent of its capital structure, and so the focus should be on capital level and not structure. (Note 7) Modigliani-Miller theory of capital structure is based on the assumption that funds can only be raised through debt and equity. This problem only imperfectly reflects the situation of a banking firm, which is not arbitrating between debt and equity, but between debt, equity, and deposits. The concept of financial risk, on which modern capital structure theories are built, is inadequate to tie down the capital structure of Islamic banks. The foundations of Modigliani-Miller as well as the predictions of the traditional school, which are based on debt financing, cannot be generalized to include Islamic banks. The cost of capital in conventional banks represents the cost of debt and equity deposit. Nevertheless, the cost of capital in Islamic banks is replaced by profit and loss sharing by depositors and equity holders. Conventional banks use both debt and equity to finance their investments, while Islamic banks are expected to finance their investments using mainly equity financing and customers" deposit account (Karim and Ali, 1989). Archer and Karim, 2006 argued that IIFSs used profit-sharing investment ''*deposits*'' as a form of leverage and expose IIFSs to displaced commercial risk. (Note 8) Thus, unrestricted investment accounts (UIA) are seen in a special situation in Islamic banks compared to depositors in interest-based banks. (Note 9) Essentially, it is the asymmetry between the extent of these depositors' participation in bearing investment risks and of their ability to influence the operations of the institution.

A model of the capital structure of an Islamic bank has been proposed, estimated and tested using annual accounts drawn from a panel of 12 Islamic banks for 1989-1993 as a panel by applying the random effects technique for panel data. Al-Deehani, Rifaat, Murinde (1999) argued that the concept of financial risk, on which modern capital structure theories are based, is not relevant to Islamic banks. Given the contractual obligation binding the Islamic bank's shareholders and investment account holders to share profits from investments, they propose a theoretical model in which, under certain assumptions, an increase in investment accounts financing enables the Islamic bank to increase both its market value and its shareholders' rates of return at no extra financial risk to the bank. Examining the impact of IIFS deposit mobilization on their performance, Shubber and Alzafiri (2008) explored four assumptions namely (Note 10) a) independence of the WACC from the level of deposits; b) a larger size of deposits does not entail higher financial risk; c) a larger deposit size entails higher earnings per share, and c) a large deposit size increases a bank's market value. The authors used 1993 to 1996-1998 data, for four institutions, and consider correlations between the costs of equity, deposits, and the WACC. (Note 11) The data appears to support the four assumptions. The correlation coefficient between market capitalization and size of deposits ranged between .72 for DIB and .88 for QIB with an average of .83. Accordingly, the authors concluded that a larger deposit base increases market value without affecting financial stability.

Anatomy of Risk Exposures in PLS Operations

Chapra and Khan (2000) argued that Islamic banks face some additional risks as a result of their PLS and sales-based debt-creating operations, the differences of opinion among the *fiqh,* (Note 12) and their inability to use credit derivatives and reschedule debts on the basis of a higher mark-up rate. Due to Islamic law forbidding the rescheduling of debts based on increased mark-up rates, encouragement is provided to improper customers to

intentionally default. This prohibition may represent an incentive to debtors to be lax in meeting debt service obligations, increasing financial institutions credit risk. However, the asset-based nature of Islamic finance transactions mitigates the risks by providing banks an ownership title to marketable collateral. (Note 13) Differences of opinion among *Sharia* scholars create another risk specific to IIFS. A document or structure may be accepted by one *Sharia* board but rejected by a different *Sharia* board. Some scholars consider the *murabaha* contract binding only for the seller, but not for the buyer. (Note 14) Others consider it binding on both parties, and most Islamic banks function on this basis. However, the OIC Fiqh Academy believes that the party, which defaults, has the overall responsibility for the compensation of any losses to the wronged party. In another example of differences of opinions, some scholars have challenged the compliance of *ijara* ending in ownership, a type of transaction implemented by most Islamic institutions. This difference of opinion raises the degree of risk in the *ijara* contract. Finally, no *Sharia*-compliance of most hedging instruments and notably credit derivatives limits IIFS access to effective methods of credit risk mitigation. Additional risks identified for Islamic banks include price, fiduciary and displaced commercial risks. IFIs face five broad risk categories: transaction, business, treasury, governance, and systemic risks. Table 1 draws a comparative risk profile for conventional and Islamic banks. Basel II standards do not account for the specific risks related to the nature of Islamic banks' activities.

The accounting and auditing organization of Islamic financial institutions (AAOIFI, 1999) identifies this displacement risk as the risk resulting from the volatility of returns, rate of return risk, generated from assets financed by investment accounts. This risk arises when the actual rate of return is lower than returns expected by investment account holders, which follow current market expectations and generally equivalent to rate of returns offered on alternative investment. IFSB (2005) defined the displaced commercial risk as the risk of losses which an Islamic bank absorbs to make sure that investment account holders are paid in rate of return equivalent to a competitive rate of return, (Note 15) the statement designate market factors affecting rate of return on assets *vis a vis* rate of return for shareholders. This risks arises when an IFI pays investment depositors a return higher than what should be payable under the "actual" terms of the investment contract. An IFI engages in such practice to induce investment account holders not to withdraw their funds to invest them elsewhere. Thus, the bank may forgo up to all its shareholders' profits, adversely affecting its own capital. (Note 16) This asset risk is being transferred from PSIA to shareholders in a way that seems to be at odds with the nature of the *mudaraba* contract. Shareholders support the risk of a deterioration of an IFI returns to equity holders to maintain the IFI's attractiveness to investment account holders.

Islamic financial instruments incorporate specific credit risk features. IFSB (2005) defined credit risk as potential that counterparty fails to meet its obligations in accordance with agreed terms. The *salam* contract may face a counter-party risk associated with a failure to supply on time, or at all, and failing to supply the agreed upon quality or quantity. When an Islamic bank participates in an *istisna* contract, it functions as supplier, manufacturer, constructor, and builder. As none of these roles is the bank's normal business, subcontractors must be used. Thus, the bank is exposed to two-way counter-party risk. The risk of default of the customer is one of these, but there is also the risk of the sub-contractors failing to carry out their duties effectively and on time. The *mudaraba* contract could expose an IFI to a larger counter party risk.

Market risk is a risk that a bank may experience due to unfavorable movements in market price (Greuning and Iqbal, 2008) and it will arise from the changes in the prices of equity instruments, commodities, fixed income securities, and currencies. IFSB (2005) defines market risk as the risk of losses in balance sheet positions arising from movements in market prices. Market risk is composed of four elements: interest rate risk, equity position risk, foreign exchange risk and commodity risk. Banks' exposure to market risk is reflected in their portfolio of securities and is therefore estimated based on its trading book. Much critical attention has been given to Market risk. It can have profound microeconomic and macroeconomic consequences and must be understood and managed with care. Quemard and Golitin (2005) argued that most conventional bank failures and banking problems historically have been attributable to poorly managed exposures to it. This risk result from a decrease in the value of an investment as a consequence of changes in market factors (equity risk, interest rate risk, currency risk, commodity risk, credit risk). One of the most important market risks faced by conventional bank is the interest rate risk. From a conventional viewpoint, a key role of money markets is price-discovery. Essentially, the formation of short-term interest rates and thereby, the short-end of the yield curves. Since money market trading is designed to be reflective of rate movements, conventional money market instruments are highly rate sensitive. Additionally, since central banks typically use the money market to execute monetary policy, the money market would usually be the first to react to rate or liquidity changes. Interest rate risk manifests itself in several ways. The three key forms being: i) Prepayment risk ii) Reinvestment risk and iii) Re-pricing risk. Given the short-term nature of money market instruments, prepayment risk is a nonissue. Though reinvestment risk is relevant, re pricing risk is by far the most important for

money market instruments. Given the discounted form of their pricing, rate movements would have a highly significant and direct impact. The money market, as is the case with any financial market or instrument, has a number of associated risks. Where the conventional money market is concerned, most literature identifies four key risk categories: i) counterparty risk; ii) liquidity risk; iii) interest rate risk and iv) regulatory risk.

Given that Islamic banks operate under different principles, such as risk sharing and free-interest, (Note 18) and maneuver in accordance with *sharia* principles, it is wrong to think that they do not confront this risk. IIFS face indirectly *market risk*, through notably the mark-up price of deferred sale and lease-based transactions. (Note 19) A typical loss would be a decrease in the value of an investment due to changes in market factors. (Note 20) Islamic banks can be affected by the collapse of other conventional banks. Furthermore, IIFS' balance sheets are exposed indirectly to variations of rates of return linked to LIBOR. An increase in the LIBOR systematically lead to an increase in the mark-up and consequently the payment of elevated profits to upcoming depositors, compared to those received by the banks from the customers of long-term funds. The value of assets such as a deferred sale and lease transaction will vary with the wedge between the price at which they were issued and market changes in the benchmark. (Note 21) According to Chapra and Ahmed (2002), given that these IIFS use as a benchmark the (LIBOR) then it is quite normal that all assets are affected by the fluctuations of this rate.

The existence of profit sharing investment accounts (PSIA) (Note 22) raises some fundamental issues in calculating the capital adequacy ratio (CAR) for an Islamic bank. The basic issue surrounds the possibility of including PSIA as a component of capital because they have a risk-absorbing capability. Khan and Chapra (2000) suggested the adoption of separate capital adequacy standards PSIA^U. They argued that Islamic banks should not be required to meet the same capital requirements as conventional banks. A separation of capital requirements would enhance comparability, transparency, market discipline, depositor protection, and systemic stability. Furthermore, they mention the possibility of either keeping the demand deposits in a trading book, or pooling the investment deposits in a securities subsidiary. This suggestion, basically, expresses two important things. First, the need for a reliable accounting system that is able to prevent a potential dilution between fiduciary roles and agency roles and second, the need to promote a system that will be able to accommodate different types of customer preferences without jeopardizing systemic stability.

What Capital Regulation Do Islamic Banks Need?

The capital structure stipulated by the Basel committee is segregated into three categories. (Note 23). Capital adequacy ratios (CAR) are a measure of the amount of capital that a bank must hold a minimum of 8 per cent (Tier 1 representing at least 4 per cent) expressed as a percentage of the bank's total risk-weighted assets. (Note 24) Requirements were set for the conventional financial services; a bank that is well capitalized has to hold a minimum total capital (tier 1 and tier 2) equal to 8% of risk-adjusted assets. For Islamic financial Institutions, IIFS, tier 1 capital is not the same as in CFS and IFS. Grais and Kulathunga (2006) argued that tier 1 capital would be same as in conventional and Islamic financial institutions; they argued that the reserves would include the shareholders' portion of the profit equalization reserve (PER), which is included in the disclosed reserves (tier 1). (Note 25) The tier 2 capital would not be any hybrid capital instruments, subordinated debts as CFS. (Note 26) The AAOIFI (1999) committee on capital adequacy proposed that it would not be appropriate to include the PSIA in tier 2 capital. (Note 27) The Islamic Financial Services Board (IFSB, 2005) has taken a similar position, profit-sharing investment accounts would be excluded from the calculation of the risk-weighted assets of the capital adequacy ratio (CAR) because it is deemed that 100% of the credit and market risks of such assets are borne by the investment account holders themselves. (Note 28) Ariss and Yolla (2007) explain why unrestricted investment accounts cannot be classified under equity or Tier 1 capital is that such account bearers have no voting rights. According to Ariss and Yolla (2007), unrestricted investment accounts lie "*in between' deposits and equity*" and should be properly acknowledged for capital adequacy purposes. (Note 30) While this statement accepted that, legally speaking, asset risk is not transferred from PSIA to shareholders of an Islamic bank, it identified two sources of risk to the bank's own capital resulting from the management of PSIA. The first of these sources lies in the nature of the *mudaraba* contract, which places liability for losses on the *mudarib* in case of malfeasance, negligence, or breach of contract on the part of the management of the *mudaraba*. In such a case, the capital invested by the PSIA becomes a liability of the bank. The term "fiduciary risk" was used in the statement to designate this type of risk. The second source of risk is of a more subtle nature, and raises some fundamental questions as to the financial economics of Islamic banking.

The AAOIFI (1999) and IFSB (2005) recognized the exposure of Islamic banks to displaced commercial risk and recommended establishing prudent reserves to mitigate the impact of returns smoothing to investment account holders on Islamic banks capital. (Note 31) For market needs and for the prudential supervisory requirements, Islamic banks must bear a share of credit and market risks pertaining to the investment deposits as a measure of

investor protection in order to avoid systemic risk resulting from massive withdrawals of funds by dissatisfied investment account holders. Like the AAOIFI, the IFSB capital adequacy framework serves to complement the Basel II standardized approach with a similar approach to risk weights in order to cater to the specificities of Islamic financial institutions. (Note 32) A requirement of meeting the same capital adequacy ratio for IIFS and conventional banks, may handicap the former vis a vis the latter.

AAOIFI Standard: Excluding of Restricted Investment Accounts in the Calculation of Capital Adequacy Requirement

The capital structure of IIFS includes shareholders' equity and three broad categories of deposit accounts: current, unrestricted investment (PSIA^U) and restricted investment (PSIA^R). According to the standard developed by the AAOIFI (AAOIFI, 1997), PSIA^Rdeposits cannot be recognized as liabilities of Islamic banks and should not be reflected on the banks' statement of financial position. The AAOIFI suggests that restricted investment accounts be included as off-balance sheet items. (Note 33) The implication is that such investment funds will not be included in the calculation of CAR. This is because the depositors are highly involved in investment decisions. Thus, it can be argued that PSIA^R financed assets should be excluded from the risk-weighted assets in the denominator of the CAR. Yet in the CAR, no distinction is drawn between $\mathrm{PSIA}^R$and PSIA^U. AAOIFI recommends the inclusion of 50% risk-weighted assets of the UIA to cover "fiduciary risk" and "displaced commercial risk". The solution presented 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 capital adequacy requirements. In the proposed risk-sharing scheme of AAOIFI, (Note 34) investment account holders share part of the risk with shareholders, and the CAR for an Islamic bank is:

$$\mathrm{CAR} = \frac{\mathrm{OC}}{(\mathrm{W}_{\mathrm{OC+L}}(\mathrm{OC+L}))+\mathrm{w}_{\mathrm{PSIA}}(0.5\times\mathrm{PSIA})} \tag{1}$$

Where OC is the bank's own capital; (Note 35) L(Note 36) represents its non- PLS-based deposits; $\mathrm{W}_{\mathrm{OC+L}}$ represents the average risk weight for assets financed by OC and L (bank's capital and depositors' current accounts); and $\mathrm{w}_{\mathrm{PSIA}}$ represents the average risk weight for assets financed by PSIA^U (unrestricted depositors' investment accounts). Like the Basel standards, the AAOIFI standard requires the CAR to be at least 8%. A major shortcoming of the AAOIFI proposal, however, is the lack of consideration to the asset side of the Islamic bank's balance sheet. (Note 37) In practice, Islamic banks may have different proportions of PSIA^U in their balance sheets. The ratio of OC to PSIA^U as a function of the percentage of PSIA^U to total assets (TA) indicates that Islamic banks, which have a higher proportion of PSIA^U within their assets will have a lower proportion of OC to PSIA^U. The limitation of the approach developed by the AAOIFI is that it focuses on the sources of funds for Islamic banks. A requirement for a minimum level of net-worth (financial cushion) to enhance the capacity of a bank to maintain its solvency when facing temporary financial shocks has been adopted widely by Islamic banking regulators in many countries. However, the calculation of the CAR should only include the assets financed by debt-based liabilities and own capital, according to Dadang ; Dar, and Halla (2004), the capital adequacy ratio should be calculated as follows:

$$\mathrm{CAR} = \frac{\mathrm{OC}}{\mathrm{RWA}_{\mathrm{OC+DBC}}} \tag{2}$$

Where $\mathrm{RWA}_{\mathrm{OC+DBC}}$is the value of the risk-weighted assets financed by OC and DBC.

IFSB Standard: Proportion ''α'' of Risk-Weighted Asset

The IFSB (2005) framework proposes that the profit sharing investment accounts are treated as typical *mudaraba* investment, so investment account holders fully absorb the risks (credit and market risks). The operational risk resulted from Investment Account management are borne by Islamic banks. Therefore, the formula excludes risk weighted assets (credit and market risks) funded by these Profit sharing investment accounts. In other words, there is no capital requirement in respect of risk arising from assets funded by such funds. IFSB (2005) include market risk such as *murabaha, ijara, salam, musharaka,* and *mudaraba.* Capital adequacy requirement for IIFS in the IFSB is equal to 8% for total capital. (Note 38) Given that the risks on assets financed by profit-sharing investment account holders do not represent risk to the capital of the institution, IFSB (2005) proposes also that profit sharing investment accounts are treated as similar to deposits and quasi deposits products. IFSB (2005) recommends to include a proportion "α %" of risk-weighted (credit and market risk) assets financed by profit sharing investment accounts that can be deducted from the total risk-weighted assets (RWA) for the calculation of capital adequacy. The IFSB (2005) has left the determination of α% value at the discretion of national supervision authorities:

- If ''α'' = 0, PSIA is in effect a pure investment carrying the full risk of loss, and DCR = 0

- If ‘‘α’’ = 1, PSIA is considered akin to deposits, with both principal and return implicitly guaranteed, and hence DCR is at its maximum level
- If 0<‘‘α’’ <, IIFS is managing the PSIA to avoid being in either extreme, and DCR>0

According Khan (2007) the assessment of an appropriate level of the capital adequacy ratio for Islamic banks should be primarily based on a thorough analysis of the composition of the underlying asset portfolio between PLS and non-PLS transactions. (Note 39) While the AAOIFI focuses on the sources of funds of an Islamic bank, the IFSB consider the uses of funds and assigning appropriate risk weights to each asset item. The recent standard takes into consideration the specificity of investment account holders who share part of the risk with shareholders as follows:

$$CAR = \frac{\text{Tier1+Tier2}}{\text{RWA(Credit risk+Market Risk+Operational risk)} - \text{RWA funded by PSIA(Credit risk +Market risk)}} \quad (3)$$

RWA (Credit risk + Market risk + Operational risk) include those financed by both restricted and unrestricted Profit Sharing Investment Accounts (PSIA). IFSB suggests computing the Basel solvency requirement as the ratio of pure equity capital on risk weighted assets. These should include not only the assets financed with shareholders' capital and money deposits, but also a percentage of the portfolio pertaining to the investment deposits, which the national regulatory authorities can fix to no more than 70 per cent at their discretion.

Using a Granger causality test, Chong and Liu (2009) showed that Islamic deposit accounts in Malaysia are effectively pegged to the returns on conventional-banking deposits. Islamic banks, in practice, are not too different from conventional banks. They argued that Islamic banks should be subject to regulations similar to those of their western counterparts because the depositors' funds are mostly invested in non-PLS financing; they suggested that there should not be any capital relief for assets that are funded by *mudaraba* deposits.

Governance of Reserve: Provisioning Practice to Smooth the Returns

A fundamental difference between conventional and Islamic banks consists on their provisioning policy. (Note 40) AAOIFI has restricted its role in protecting investment account holders to maximizing transparency and uniformity of reporting standards. The only recourse for investment account holders, assuming that the Islamic bank does not engage in negligence or fraudulent activities, is to withdraw their funds from that bank. That threat of fund withdrawal drives Islamic banks to use their loan-loss reserve accounts to smooth rates of return paid to investment account holders, ensuring their competitiveness against rates paid by other Islamic and conventional banks. Each IIFS adopt clear provisions regulating contributions to these funds and their disclosure in financial statements to anticipate their credit risk and to take account for expected losses rather than actual losses and to absorb any future losses. (Note 41) This practice implies, from one hand, a natural smoothing of banks resulting through manipulating the expected loss estimates. (Note 42) On the other hand, dynamic provisions policy helping to anticipate and coverage credit losses in loans along the lending cycle, enable banks to have a safety funds that can be used during periods of economic distress. (Note 43) By strengthening the soundness of the bank, contributes to restrict pro cyclicality in lending and produces smoother loan loss provision ratios (Pérez; Salas, and Saurina, 2006). Anandarajan; Hasan, and Loranzo-Vivas (2003) showed that Spanish banks, despite regulatory requirements on provisioning leaving little discretion for managers, use reserves to manage their results.

Islamic banks try to assure to PSIA a rate of return almost in line with market interest rates applied by conventional banks on similar instruments; moreover, the probability for depositors to incur a capital loss is largely reduced by the fact that most banks, under the control of the national supervising authorities, IIFS generally have two standard practices of retaining reserves in the management to displaced commercial risk with the objective of providing a cushion of resources. (Note 44): (i) the investment risk reserve (IRR) used to absorb potential losses and playing the same function of loan risk provisions in conventional banks; and (ii) the profit equalization reserve (PER) to level off the rate of return during the economic cycle, similar to the equalization reserve used by insurance companies for smoothing economic results. (Note 45)

The profit equalization reserve (PER) is created from the total income before the profit allocation between shareholders and investment account holders and the calculation of *mudarib* share. (Note 46) The retention of profit equalization reserve reduces returns actually distributed to both parties. Profit equalization reserve is needed to smooth a low rate of return and reduce the volatility of investment account holders returns. Investment risk reserve (IRR) (Note 47) is created by setting aside amounts out of the profit attributable to PSIA holders, which the bank as *Mudarib* is typically authorized to do in the *mudaraba* contract. The bank may include a clause in the *mudaraba* contract giving the *mudarib* the right to set aside a certain percentage of the profit attributable to PSIA. This may be used to mitigate the bank's exposure to displaced commercial risk. The lack of transparency in financial reporting has permitted Islamic banks to create undisclosed reserves, which can be used for income smoothing purposes.

Investment Risk Reserve is retained only from the profits attributed to investment account holders (After deduction of *mudarib* share). However, the investment risk reserve is needed to cover potential losses on assets invested with investment account holders funds (Archer and Rifaat, 2006; Grais and kulathunga, 2006).

A percentage of profit equalization reserve and the totality of investment risk reserve belong to investment account holders but retained by the Islamic bank. (Note 48) The remainder part of accumulated profit equalization reserve belongs thus to shareholders. In the contract, investment account holders agree in advance on the proportion of their income that may be allocated to both reserves, which is determined by the management of the bank at their own discretion. These reserves are generally invested by the Islamic bank to generate additional returns to investment account holders (Archer and Rifaat, 2006). The portion of the PER that is attributable to the PSIA, and all of the IRR, are invested in assets that produce returns for the PSIA; however, the bank as *Mudarib* will receive a percentage of these returns. What is not clear is whether this percentage is the same as that stated in the *mudaraba* contract with the PSIA holders. In both cases, reserves are created within the equity of PSIA holders that provide a means whereby the bank may smooth the reported returns attributable to its PSIA holders.

In a dual banking system, the ability to maximize risk- adjusted return on investment and sustain stable and competitive returns is an important element for the development of a competitive Islamic banking system. The profit equalization reserve is a mechanism, which may to mitigate the fluctuation of rate of return arising from the flow of income, provisioning, and total deposits. This reserve is appropriated out of the total gross income and is shared by both the depositors and the banking institution (BNM, 2004). The central banks may discourage wide fluctuations in the rates that the banks are authorized to offer to the depositors in order to avoid destabilizing movements in the shares of deposits within the system (Zaher and Hassan 2001). (Note 49)

Using the Beidleman and Eckel coefficients, Boulila Taktak, Slama Zouari, Boudriga (2010) examined first income smoothing practices on a sample of 66 Islamic banks compared to conventional banks over the period 2001-2006 in 19 countries. (Note 50) Results confirm the income smoothing practices by Islamic banks by loss provision for loans and investment in *murabaha*, *musharaka*, and *mudaraba*. These findings reveal the Islamic specificity of income smoothing in banking sector and the importance of the dynamic provision policy, which requires special attention from supervisors and regulators as a tool to improve financial stability.

Islamic banks handle this uncertainty and to mitigate such a risk, by using a profit equalization reserve and investment risk reserve. IIFS create reserve funds to smooth the returns to UIA holders or protect their principal in case of adverse developments in the performance of the investment portfolio. (Note 51) Returns to UIA holders are supposed to vary according to IIFS performance, poor returns may induce UIA holders to transfer their funds to a better performing institution. IIFS consider these funds important to deal with competitive pressure from commercial and Islamic banks. Grais and Kulathunga (2006) argued that the profit equalization reserve and investment risk reserve might be considered in terms of the perspective of dealing with expected and unexpected losses to the extent that funds in these reserves provide cushions equivalent to capital. (Note 52) Investment account holders (UIA) are liable to incur unexpected losses as shareholders because there is effectively no cushion, as provided by equity from the shareholders in conventional institutions.

According to Grais and Kulathunga (2006), the economic capital could be extended to Islamic contracts to address correlations between risks, providing a comprehensive risk management tool for IIFS and comfort to their stakeholders. (Note 53) This approach would be applicable to both types of financial intermediaries. Nevertheless, a major difference between IIFSs and conventional banks relates to investment account deposits. As for IIFSs and conventional banks, the expected losses would be borne by the income. According to Grais and Kulathunga (2006) the risk-sharing feature of investment account deposits should reduce the overall risks for IIFSs, but the latter, would bear losses that are the outcome of market conditions but not of a *Mudarib's* misconduct. (Note 54) Grais and Kulathunga (2006) identified economic capital to deal with unexpected losses that are due notably to misconduct of the IIFS.

Conclusion

In this paper, we have demonstrated that in theory and practice the banking portfolio management in Islamic banking and the behavior to the regard to the risk is identical to conventional banks. This chapter also discussed the implications of corporate governance in Islamic banking for agency problems using traditional theory of financial intermediation. Evidence suggests that corporate governance in Islamic banks might be not too different from conventional banks. We have also showed that features of balance sheet structures of IFIs and conventional banks, which have an important implication in risk management. (Note 55) The proposed capital regulation for Islamic banks outlined seeks to enhance both repayment capacity and the quality of PLS contracts. We have identified clearly the risk categories an IIFS and CFS may face; then, we have presented capital requirement may help a

financial intermediary to define the capital. (Note 56) Thus, the chapter showed risk management approaches and methodologies for IIFSs and CFS. Risk management and capital requirements in Islamic banking might permit them to use their resources efficiently. Nevertheless, in case of financial distress, we must considers mechanisms that may help contain it and those that may foster post crisis recovery to contain a crisis and foster recovery in the case of conventional and Islamic finance, in order to prevent or solve distressed financial institutions and their relevance to IIFS.

List of Abbreviations

AAOIFI: Accounting and Auditing Organization for Islamic Financial Institutions

BCBS: Basel Committee on Banking Supervision/ **BFR**: Base Financing Rate/ **BHD**: Bahrain Dinar

BIB: Bahrain Islamic Bank/ **BIS**: Bank for International Settlements/ **BNM**: Bank Negara Malaysia

CAH: Current Account Holders/ **CAR**: Capital Adequacy Ratios/ **CB**: Central Bank

CBB: Central Bank of Bahrain/ **CFS**: Conventional Financial Services

CIBAFI: General Council of Islamic Banks and Financial Institutions/ **DIB**: Dubai Islamic Bank

EPS: Earnings per Share/ **FAS**: Financial Accounting Standards/ **FSA**: Financial Services Authority

GAMC: Government Asset Management Corporation/ **GCC**: Gulf Cooperation Council

IFH: Ihlas Finance House/ **IIFS**: Institution Offering Islamic Financial Services

IFRS: International Financial Reporting and Accounting Standards

IFSB: Islamic Financial Services Board/ **IIFM**: International Islamic Financial Market

IIMM: Islamic Inter-Bank Money Market/ **IIRA**: International Islamic Rating Agency

IsDB: Islamic Development Bank/ **IOSCO**: The International Organization of Securities Commissions

LIBOR: London Inter-bank Offer Rate/ **LMC**: Liquidity Management Center

LOLR: Lender of Last-Resort/ **MII**: Mudaraba Inter-Bank Investment

PLS: Profit and Loss Sharing/ **PSIA**: Profit Sharing Investment Accounts

PSR: Profit-Sharing Ratio/ **QIB**: Qatar Islamic Bank/ **RIA**: Restricted Investment Account

SAMA: Saudi Arabia Monetary Authority/ **SFH**: Special Finans House/ **SSB**: Sharia Supervisory Board

TBRSA: Turkish Banking Regulation and Supervision Agency/ **UIA**: Unrestricted Investment Account

USD: US Dollar/ **WACC**: Weighted Average Cost of Capital

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Notes

Note 1. I.e. lower bank margins.

Note 2. No preference shares issued as it would violate the *Sharia* to pay fixed percentage dividends to holders of these shares. Equity funds include reserves accumulated over the years. Shareholders have sole control over the bank through the board of directors.

Note 3. Investment accounts are offered in different forms, often linked to a pre-agreed period of maturity, which may be from one month upwards, and the funds in the accounts can be withdrawn if advance notice of one month is given. Unlike shareholders, PSIA neither have control over management nor are they in a position to enforce monitoring measures on the management. In the last resort, they can withdraw their funds.

Note 4. A bank with only restricted investment accounts would be close to a mutual fund in terms of its risk profile, with almost all risk passed to investors. Even with unrestricted investment accounts, much of the risk is in principle borne by investors.

Note 5. In the case of restricted investment accounts (PSIA^R), the bank acts only as fund manager -- agent or non-participating Mudarib and is not authorized to mix its own funds with those of investors without their prior permission. The PSIA^R depositors have the right to determine the investment types chosen; the banks merely provide them with information about feasible investments. Therefore, the PSIA^R depositors take responsibility for investment risk.

Note 6. The PSIA^U give full authorization to the bank to take all decisions relating to the investment process. Like shareholders, therefore, PSIA have no right to interfere in the management of their funds that is the sole prerogative of the Islamic bank.

Note 7. It should be noted that Modigliani-Miller ignore the effect of the following variables on capital structure: (a) bankruptcy costs; (b) signaling of information by managers; (c) option pricing (d) agency; and (e) personal taxes. Taking these factors into consideration, an increase in debt financing to a certain level would tend to result in an increase in the value of the thereby indicating that there is an optimum capital structure.

Note 8. See section III.2.

Note 9. Islamic banks use funds deposited in investment account as the main source of external finance.

Note 10. For Islamic banks, this model is composed of the following elements: dividend paid to shareholders; cost of “Zakat” paid on shareholders' funds; rate of growth in dividend to shareholders; and return provided to depositors, as well as the rate of increase thereon.

Note 11. Kuwait Finance House (KFH); Dubai Islamic Bank (DIB); Qatar Islamic Bank (QIB); Bahrain Islamic Bank (BIB).

Note 12. Islamic jurisprudence is also known as Fiqh. It covers all aspects of life: religious, political, social and economic. It is mainly based on interpretations of the Quran and Sunna (sayings and deeds of the prophet).

Note 13. Islamic banking may be compared to collateral-based mortgages, which have less risk in comparison to commercial loans and are, therefore, given a lower risk-weight of 50% whereas the latter are given 100%.

Note 14. Scholars include the OIC Fiqh Academy.

Note 15. Benchmark rate, rate of return paid by conventional bank, rate of return paid by the peer, etc.).

Note 16. International Islamic Bank for Investment and Development in Egypt distributed all of its profits to investment account holders while the shareholders received nothing.

Note 17. Fluctuations in values in tradable, marketable or leasable assets (including sukuk) and in off-balance sheet individual portfolios (for example restricted investment accounts).

Note 18. Basic Islamic modes of financing.

Note 19. In PLS modes, the rate of return on financial assets is unknown or pre-fixed to undertaking the transaction. In purchase-resale transactions, a mark-up is determined based on a benchmark rate of return, typically a return determined in international markets such as LIBOR.

Note 20. Equity price risk arises from fluctuations in equity indices and prices. The non-trading equity price risk exposure arises from the Bank's investment portfolio. Currency risk is the risk that the value of a financial instrument will fluctuate due to changes in foreign exchange rates. The bank takes an exposure to the effect of fluctuation in prevailing foreign currency exchange rates on its financial position. Commodity risk refers to the uncertainties of future market values and of the size of the future income, caused by the fluctuation in the prices of commodities. Quémard et Golitin (2005) argued that most conventional bank failures and banking problems historically have been attributable to poorly managed exposures to market risk.

Note 21. In PLS modes, the rate of return on financial assets is unknown or pre-fixed to undertaking the transaction. In purchase-resale transactions, a mark-up is determined based on a benchmark rate of return, typically LIBOR.

Note 22. PSIA^{U} depositors engage in fixed term contracts; hence, they have less flexibility to withdraw their funds if the banks do not perform well financially.

Note 23. This risk-sharing feature argues that UIA are not liabilities for the IIFS and accordingly they should not be required to meet the same capital requirements as conventional banks.

Note 24. The regulation requires the RAR to be equal to at least 8% of total assets, after applying risk-weighting coefficients to the assets, on- and off-balance-sheet. The CAR as stipulated in Pillar 1 of Basel II is expressed as:

$$\text{CAR} = \frac{\text{Tier1Capital} + \text{Tier2Capital}}{\text{Risk Weighted Asset}}$$

Note 25. The IAH share of the PER and the whole of the IRR (none of which is attributable to shareholders) are excluded from capital. They are taken into account in measuring the amount of risk-weighted assets attributable to investment account holders.

Note 26. As these would bear interest and contravene Sharia principles.

Note 27. Several authors proposed to equate the investment accounts to the hybrid capital instruments included in Tier 2. However, it is difficult to reconcile with the technical characteristics of the investment deposits, which are not negotiable in the financial markets and can have short maturity, even cut short with the bank's agreement

Note 28. Furthermore, the failure of Islamic banking deposits to share in the losses of the bank is best highlighted in the case of Bank Islam Malaysia Berhad in 2006 when the bank continued to pay out RM0.371 billion in "profit sharing" to its depositors despite incurring a reported loss of RM1.3 billion. As such, assets that are funded by profit-sharing investment accounts should not be excluded from the calculation of the risk-weighted assets of the CAR. Central Bank of Malaysia also considers profit sharing investment accounts as part of overall Islamic banking capital fund for the purpose of determining single customer limit.

Note 29. The investment depositors can withdraw their funds upon maturity, but the equity base remains unchanged when shareholders 'withdraw their funds' by selling their shares to other investors.

Note 30. IIFSs use profit-sharing investment '*'deposits''* as a form of leverage (Archer and Karim, 2006) and expose IIFSs to displaced commercial risk.

Note 31. Displaced commercial risk expresses the possibility that depositors will withdraw their funds if the return paid to them is lower than that paid by the other banks. As a result, some Islamic banks give minimum guaranteed returns to depositors, although it is prohibited by the Sharia principles (AAOIFI, 1999).

Note 32. The document identify six risk categories: credit risk, equity investment risk, market risk, liquidity risk, rate of return risk and operational risk in order to provide guidelines that account for some of these risk exposures, especially liquidity risk and operational risk.

Note 33. This is the position adopted by the Accounting and Auditing Organization for Islamic Financial Institutions the body established to promulgate accounting and auditing standards for Islamic financial institutions in its Financial Accounting Statement No. 2: Concepts of Financial Accounting for Islamic Banks and Financial Institutions (1993). Investment accounts would neither be listed under liabilities, as is currently the practice of almost all Islamic banks, nor would they be included with owner's equity funds. Hence, the formula of the statement of financial position of an Islamic bank should be: assets = liabilities + equity of investment account holders + owners' equity.

Note 34. AAOIFI's standards are mandatory for the following markets: Bahrain, Jordan, Sudan, Qatar, and Dubai International Financial Center. Syria is considering their adoption. The standards are used as guidelines in Saudi Arabia, Kuwait, Malaysia, Lebanon, and Indonesia. Most Islamic banks' Sharia supervisory committees use AAOIFI standards as guidelines.

Note 35. The Islamic bank's own capital is calculated according to the Basel methodology and comprises two tiers: Tier 1 and Tier 2. This basic calculation has been adopted by the AAOIFI's Financial Accounting Standard (No. 11: Provision and Reserves).

Note 36. The AAOIFI uses L to include all other (non-PLS-based) deposits (depositors' current accounts). SA is used to represent all other non-PLS-based deposits.

Note 37. TA is equal to the total of OC, SA and PSIA^U. Insolvency in an Islamic bank happens when TA < DBC (debt-based capital).

Note 38. Tier 1 and tier 2 equal to 8% of risk-adjusted assets.

Note 39. Most IIFS are exposed to unrated customers, 100% RW equivalent to 8% capital charge.

Note 40. Islamic Banks adopted the financial accounting rules established by the International Accounting Standards Board.

Note 41. Although the AAOIFI number 11 *"Provisions and Reserves"*, applicable from 1 January 2001, permit such reserves, it requires disclosure of their amounts and movements. One such reserve (referred to in as "Profit Equalization Reserve" (PER) is created by setting aside amounts out of the bank's profit before allocation and calculation of the Mudarib share; the amounts so set aside reduce the profit available to both shareholders (including the Mudarib share) and PSIA holders. AAOIFI requires IIFSs to disclose the shares of the actual profits and of the funds from the profit equalization reserve in the returns they receive. *"Provisions and Reserves": "Specific Provision which is the amount set aside to reflect devaluation of a certain asset i.e., write it down to its current cash equivalent value. General Provision, which is the amount, set aside to reflect a potential loss that may occur of current unidentifiable risks in relation to Total of Assets "Receivables and Investment and Financing"*.

Note 42. Income smoothing practices is a common form of earnings management that uses accounting techniques to reduce the fluctuations in net income over time.

Note 43. Shrieves and Dahl (2003) demonstrated the use of this technique in times of financial distress.

Note 44. The objective of the use of profit equalization and risk investment funds is to maintaining a stable return to this category of UIA holders; managers automatically send the signal that the firm is healthy and profitable, while the reality may be otherwise.

Note 45. Decisions pertaining to PER and IIR should ideally be left to the business. However, concerns over maintaining the UIA holder principal and the systemic consequences that losses may provoke have led some regulators to intervene. The banking law of Jordan as amended in 2003 establishes a minimum deduction of 10% on earnings to be invested in an investment risk fund in order to cover losses in mutual investment accounts. Such minimum deduction may be increased by the CB (Art. 55).

Note 46. Profit equalization reserve (PER) is the amount appropriated by the IIFS out of the mudaraba income, before allocating the Mudarib's share, in order to maintain a certain level of return on investment (Unexpected Losses) for IAH and to increase owners' equity. Smoothing PSIA's profit payouts via transfers of profits into and out of a profit equalization reserve, giving a misleading impression of stable returns.

Note 47. Investment risk reserve (IRR) is the amount appropriated by the IIFS out of the income of IAH, after allocating the Mudarib's share, in order to cushion against future investment losses (Expected Losses) for IAH. Masking losses on investments of PSIA funds by use of an Investment Risk Reserve (IRR) formed out of prior period PSIA profits, which acts as an internal buffer to absorb losses on investments of PSIA funds.

Note 48. Conventional banks usually have the ability to pass on risks to their customers, through their ability to adjust deposit and loan rates. Islamic banks can protect investment account holders and shift risks to shareholders (displaced commercial risk), for competitive reasons, they can hold back profits in good years and pay out in bad years (Čihák and Hesse, 2008). Only after Islamic banks' layers of protection have been exhausted and after the bank has started to incur losses, does a shock have an impact on capital and reserves. These additional layers of protection are ultimately reflected in the banks' returns and capital, and thereby in their z-score (See chapter 3).

Note 49. When the banks constitute internal reserves in the form of profit equalization reserve or investment risk reserve (the first, charged pro-quota to both the shareholders and the investment accounts; the second, charged

wholly to the second), the risk-weighted assets financed by such reserves can be taken away from the denominator of the solvency coefficient up to a maximum of 30 per cent as established by the supervisory authorities (IFSB, 2005).

Note 50. Bahrain, UAE, Turkey, Iran, Sudan, Pakistan, Kuwait, Yemen, Brunei, Qatar, Malaysia, Bangladesh, Arabia Saudi, Egypt, Jordan, Russia, Indonesia Mauritania, Tunisia.

Note 51. These reserves are generally known as Profit Equalization Reserves (PER) and Investment Risk Reserves (IRR). We follow AAOIFI's definition in Financial Accounting Standard (FAS) 11.

Note 52. PER cannot be used to offset an overall loss during a period, as this would contravene the Sharia; IRR is used for this purpose. PER is employed to enhance the distributable profit if the profit earned is considered inadequate, and this may be due to the effects of asset write-downs or write-offs.

Note 53. Grais and Kulathunga (2006) illustrated an example with murabaha contracts in providing the probability distribution of losses associated with murabaha contracts that finance trade within a 12-month period. IIFS would be expected to conduct business in such a way as to deal with expected losses, pricing its products and accumulating provisions accordingly.

Note 54. In this case, pricing designed to cope with expected losses should limit the need for a PER to addressing errors in setting pricing and other such unexpected events. The IRR could address unexpected losses (excluding those due to misconduct), as pricing would be expected to generate resources to fund provisions for expected losses.

Note 55. Given that Islamic banks operate under principles of risk sharing, the agreement does not remove the risk because it is not allowed to receive a profit without risk; however, it is possible to reduce risks such as currency risks, interest rate risk and counterparty risks. Islamic banks are allowed to use the wide range of derivative instruments such as swaps available to conventional banks for hedging purposes or transfer of risks.

Note 56. Nevertheless, Islamic financial intermediation needs to comply with Sharia principles, notably those of risk sharing. They do respond to a latent demand for financial services that do not breach Sharia principles. Accordingly, they have the potential to contribute to financial deepening, economic growth and social inclusion.

Table 1. Classification of Capital in Basel Accords

Classification	Contents
Tier 1 (core capital)	Ordinary paid-up share capital/common stock, disclosed reserves from post-tax retained earnings, non-cumulative perpetual preferred stock (goodwill to be deducted).
Tier 2 (supplementary capital)	Undisclosed reserves, asset revaluation reserves, general provisions/general loan-loss provisions, hybrid (debt/equity) capital instruments, and subordinated term debts.
Tier 3	Unsecured debt: subordinated and fully paid up, to have an original maturity of at least two years and not be repayable before the agreed repayment date unless the supervisory authority agrees.

Source: Grais and Kulathunga (2006).