

Operational in Islamic Banks: Issues and Management

Marliana Abdullah¹ (liana_kisdar@yahoo.com)

Department of Syariah
Academy of Islamic Studies
Selangor International Islamic University College (KUIS)

Shahida Shahimi² (shahida@ukm.my)

Abdul Ghafar Ismail³ (agibab@ukm.my)

Research Centre for Islamic Economics and Finance (EKONIS-UKM)
School of Economics, Faculty of Economics and Management
Universiti Kebangsaan Malaysia

ABSTRACT

Operational risk in Islamic banks is significant and become more complicated compared to conventional banks because of their unique contractual features and general legal environment. Specific aspects and diversity of contract could raise the operational risk of Islamic banks. Thus operational risk in financial institution has attracted more attention from the regulators, practitioners and also academics over the last decade. Another reason is due to the huge losses incurred by a number of financial institutions such as Barings, Daiwa and Ihlas Finance in Turkey as a result of the malfunctioning of their operational risk management. Therefore, this paper will assess key issues in measurement and management of operational risk in Malaysian Islamic banks. Descriptive, analytical, and comparative analyses are used in this paper to discuss the issues of operational risk in Islamic bank through the implications associated with the Islamic banks' operational risk as well as the implications on risk measurement, risk management and capital adequacy. This paper reveals that although basic Basel II core principles of effective banking supervision apply equally well and ideally suit the Islamic banking institutions, risk measurement and risk management practices still need specific adaptations to Islamic banks' operational characteristics. These particularities highlight the unique characteristics of Islamic banks and raise serious concerns regarding the applicability of the Basel II methodology for Islamic banks. Then this paper will fill the gap to the existing literature of operational risk in banking institution especially Islamic banks by showing the needs of specific adaption of operational risk measurement and risk management practices due to the nature of Islamic banks.

Keywords: capital adequacy standard, Islamic banking, operational risk, risk management

INTRODUCTION

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. It is common 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 et al. (1998) suggest a 'functional approach' to regulate financial institutions, where the functions performed by Islamic banks are analyzed and attempts are made to modify regulation in a way to provide them with better support.

In a global world economy, Islamic banks have to face key challenges in order to compete with conventional banks effectively. This implies that Islamic banks will need to follow up quickly and abide international standards as well. For instance, Basel II that set standards for capital adequacy and sound banking practices has become a key stone for safety that reflects supervisory concerns. Therefore, the adoption of international standards by Islamic banks will help enhance their credibility and fuel their growth worldwide.

¹ Lecturer of Muamalah, KUIS and PhD student of Faculty of Economics and Management, UKM.

² Senior Lecturer of Islamic economics, banking & finance (**corresponding author**).

³ Professor in banking & finance.

In line with the developments in the conventional banking system worldwide, the Islamic financial institutions with special reference to Islamic banking institutions are also required to implement the New Basel Capital Accord (Basel II). By adopting Basel II, Sundararajan and Errico (2002) believe that this accord can reflect the Islamic banks' true risk; and Islamic banks can adapt the supervisory regime and enhance market discipline by encouraging sound disclosure of policies. Furthermore, Basel II is a welcome development for Islamic banking since it offers a timely and important opportunity for the IFSB to play its part in the ongoing efforts to strengthen the international financial architecture as well as to promote financial stability and market development of Islamic banking.

The issues of risk measurement are central to adapting the Basel II for both conventional and Islamic banks. Risk measurement is also crucial to an effective disclosure regime that can harness market forces to reinforce official supervision. Among the financial risks faced by a bank is operational risk. Operational risks are related to a bank's organization and functioning, including computer-related and other technologies, compliance with bank policies and procedures, and measures against mismanagement and fraud (Van Greuning & Iqbal, 2008). Unlike market and credit risk, which tend to be isolated in specific areas of our business, operational risk are inherent in all business processes.

In Basel II, operational risk is given particular emphasis, i.e. it should be measured using statistical models. While basic Basel II core principles of effective banking supervision apply equally well to Islamic banks, risk measurement and risk management practices still need specific adaptations. Then it could recognize the characteristics of Islamic banks, disclosure of risk profile, and risk management. This will set the stage for adopting more advanced capital measurement of Basel's approaches but tailored to the specific Islamic banks' operational characteristics.

Therefore, this paper will assess key issues in measurement and monitoring of operational risk in Malaysian Islamic banks. The aim of this paper is to give a unified knowledge on operational risk. In particular, this paper will identified the behavioral implications associated with the Islamic banks' operational risk as well as the implications on risk measurement, risk management, capital adequacy and supervision.

The rest of the study is structured as follows. Section two appraises the conceptual framework of banking risk. Section three discusses on case studies of the banks' failure and section four reviews the nature of operating risk in greater detail. Section five discusses the operational risk exposure of Islamic banking institutions that arises from the different nature of the financing and investment activities of the banks. This section also provides a sample calculation of operational risk of Islamic banks. Section six will examines specific issues of the Islamic banks' operational risk, and section seven concludes.

CONCEPTUAL FRAMEWORK

a) Risks in Islamic banks

The concept of risk in Islamic banking and finance could be best understood when viewed from two dimensions: (a) prohibition of *gharar* and (b) freedom of contract. According to *shariah* (*shariah* law), *gharar* is any elements of chance involving asymmetric information, uncertainty, risk or even speculation leading to illicit profits, such as is excluded by the religious and consequently by the mortal percepts of Islam. Islam offers full freedom of contracts to economic agents as long as the resulting contract is within the boundaries defined by *shariah* which mainly exclude *riba* and *gharar*. Given the freedom of contracts and the understanding of *gharar*, Islam fully recognizes risk generated by financial and commercial factors and elements extrinsic to the formation of the business. Among the Islamic financing methods and financial products which involve risks are *murabahah* (cost-plus sale),¹ *bay' muajjal* (deferred-payment sale), *bay' as-salam* (advance purchase), *bay' istijrar* (supply sale), *ijarah* (leasing), *istisna'* (purchase order), *mudharabah* (profit-sharing), and *musharakah* (profit and loss-sharing).²

In conventional banks, depositors have a fixed claim upon the bank's assets, according to predetermined interest rates together with a return of their capital. The conventional bank must therefore service its obligations to depositors irrespective of its actual profitability (realized profit). Consequently, any uncertainty in the income streams generated by and change in the value of the bank's assets is borne by the shareholders alone. Islamic banks, in contrast, are structured on the principle of risk sharing. This applies to the sources of fund and may also apply to the uses of fund. With respect to *mudharabah*, holders of profit sharing investment accounts (which take the place of conventional interest bearing bank deposit accounts) are essentially stakeholders with a type of limited term equity investment. The return on their investment in the bank is uncertain, since they share in the profit generated by the bank alongside the shareholders. This also exposes the investment account holders to the risk of losing any or all of their initial investment.

b) Operational Risk

Operational risk is often considered as a residual risk given the fact that any risk faced by a bank that is not market risk or credit risk falls under this category. To produce an estimate of operational risk, we could then look at the bank's financial statements and remove from the income statement (a) the impact of credit losses and (b) the profits or losses from market risk exposure. The variation in the resulting income would then be attributed to operational risk. Operational risk is the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events (Basel Committee on Banking Supervision, 2001). This definition includes legal risk,³ but does not include reputational risk⁴ or the risk resulting from strategic decisions. Some operational risks result in increases in the bank's operating cost or decreases in its revenue. Other operational risks interact with credit and market risk.

The Basel Committee on Bank Supervision (2001) has identified seven categories of operational risk associated with:

- i. Internal fraud: an act of a type intended to defraud, misappropriate property or circumvent regulations, the law or company policy, excluding diversify/ discrimination events which involve at least one internal party.
- ii. External fraud: an act of a type intended to defraud, misappropriate property or circumvent the law by a third party.
- iii. Employment practices and workplace safety: an act inconsistent with employment, health or safety laws or agreements from payment of personal injury claims or from diversity/ discrimination events.
- iv. Client, products and business practices: an unintentional or negligent failure to meet a professional obligation to specific client (including fiduciary and suitability requirement) or from the nature or design of a product.
- v. Damage to physical assets: the loss or damage to physical assets from natural disaster or other events.
- vi. Business disruption and system failures: disruption of business or system failures.
- vii. Execution, delivery and process management: failed transaction processing or process management from relations with trade counterparties and vendors.

The financial impact associated with an operational event that is recorded in the institution's financial statements consistent with "Generally Accepted Accounting Principles". Financial impact includes all out of pocket expenses associated with an operational event but does not include opportunity costs, foregone revenue, or cost related to investment programs implemented to prevent subsequent operational risk losses. Most banks have always had some framework in place for managing operational risk. However, the prospect of new capital requirements has led them to increase greatly the resources they devote to measuring and monitoring operational risk.

Basel II requires banks to keep capital for operational risk in addition to improving the way banks calculate credit risk capital. The regulators are introducing a capital charge for operational risk for three reasons. First, in an increasingly complex environment banks face many risks arising from the possibilities of human and computer error (failure). Second, regulators want banks to pay more attention to their internal systems to avoid catastrophes like that at Barings Bank. Third, the effect of the Basel II credit risk calculation will be to reduce the capital requirements for most banks and regulators want another capital charge to bring the total capital back to roughly where it was before.

The accord asks a minimum capital requirement which has to be detected against credit risk, market risk and operational risk, as well as other type of risks. In particular, it has stated a figure of 12% of minimum capital requirement that would produce a capital amount in line with the operational risk actually faced by large and complex banking institutions. In the same time, it allows different calculation approaches for the regulatory capital, rising in complexity and decreasing in capital requirements. Banks have three alternatives or approaches for determining operational risk regulatory capital. They are the basic indicator approach (BIA); the standardized approach (STA); and the advanced measurement approach (AMA). The use of these approaches depends on the sophistication of the bank.

c) Operational risk in Islamic banking institutions

Following Basel II, operational risk is defined as the risk of losses resulting from inadequate or failed internal processes, people and systems or from external events. This includes but unlimited to legal and *shariah* compliance risk, but excludes strategic and reputational risks. Such risks are likely to be significant in institutions offering only Islamic financial services (IIFS) due to specific contractual features and the general legal environment. In addition, the increasing use of structured finance transactions, for instance, securitization of loans originated by banks as way of risk management of bank's asset could expose banks to additional legal risks. Additionally, failure to comply with *shariah* is also a form of operational risk and

if IIFS fail to do so, they will betray the trust of investors and therefore should be responsible for the lost income (El-Hawary et al., 2004) Archer and Abdullah Haron (2007) identify operational risks faced by Islamic banks could be divided into three categories:

- i. Operational risks that are consequential upon various kinds of banking activities, and which are somewhat similar for all financial intermediaries, whether *shariah* compliant or not. However, the asset based nature of financing products in Islamic banking such as *murabahah*, *salam*, *istisna'* and *ijarah* may give rise to forms of operational risk in contract drafting and execution that are specific to such product.
- ii. *Shariah* compliance risk – that is (a) risk relating to potential non-compliance with *shariah* rules and principles in the bank's operations (b) the further risk associated with the Islamic bank's fiduciary responsibilities as *mudarib* (entrepreneur) toward fund providers under the *mudarahah* form of contract according to which in case of misconduct or negligence by *mudarib*. Then, the fund invested by the fund providers become a liability of *mudarib*.
- iii. Legal risks arising either from (a) the Islamic bank's operations or (b) problems of legal uncertainty in interpreting and enforcing *shariah* contracts.

According to Sundararajan (2005), there are specific aspects that could raise operational risks in Islamic banks as follows:

- i. the cancellation risks in non-binding *murabahah* and *istisna'* contracts; (*shariah* non-compliance risk);
- ii. problems in internal control systems to detect and manage potential problems in operational process and back office functions;
- iii. technical risks of various sorts;
- iv. the potential difficulties in enforcing Islamic finance contracts in a broader legal environment; (*shariah* non-compliance risk);
- v. the risk of non-compliance with *shariah* requirements that may impact on permissible income; (*shariah* non-compliance risk);
- vi. the need to maintain and manage commodity inventories often in illiquid markets;
- vii. the potential costs and risks in monitoring equity type contracts and the associated legal risks; and
- viii. increasing use structured finance transactions – specifically, securitization of loans originated by banks to manage risks on the asset side could expose banks to additional legal risks.

Islamic Financial Services Board's (IFSB's) Published Standard No. 2 recommends that the proposed measurement of capital to cater for operational risk in IIFS may be based on either the BIA or STA. Under the BIA, a fixed percentage of 15% of annual average gross income, averaged over the previous three years, is set aside. Under the STA, this percentage varies according to the business lines from 12% to 18%.⁵ It is further recommended that due to different structure of business lines for IIFS, at the present stage, the former to be used by IIFS.

d) Risk management

Risk management is now recognized as a key activity for all corporations; banks, financial institutions, and others. Many of the disastrous losses of the 1990s would have been avoided if good risk management practices had been in place. There are two general approaches to risk management strategies for bank as well as other organization, i.e. risk decomposition and risk aggregation. The former involves managing or identifying risks one by one and handle each one separately. The latter involves reducing risks through risk diversification. In practice, banks used both approaches when they manage market and credit risks.

The ability of a bank to absorb unexpected losses, i.e. risks is critically dependent on the amount of equity and other forms of capital held. Capital is a cushion to protect the bank from an extremely unfavorable outcome. Banks are often subject to banking regulations, which are mainly designed to protect depositors and ensure a stable banking and financial system by setting capital requirements for banking institutions based on international standards, for instance the Basel II capital requirements.

Basel II is based on three "pillars". In Pillar 1, the minimum capital requirement for credit risk in the banking book is calculated in a new way that reflects the credit ratings of counterparties. The general requirement in Basel I that banks hold a total capital equal to 8% of risk-weighted assets remain unchanged. The capital requirement for market risk is also remains unchanged from the 1996 Amendment.⁶ However, there is a new capital charge for operational risk. A risk-weighted asset for operational risk is defined as 12.5 times the calculated operational risk capital.

Pillar 2, which is concerned with the supervisory review process allows regulators some discretion in how rules are applied but seeks to achieve overall consistency in the application of the rules. It places more emphasis on early intervention when problems arise. Supervisors are required to do far more than just ensure that the minimum capital required under Basel II is held. Part of their role is to encourage banks to develop and use better risk management techniques and to evaluate these techniques.

Pillar 3, which is concerned with market discipline, requires banks to increase disclosure to the market of their risk assessment procedures and capital adequacy. In addition, in some instances, banks will have to increase their disclosure in order to be allowed to use particular methodologies for calculating capital. The banks will be subjected to added pressure to make sound risk management decisions if shareholders and potential shareholders have more information about those decisions.

FINANCIAL DISTRESS, BANKS' FAILURE AND OPERATIONAL RISK: A CASE STUDY

a) Barings' Fall

Barings Bank (Barings) is founded in 1762 by Sir Francis Baring which is the oldest mercantile bank in London until its collapse in 1995. On February 26, 1995, Barings, a venerable 233-year-old bank, declared it was bankrupt. The bank with a total net worth of \$900 million had suffered losses in excess of \$1 billion. These losses wiped out the firm's entire equity capital (Jorion, 2002). The downfall of Barings was due to the gross mismanagement of bank's derivatives trading operations by Nicholas William Leeson (Leeson). Leeson was 28-year-old, the General Manager and head trader of Barings Future in Singapore (BFS) and as such he was in charge of both the front office and the back office of BFS. The positions would normally have been held by two different employees. That means, Leeson was able to operate with no supervision from London and in case of corruption, it made easier for him to hide his losses. In fact, his position violated a basic tenet of good risk management- separation of duties (Andrews, 2005).

BFS had been established to look after the bank's Singapore International Future in Singapore (SIMEX) trading options. Leeson's job was to make arbitrage profits by taking the advantage of differences in price of similar contract on the SIMEX (Singapore) and Osaka Securities Exchange (OSE) in Japan. At the time of the massive trading losses, Leeson was supposed to be arbitraging, seeking to profit from price differences of Nikkei 225 futures contracts listed on the Osaka Securities Exchange and the SIMEX. To take the advantage of the arbitrage opportunity, Leeson had to adopt the following strategy- if Leeson was long on the OSE, he had to be short twice the number of contracts on SIMEX. The arbitrage trading required Leeson to buy at the lower price on one exchange and sell simultaneously at the higher price on the other, reversing the trade when the price difference had narrowed or become zero. The market risk in arbitrage was minimal because positions were always matched. In this case, Leeson was not given any authority to trade in options or maintain any overnight un-hedged positions (ICMR, 2004).

In spite of not having the authority, Leeson traded in option and maintained un-hedged positions. He acted beyond the scope of his job, and was able to conceal his unauthorized derivatives trading activities. In fact, Leeson consistently exercised more authority than he was granted and he could get away because Barings did not have a system of procedures and controls in place to monitor his trading activity (Andrews, 2005). All the Leeson's deceptive strategies are as follows (Ghosh et al, 2008):

- Used of cross trade
- Broke down the total number of contracts into several different trades
- Changed the trade prices in order to get the profit
- Credited the profits to 'switching' accounts and losses to be charged to account '88888'.
- Never transmitted the details of the actual and accurate account to the treasury or risk control office in London.

Because Barings was viewed as a conservative bank, the bankruptcy served as a wakeup call for financial institutions all over the world. The downfall has revealed an amazing lack of controls at Barings. In this case, Leeson had control over both the front office and the 'back office'. The back office is responsible for recording and settling trades which are transacted by front office by accepting/releasing securities and payments for trade and reconciling them with details sent by bank counterparties and assessing the accuracy of price. In any serious bank, traders have a limited amount of capital they can deal with and subject to closely supervised 'position limits'. In order to avoid conflict of interest, the trading and back office functions are clearly delineated. In effect, most banks have a separate risk management unit that provides another check on traders (Jorion, 2002).

With regard to Barings case, we could simply conclude that there are several main factors that led to Barings collapse (Ghosh et al, 2008):

- Leeson was effectively let to settle his own trades by putting him in charge of both the trading desk and back office.
- Leeson had the final say on payments, ingoing and outgoing, confirmations and contracts, reconciliation statement, accounting entries and position reports.
- Leeson was considered perfectly placed to relay false information back to London.

There are some lessons to be learned from the Barings fall, some of them are:

- Relevant internal controls, including independent risk management have to be established for all business activities
- Management teams have a duty to understand fully the business they manage
- Responsibilities for each business activity has to be clearly established and communicated
- Clear segregation of duties is fundamental to any effective control system
- Efficiency of a clear reporting line

When Barings finally went into receivership on February 27, 1995, it had an outstanding notional futures position on Japanese equities and bond of US\$27 billion (US\$7 billion on Nikkie 225 equity contracts and US\$20 billion on Japanese government bond (JGB) and Eouroyen contract) (ICMR, 2004). Barings' shareholders bore the full cost of losses. The price of Barings' share went to zero, wiping out about \$1 billion of market capitalization. Bondholders received five cents on the dollar. Some of additional losses were borne by Dutch financial services group International Nederlanden Group (ING), which offered to acquired Barings for grand total of one British pound (about \$1.50) (Jorion, 2002).

b) Daiwa's Lost Billion

On July 13, 1995, Daiwa Bank's Toshihide Iguchi, 44-year-old, executive vice president in New York, confessed in a 30-page letter to the Chairman of the Management Board of Daiwa Bank in Tokyo that he had lost approximately \$1.1 billion while dealing in US Treasury Bonds. In his letter, Iguchi explained that over the preceding 11 years he had managed to conceal the losses in his trading activities by falsifying the custody data. Daiwa Bank opened its office in the US at 1950s. In the 90s, Daiwa was the sixth largest bank in Japan, and ranked as twelfth largest in the world. Daiwa began trading in US Treasury Bonds as a service to its customers and in the 1986, being awarded primary market dealer status. In 1996, due to the fraud and the way of management subsequently dealt with, Daiwa Bank was forced to pull out of the American market. The fraud at Daiwa was one of the largest in history, involving approximately about \$200 million more than the fraud committed at Barings. But in this case, Daiwa itself was able to cushion the losses and it probably the reason why it made less impact than the Barings fraud. The loss only absorbed one-seventh of firm's capital (Jorion, 2002).

The executive vice president of Daiwa's New York branch- Iguchi had traded away the bank's money over 11 years, an extraordinary long period for such a fraud to run, while using his position as head of the branch's securities custody department to cover up the loss by selling off securities owned by Daiwa and its customers. When Iguchi was promoted to become a trader in 1984, he also retained responsibility for the back-office duties. All in all, he supervised the securities custody department at the New York branch from approximately 1977 right through to 1995. He continued to hold this two positions until he confessed his fraud. Daiwa's New York branch managed the custody of the US Treasury bonds that it bought, those it bought on behalf of its customers via sub-custody account held at Bankers Trust. Through this account, interest on bonds was collected and dispersed and bonds were transferred when purchase and sale transaction took place according to the wishes of either customers or the bank's own managers. Daiwa and its customers kept track of what happening in this account through transaction reports from Bankers Trust that flowed through Iguchi, in his role as head of back office (Jameson, 2001). Meaning that, Bankers Trust was responsible to report to Daiwa's custody department and not directly to Daiwa's customer. On part of responsibilities of Daiwa's custody department to reconcile the Bankers Trust sub-custody account with its own books and report to its customers and supervisors based on its own books. The customers then reconciled the Daiwa's report with their own books.

When Iguchi lost a few hundred thousand dollars early on his trading activities, he was decided to sell the bonds in Bankers Trust sub-custody account to pay off his losses. In the word of FBI agents who investigated the case "He-Iguchi concealed his unauthorized sales from the custody department... by falsifying Bankers Trust account statements so that the statement would not indicate the securities or bonds had been sold". The loss-making transactions were not entered in Daiwa's book. Only profitable part of the transactions was booked, to create the impression that the trade in the bonds was profitable. Iguchi himself

kept Bankers Trust's original account statement. He still had all of them at hand when the fraud was finally exposed. While Iguchi served his sentence, he was asked by Time magazine whether his early actions felt like a crime "To me, it was only a violation of internal rules. I think all traders have a tendency to fall into the same trap. You always have a way of recovering the loss. As long as the that possibility is there, you either admit your loss and lose face and your job, or you wait a little – a month or two months or however long it takes" (Jameson, 2001).

It took 11 years in Iguchi's case, during this time he falsified some 30 000 trading slip among other documents. In fact, when customers sold off securities that Iguchi had, the securities already sold off on his own behalf, or when customer needed to be paid interest on long-gone securities, Iguchi settled their accounts by selling off yet more securities and changing yet more records. Eventually about \$377 million of Daiwa's customers securities and about \$733 million of Daiwa's own investment securities had been sold off by Iguchi to cover his trading losses (Jameson, 2001). In the case of Barings, the problem arose because of the same point Iguchi had control of both the front and back offices. But in many ways, the Daiwa case is more worrisome than Barings because the losses were allowed to conceal and accumulate over 11 years, not just a few months.

Finally on July 13, 2005, Iguchi confessed the fraud in a letter to the Chairman of the Management Board of Daiwa Bank in Tokyo. In the beginning Iguchi did not realize that he had committed fraud, he presumed he had violated rules. With the confession, Iguchi wished to make the fraud known internally and give the Daiwa the opportunity to save the situation. Instead of reporting the matter to the US regulators, the Daiwa New York management instructed Iguchi to continue trading fraudulently until a solution had been found. Iguchi continued selling customers' securities for four week after the fraud had become known internally in order to meet delivery obligations and make interest payments to other customers.

After Daiwa told US regulators about the losses on September 18, Iguchi was taken to a motel and questioned directly by the US Federal Bureau of Investigation. He told FBI agents about what had gone on in the months following his initial confession to Daiwa, and the bank was shocked to find itself a 24 –count indictment for conspiracy, fraud, bank exam obstruction, records falsification and failure to disclose federal crimes (Jameson, 2001). In this case, US regulators were deeply unhappy at the attempted cover-up and the way Daiwa had seemed to ignore regulatory warning over a number of years. In November 1992 and 1993, the Federal Reserve Board had inspected Daiwa's office and had warned the bank about the risk in its management structure. Daiwa, however, failed to implement major changes and even reported that it deliberately hid records and temporarily removed bond traders in order to pass the 1992 inspection (Jorion, 2002). In addition, the US regulators were also unhappy that at least one senior member of Japan's ministry of finance knew about the Daiwa scandal in early August and had not informed his US regulatory counterpart.

In response to the loss, Daiwa Bank closed its New York office and top management announced in October 1995 that it would be stepping down. US regulators accused Daiwa of a " pattern of unsafe and unsound banking practices and violation of law" (Jorion, 2002). By January 1996, Daiwa had agreed to sell most of its assets in the US, totaling some \$3.3 billion, to Sumitomo Bank and to sell of 15 US offices. In February 1996, Daiwa agreed to pay a \$340 million fine to avoid further legal battles over it institutional role in the Iguchi affair – one of the largest ever fines in a criminal case in the US. Then, in December 1996, Iguchi was sentenced in New York to four years in prison and a \$2.6 million penalty. On 20 September 2000, the Osaka court had ordered 11 current and some former board members and executives from the bank must pay \$775 million as restitution to shareholders. The board members and executives immediately appeal against the decision.

There are some lessons to be learned from the Daiwa's case, some of them are (Jameson, 2001):

- Risk-taking functions must be segregated from record-keeping and risk assessment functions.
- Massive fraud can continue for many years in an environment of lax control: Iguchi made his confession not because he feared he was about to be caught, but instead when he realized that situation might otherwise carry on indefinitely.
- Years after an event, failures in risk management remain a threat to the personal finances of senior executives if the executives shown to have acted inappropriately.

c) Closure of Ihlas Finans in Turkey

Ihlas Finans (IFH), a special finance house (SFH), was a subsidiary of Ihlas Holding. Ihlas Finans started in 1995 with the objective of providing interest-free investment opportunities to investors and small savers. In 1996, its nominal capital was over 1 trillion Turkish Lira (TL), which was equivalent to US\$12.3 million.

As of July 5, 1996 it raised funds of over 682 billion TL through IPO by issuing more than 150 million shares and reached a market capitalization of 6.5 trillion TL (US\$80 million approximately) in the same year. The size of its balance-sheet assets had grown from 9,206,711 million TL (US\$17 million) in 1995 to 633.56 trillion TL (US\$1173 million) by 1999. The rest of SFH are Albaraka Turkish Finance House, Faisal Finans, Kuwait Turkish Evkaf Finance House (KTEFH) and Andolu Finans (AnFH) (with exception of Asya Finans) were foreign entities in Turkey whereas the Ihlas Finans was the first domestic Islamic finance institution. All the deposits of SFH in Turkey include deposits of IFH were not protected by Central Bank's insurance system. In fact, being an Islamic financial institution it would not, and could not by law, invest in government securities. Thus, major proportion of the IFH's investment were illiquid assets and projects as compared to other domestic and foreign commercial banks who could hold very liquid government securities. IFH faced a run on its deposits in the wake of the banking crisis in Turkey between the last quarter of 2000 and early 2001. The Banking Regulation and Supervision Agency (BRSA) stepped in and cancelled the IFH on February 10, 2001. The banking crisis also affected the other SFHs and the fact that all of them survived except IFH.

There are many factors internal and external that contributed in sinking of IFH. Exchange rate shock coupled with liquidity crunch and the eroded depositor confidence in banking system were among the external factors that precipitated a run on IFH before it collapsed. BRSA cited the inability of IFH to keep its promises and obligations to the public and violation of banking rules for cancellation of its license on February 10, 2001 (Syed Ali, 2007). In general conclusion, we can say that the problem of IFH was likely due to liquidity problem similar as many of conventional banks. In this case, it is better for us to analyze the main root internal and external factors that might be responsible for IFH's collapse. A research conducted by Syed Ali (2007) on title Financial Distress and Bank failure: Lesson from closure of Ihlas Finans in Turkey revealed that there are two IFH's financial weaknesses out of eight indicators (i.e: size, capital adequacy, composition of deposits, liquidity ratio, maturity mismatch, duration gap, currency risk and degree of profit and loss sharing): (i) very low level of liquidity and (ii). there was high maturity mismatch of assets and liabilities. The liquidity ratio of IFH was only 4.22% in 1999 which sharply deteriorated to 0.53% by end of 2000 during the crisis. The ration had gone further down to 0.27% on February 10, 2001, the day of cancellation of its license. In fact IFH had a capital adequacy ratio of 5.39%. It was less than the ratio of above 7% maintained by other SFHs and much below than 8% that required and recommended by Basel Committee. It shows that IFH expanded its business more than what its core capital could support. This means that the IFH was not adequately capitalized. With regard to IFH's maturity mismatch, the research shows the general excess of short-term liabilities and long-term assets. Liabilities of shorter term maturity (less than 30 days) far exceeded the assets of corresponding maturity; while the assets of up to 90 days maturity period were far more than the liabilities of the corresponding maturity.

Usually, financial weaknesses are not the only sources of bank failure. Regularly the financial weaknesses build up due to the other internal factors such as the economic environment in which the bank operates, weaknesses in internal controls, poor management, regulatory failures, weaknesses of outside support institutions and the attitude of the monetary authorities. All these could reflect both in financial weaknesses and eventually failure of the bank. With regard to above discussed internal and external factors, we can simply conclude that some of them are more related to operational risk which referred to risk of losses resulting from inadequate or failed internal processes, people and systems or from external events.

Similarly to the episode of IFH, the lessons of its failure highlight the importance of internal reporting and control mechanism and the lack of incentives generally on the part of the institutions to invest in such a system. In the context of ownership structure of IFH, Ihlas Holdings, the parent company of IFH, had more than 50% (50.27%) ownership share in IFH which skewed the investments of the finance house in favour of the group it belonged. Furthermore in this case, 40.85% ownership share of Ihlas Holding owned by Mr. Enver Oren, means that the ownership structure of the subsidiary in combination with structure of the parent, placed the effective control of IFH in the hands of one individual. In fact, IFH was domestically owned while the other SFHs were foreign owned and administered from abroad for all decision. The foreign owner had this need which resulted in elaborate operational and monitoring procedures that were put in place for exercising of the control from abroad (Syed Ali, 2007).

There are some lessons to be learned of Islamic banks from issue of IFH's failure. Since the deposits of Islamic banks are not protected by the central bank guarantee, they need to be careful in investing them by trying to avoid reliance on volatile funding sources and also increasing the utilization ratio but not at the expense of the investing in low return and high risk project. In fact, Islamic banks should keep prudent portion of asset in liquid form to be able to cater the some of the withdrawal requests. The proportion should be determined based on behavioral maturity not their contractual maturity. Even if Islamic banks are intrinsically more stable, they can be affected by the collapse of the other conventional banks. The banking crisis in Turkey showed that since the SFHs had no government securities in their portfolio, they were able to preserve the value of proportion for a longer duration. At the time when the conventional banks were collapsing due to abrupt fall in the price of government securities and a sharp

increase in interest rate. Islamic banks eventually suffered a run on their deposits due to the domino effect of collapse of so many conventional banks that eroded depositor confidence and created gross economic uncertainties.

Lessons from Bank Failure: Risk Perspective

All the case studies here involve losses in excess of \$1 billion except in the case of Ihlas Finans in Turkey. As shown in Table 1, these losses were attributed mostly by the various causes: primary rogue traders for Barings and Daiwa and liquidity risk for Ihlas Finans due to weaknesses in internal controls, poor management, regulatory failures, weaknesses of outside support institutions and the attitude of the monetary authorities. The only common thread across these cases is the absence of enforced risk-management policies that could be categorized under operational risk. In response to these case studies, relevant internal controls including independent risk management have to be established as well as the effective and efficient control system and clear reporting line have to be in place.

OPERATIONAL RISK IN ISLAMIC BANKS: EXAMINATION OF ISSUES

a) Category of operational risk

Islamic banks' activities differ in substance and in form from conventional banks' operations. The implication arise is a different risk profile faced by the former. Basel II identified three types of risk exposures for conventional banks: credit risk, market risk and operational risk. Early attempts by Islamic scholars to cater for 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 (Chapra & Khan, 2000). The additional risks identified include rate of return risk, price risk, fiduciary risk and displaced commercial risk. The IFSB further released a standard for the "Guiding Principles of Risk management for Institutions Offering Only Islamic Financial Services (2005b)" which documented six risk categories in Islamic financial institutions: credit risk, equity investment risk, market risk, liquidity risk, rate of return risk and operational risk.

With regard to the guidelines of the Islamic Financial Services Board (IFSB, 2005a), institutions offering only Islamic financial services (IIFS) are exposed to operational risk when losses resulting from inadequate or failed internal processes, people and systems or from external events (BCBS, 2001). This definition also includes legal risk⁷, but does not include reputational risk or risk resulting from strategic decisions (BCBS, 2001). In addition, IIFS shall also incorporate possible causes of loss resulting from *shariah* non-compliance and the failure in their fiduciary responsibilities (IFSB, 2005a). With reference to that definition, it is understood that operational risk in Islamic banks also includes legal risk (Archer & Haron, 2007; Djojosingito, 2008; Fiennes, 2007; Izhar & Mehmet, 2009; Khan & Ahmed, 2001 and Sundarajan, 2005) and reputational risk (Archer & Abdullah, 2007; Akkizidis & Kumar, 2008 and Fiennes, 2007). The foremost salient feature of the IFSB's definition compared to Basel II's definition is the inclusion of *shariah* non-compliance risk and fiduciary risk as the categories of operational risk.

Shariah non-compliance risk is the risk that arises from Islamic banks' failure to comply all the times with *shariah* rules and principles as determined by the *Shariah* Advisor or the relevant body in the jurisdiction in which the Islamic banks operate with respect to their products and activities (IFSB, 2005a). Islamic banks have to ensure that their contract documentation complies with *shariah* rules and principles with regard to formation, termination and elements possibly affecting contract performance such as fraud, misrepresentation, duress or any other rights and obligations. Failure to adhere to *shariah* may result in non-recognition of income and resultant losses (IFSB, 2005a). Furthermore, majority of fund providers use *shariah*-compliant banking services as a matter of principle, their perception regarding the Islamic bank's compliance with *shariah* rules and principle is likely to be of great importance in maintaining their customer loyalty. In this regard, *shariah* non-compliance risk fall within a higher-priority category compared to other identified risks (Archer & Abdullah, 2007).

Besides of *shariah* non-compliance risk, Islamic banks are also exposed to fiduciary risk. Fiduciary risk is the risk arising from the Islamic banks' failure to perform in accordance with explicit and implicit standards applicable to their fiduciary responsibilities (IFSB, 2005a). As a result of losses in investments, Islamic banks may become insolvent and therefore unable to meet the demands of current holder for repayment of their funds and safeguard the interest of their investment account holder (IAH). Islamic banks may fail to act with due care when managing investment resulting in the risk of possible forgone profit to IAH (IFSB, 2005a).

Reputational risk⁸ is another category of operational risk arising from deteriorating trust of Islamic banks' clients due to irresponsible actions or mismanagement behaviour. Reputational risk is closely

interrelated with fiduciary and *shariah* non-compliance risk. In the case of heavy losses on the investment financed by current account holders' funds due to negligence and non-compliance with *shariah* principle, the depositors may lose confidence towards the Islamic bank and therefore this will affect depositors' confidence on the banks' credibility. This situation can lead to dire consequences, including withdrawal depositors' fund and insolvency risk. Although the fiduciary and *shariah* non-compliance risks also stem from the negligence and non-compliance, reputational risk arises due to irresponsible behavior by a single institution can taint the reputation of overall Islamic banking industry. Negative publicity can have a significant impact on institutions' market share, profitability and liquidity.

With respect to definition of operational risk, another risk that significant to Islamic banks is legal risk. According to Iqbal and Mirakhor (2007), legal risks due to non-standard practices come into view because of different contracts in different jurisdictions. Different adoption of *shariah* rules sometimes will results in difference financial reporting, auditing and accounting treatments by Islamic banks. For instance, while some *shariah* scholar consider the terms of a *murabahah* or *istisna'* contract to be binding on the buyer, other argue that the buyer has the option to decline even after placing the order and paying the commitment fee. While each practice is acceptable by different school of thoughts, the bank's risk is higher in non-binding cases and it may lead to potential problems in cases of unsettled transaction. For instance in Malaysia, there were thirteen (13) cases on *al-bay' bithamanan ajil* (BBA) known as deferred-payment sale property financings except one that were decided in the High Court of Malaya on 18 July 2008 that not in favour of the Islamic Banking Institutions (IBIs).⁹ The judgments were made by High Court may affect the whole IBIs because it consider the Islamic banks may only claim the principal sum and not the profit portion. The judgment that made by Judge Datuk Abdul Wahab bin Patail in this cases are closely related to different interpretation of any recognized *mazhabs*.¹⁰

In many western countries, the fact that the documentation is new and not well-tested in the courts adds to the legal risk (Fiennes, 2007). There is also the question of the interaction of commercial law with *shariah*. If they conflict, there is at least the possibility that the defaulting party can try to evade his responsibility by claiming non-compliance with *shariah*. For example in the UK, the courts were not impressed with the enforceability of the *shariah* law on top of English Law.¹¹

b) Regulatory capital for operational risk

i. The Basel capital adequacy framework (Basel I and Basel II)

Under the Basel I, the Committee recognizes that the capital buffer related to credit risk implicitly covers other risk. The broad brush approach in Basel I delivered an overall cushion of capital for both the measured risk (credit and market) and other (unmeasured) banking risk. However, the New Basel Capital Accord (Basel II) is focusing on sensitive risk other than credit and market risk. Further, developing banking practices such as securitization, outsourcing, specialized processing operations and reliance on rapidly evolving technology and complex financial products and strategies suggest that these other risks are increasingly important factors to be reflected in credible capital assessments by both supervisors and banks. Therefore, in Basel II includes the operational risk as residual risks.

Basel II departs from the Basel I in several important aspects. In the Basel II, a risk that has not previously been measured is added; operational risk. Additionally, if the national supervisor approves a bank's models to measure operational and other risks, the bank will be allowed to use them to determine its own amount of regulatory capital. In Basel II, the incentives to reward banks that posses such models are built in the form of reductions in levels of regulatory capital, which can lead to more capital at work and hence a higher yield. Therefore, Basel II introduces approaches for operational risk that have not been measured before.

The rising interest of supervisor and banking industry in the recent years for operational risk is due to the growth of e-commerce, large-scale mergers and acquisitions and the use of more highly automated technology which test integrated system and provoke a number of situations increasing operational risks.

Basel II uses a three pillars concept (i) minimum capital requirement (addressing risk), (ii) supervisory review and (iii) market discipline – to promote greater stability in the financial system.¹² The three pillars of the Basel II play an important role in the capital framework for operational risk. The **Pillar I** presents the calculation of the total minimum capital requirement for credit, market and operational risk. The capital ratio is calculated using the definition of regulatory capital and risk weighted assets.¹³ The capital ratio must be no lower than 8%. It deals with maintenance of regulatory capital calculated for three major components of risk that a bank faces: credit risk, operational risk and market risk. The capital adequacy ratio (CAR) as stipulated by Pillar 1 of Basel II is as follows:

$$CAR = \frac{\text{Tier 1} + \text{Tier 2}}{\text{Risk Weighted Assets}}$$

Risk-Weighted Assets *(Credit Risk + Market Risk + Operational Risk)*

The **Pillar II** deals with the regulatory response to the first pillar, giving regulators much improved ‘tools’ over those available to them under Basel I. It also provides a framework for dealing with all the other risks a bank face, such as systemic risk, pension risk, concentration risk, strategic risk, reputation risk, liquidity risk and legal risk, which the accord combines under the title of residual risk. The Pillar II of the Basel II recognizes the supervisory review process as an integral and critical component of the capital framework. Pillar II sets out a framework in which banks are required to assess the economic capital they need to support their risk. Then, this process of assessment is reviewed by supervisors. Where the capital assessment process is inadequate and/or the allocation insufficient, supervisors will expect a bank to take prompt action to correct the situation.

Supervisor will review the inputs and assumptions of internal methodologies for operational risk in the context of the firm wide capital allocation framework. The failure to manage properly operational risk can result in a misstatement of an institution’s risk- return profile and expose the institution to significant losses. A bank should develop a framework for managing operational risk and evaluate the adequacy of capital given in the framework. The framework should cover the bank’s appetite and tolerance for the operational risk, as specified through policies for managing this risk, including the extent and manner in which operational risk is transferred outside the bank. It should also include policies outlining the bank approach to identifying, assessing, monitoring and controlling/mitigating the risk.

Then the **Pillar III** greatly increases the disclosures that the bank must make. This is designed to allow the market to have a better picture of the overall risk position of the bank, allow the counterparties of the bank to price and deal appropriately. It has the potential to reinforce capital regulation and other supervisory efforts to promote safety and soundness in bank and financial system. Market discipline imposes strong incentive on bank to conduct their business in a safe, sound and efficient manner. It can also provide a bank with an incentive to maintain a strong capital base as a cushion against potential future losses arising from its risk exposures. To promote market discipline, bank should publicly and in a timely fashion, disclose detailed information about the process used to manage and control their operational risk and the regulatory capital allocation technique they use.

Under the standardized framework, Basel II sets clear guidelines for the calculation of adequate bank capital for operational risk. The balance sheet underlying the rules of the accord, however, belongs to a conventional bank whose structure as well as nature 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.

Recent studies on risk issues in Islamic banking and finance stress that features of Islamic banking institutions and the intermediation models that they follow require recognition of special risks to help make risk management in Islamic banking truly effective. As a result of the particular nature of Islamic banking activities, the risks borne by these institutions differ to a greater or lesser extent from those outlined in Basel I and II. Chapra and Khan (2000), and Khan and Ahmed (2001) acknowledge Basel II for providing scope for proper recognition of risks in Islamic banking products through a more risk sensitive system for risk weighting assets and stronger incentives for effective risk management. In similar vein, El-Hawary et al. (2004) recognize the appropriate balance of prudential supervision (Pillar II) and market disciplines (Pillar III) of Basel II for Islamic banking institutions. Based on both of the pillars, risk measurement and management becomes a crucial element to produce an effective disclosure regime that can connect market forces to reinforce official supervision.

Given the importance of adaptation of more advanced capital measurement approaches as envisaged in Basel II, serious attempts are made by the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) and the IFSB to develop a better capital adequacy standard/framework that addresses the risk profile of Islamic banks.

ii. AAOIFI proposal

In 1999, AAOIFI issued the ‘*Statements on the Purpose and Calculation of the Capital Adequacy Ratio for Islamic Banks*’ due to risks that arise from Islamic banks’ operations differ from the conventional risks faced by their peers and are not accounted for in Basel II the (AAOIFI, 1999). 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 capital adequacy ratio for Islamic banks. Much of the suggested methodology is based on Basel II standards with the key difference relating to the liability side of Islamic banks’ balance sheet (Turk & Sarieddine, 2007).

Islamic banks fund their financing and investment activities through three types of accounts in addition to shareholders' equity: current, saving and unrestricted investment accounts. The current and saving accounts are very much similar to conventional banks but the investment account requires less protection as their held on a profit and loss sharing basis. Investment accounts of Islamic banking institutions are of two types, namely restricted and unrestricted. The former cannot be considered as part of banks' source of funds since this type of funds are invested according to clients' directives and not at the discretion of the banks. Therefore, AAOIFI recommends that restricted investments 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 contrary, the latter should be included on the balance sheet of Islamic banks and have to be considered in the calculation of CAR.

Another difference or particularity of Islamic banks' activities is that the unrestricted investment account holders agree to share in the profit and loss with the bank. This implies that such funds could not be guaranteed by assigning them 100% weight in calculating the CAR. This is the reason why AAOIFI proposed this capital adequacy framework which is to address this issue and to determine appropriate risk weights to unrestricted investment.

In addition, although unrestricted investment account holders share risks with shareholders, their fund 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 if shareholders withdraw their funds by selling their shares to other investors. Furthermore, unrestricted investment accounts also cannot be classified under equity or Tier 1 capital is that such account bearers have no voting rights (Turk & Saredidine, 2007). In conclusion, unrestricted investment accounts lie in between deposits and equity, and they should properly acknowledge for capital adequacy purposes. Therefore, AAOIFI proposed a risk-sharing scheme between the investment account holders and the shareholders in the calculation of CAR of Islamic bank (Source: AAOIFI, 1999):

$$CAR = \frac{\text{Total Capital}}{RWA_{(Capital\ and\ Current\ Accounts)} + 50\%(RWA_{(Unrestricted\ Investment\ Accounts)})}$$

The limitation of the approach developed by AAOIFI is that it has basic similarities with Basel II and it simply focuses on the sources of funds of the Islamic banks, thus, ignoring the importance of detailing the calculation of risk weighted assets.

iii. IFSB capital adequacy standard and operational risk management

IFSB released an Exposure Draft Number 2 in 2005 focusing the suggestion for introducing the CAS for IIFS.¹⁴ This proposal recommended a capital adequacy standard based on the Basel II with the necessary modifications and adaptations to cater for the specifications and characteristics of the *shariah* compliant products and services. The document encompasses the minimum capital adequacy requirements based predominantly on the standardized approach with respect to credit risk and the basic indicator approach with regard to operational risks of the Islamic financial services (Pillar I) and the various applicable measurement methods for market risk set out in the 1996 Market Risk Amendment. This document does not address the requirements covered by Pillar II (supervisory review) and Pillar III (market discipline) of Basel II as these two issues will be covered by separate standards.

Like the AAOIFI proposal, the IFSB capital adequacy framework serves to complement the Basel II in order to cater for the specificities of Islamic banking institutions. However, while the AAOIFI focuses on the sources of funds of an Islamic bank, IFSB 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 of a conventional bank. Additionally, the provisions for operational risk and the treatment of profit sharing investment account (PSIA) are also justified.¹⁵

For instance, the assets funded by either unrestricted or restricted investment accounts should be excluded from the calculation of CAR since the capital is not guaranteed by bank and any losses are to be borne by the investment account holders, and thus do not command a regulatory capital requirement. The calculation of CAR is as follows (Source: IFSB, 2005a):

$$CAR = \frac{\text{Tier 1} + \text{Tier 2}}{RWA_{(Credit\ Risk + Market\ Risk + Operational\ Risk)} - RWA_{funded\ by\ PSIA_{(Credit\ Risk + Market\ Risk)}}$$

Thus, under the CAS framework, the IIFS's minimum capital requirement is assessed according to their exposure to credit risk, market risk and operational risk. Within this context, the IFSB has proposed two different methods to fine-tune the IIFS capital charges to better reflect financial risk diversities among individual credit exposures: a standardized and an internal ratings-based approach to credit risk. The standardized approach to credit risk is based on externally provided risk assessments such as the rating assignments by external credit assessment institutions. IIFS is also encouraged to utilize the internal model of risk assessments (self-assessments). Value-at-risk approach is used to measure market risk, whilst BIA, STA as well as AMA approach are used to measure operational risk.

The introduction of CAS attracts the interest of many researchers. The interest focuses on two aspects. First, the introduction of capital adequacy standard should address the supervisory review and market discipline, (see, Kahf (2005) and Hassan and Dicle (2005), El-Hawary et al. (2004), and Sundararajan and Errico (2002)). It is due to the different nature of risks and limited capacity for risk mitigation in IIFS. The second aspect is the specific characteristics of Islamic banks. As argued by Khaf (2005), there are qualitative similarities of treatment of credit risks between conventional and Islamic banks in Basel II, yet highlights issues that need special attention with regard to Islamic banks. Concerning unrestricted deposits, they should be related as equity, and the capital requirement for operational risk should be lower as these will be shared between equity holders and owners of unrestricted deposits.

c) Appropriateness of gross income as proxy for calculation of operational risk capital charge

Due to the fact that Islamic banking institution's shareholders should be liable for any losses due to operational risk and the bank capital charged for it, therefore this type of risk should be measured carefully. The three methods of measuring operational risks proposed in Basel II (Section 4) would need considerable adaptations in Islamic banks owing to the specificities noted earlier.

Allocating capital based on simple aggregate activity measures such as BIA and STA, fails to distinguish between well-run and poorly run units. However, these approaches are not out of line with the practice in many internal efforts to allocate economic, as opposed to regulatory capital (Harmantzis, 2003).

BIA approach uses a gross income as a proxy measure of exposure to operational risk. According to Archer and Abdullah Haron (2007) it requires banks to hold capital for operational risk equal to the average over the previous three years of a fixed percentage of positive gross income.¹⁶ Years in which gross income is negative are ignored. The proposed percentage is 15%. However, the use of gross income as the basic indicator for operational risk measurement could be misleading in Islamic banks, insofar as large volume of transactions in commodities, and the use of structured finance raise operational exposures that will not be captured by gross income (Sundararajan, 2005).

In contrast, the STA that allows for different business lines would be better suited, but would still need adaptation to the needs of Islamic banks. In particular, agency services under *murabahah*, the associated risks due to potential misconduct and negligence, and operational risks in commodity inventory management, all need to be explicitly considered for operational risk measurement (Sundararajan, 2004 & 2005).

Sundmacher (2007) finds that using gross income as a proxy or risk indicator in BIA does not reflect the actual operational risk exposures. In contrast to BIA, using the STA with the same proxy for measuring operational risk capital charge has indicated the different result. The STA's result shows the build-up operational risk exposures in the National Australia Bank during the period 2001-2004 of fraudulent activities by cohort traders, which resulted \$360 million losses of foreign exchange trading.

With regards to BIA, Sundmacher (2007) also employs the total revenue¹⁷, total revenue - Australia¹⁸ and trading income as the alternative proxies for gross income and distinguish their capability to predict the build-up in operational risk exposures. The result shows that using the bank's gross income as the proxy indicated the lowest operational risk exposures when the losses were detected in 2004. The decreasing bank's operational risk exposures over the time provide a false 'sense of security'. In contrast to gross income, the alternative proxies indicated the different way, increasing operational risk exposures over the time. Particularly interesting is continuous increasing in the total revenue-Australia.

Operational risk is considered high on the list of exposures of Islamic banks. In a recent study, survey and interview was conducted by Nor Hayati et. al (2009) show the supportive finding which operational risk has been ranked as the second highest risk after credit risk in the operation of Islamic banks. This may due to the classification of shariah compliant risk as one of independent major risks faced by Islamic banks while the IFSB included the shariah compliant risk as part of operational risk. A survey conducted by Khan and Ahmed (2001) shows that the managers of Islamic banks perceived operational risk as the most critical risk after mark-up risk. The survey finds that operational risk is lower in fixed income assets of *murabahah* and *ijarah* and the highest one in *diminishing musharakah*. The relatively higher ranking of the instruments indicate that banks find these contract complex and difficult to implement.

With regard to different business lines as in STA, Islamic banks may choose contract-based instruments in addition to the business lines because each contract or financing mode inherent certain risk at the different level of scale. Hence, Islamic bank also need complementary guidance in managing risks, particularly relating to the specificities of financing mode or contract-based instruments. Each contract should be assigned different β factors, e.g the more complicated structure and difficult to implement, the higher operational risk it perceives, hence higher β factors were assigned.

Sample calculation for Islamic bank's operational risk based on BIA

An estimate of the potential operational losses that the banking institution faces, i.e. operational risk exposure, at the soundness standard is consistent with a 99.9 per cent confidence level over a one-year period. The institution will multiply the exposure by 12.5 (which is the reciprocal of the minimum CAR of 8%) obtain risk-weighted assets for operational risk; this is added to the risk-weighted assets for credit and market risk to arrive at the denominator of the regulatory capital ratio. Table 2 below illustrates the calculation of operational risk for an Islamic bank following the new IFSB's proposal for CAS (2005). The operational risk capital charge is obtained by multiplying the average gross income for three years by 15% weight. If the annual gross income in any of given years is negative or zero, this figure is excluded from both the numerator and denominator when calculating the three years average such as year 2004 and 2005. Newly established Islamic banks that do not have a complete three years data shall only take into account the actual gross income earned to date for purposes of deriving the average gross income, while leaving the gross income for any remaining years as zero (BNM, 2008). The RWA for operational risks is then obtained by multiplying the capital requirements for operational risk by 12.5 to convert into risk-weighted equivalent assets. The RWA for operational risks is then obtained by multiplying the capital requirements for operational risk by 12.5 to convert into risk-weighted equivalent assets. The amount RM233 125, RM221 813, RM307 700 and RM431 450 for year 2005, 2006, 2007 and 2008 together with the sum of RWA for credit and market risks will produce the total risk-weighted assets (TRWA) for that year.

CONCLUSION

The discussion on operational risk in Islamic banks is still in its infancy. This paper suggests that several issues around the risk still need to be clarified and addressed further. The fact that there exist a variety and unique nature of financing and investment activities of Islamic banks, each one having its own risk characteristics affecting both sides of the bank's balance sheet. While basic Basel core principles of effective banking supervision apply equally well and ideally suit the Islamic banking institutions, risk measurement and risk management practices still need specific adaptations to Islamic banks' operational characteristics. These particularities highlight the unique characteristics of Islamic banks and raise serious concerns regarding the applicability of the Basel II methodology to Islamic banks. This will set the stage for adopting more advanced capital measurement approaches as envisaged in Basel II, but tailored to the specific operational characteristics of Islamic banks.

The limitation of this study was focusing only on calculation operational risk capital charge based on BIA only for one Islamic bank. For further research, it is so meaningful to include all the Islamic banks in order to examine the behavior of operational risk. The researchers could consider expanding the discussion on key issues in measuring operational risk in Islamic banks. Further research could also be proceeding by exclusively focusing on operational risk capital charge measurement using STA, which employed gross income as a proxy. They could also use alternative proxies for gross income and distinguish their capability to predict the build-up in operational risk exposures. By doing so, the best proxy to reflect bank's actual risk profile will be determined.

Endnotes

¹ See Securities Commission (2010) for detail definition on *shariah* principles and concepts.

² See Huq and Parveen (2006) for detail discussion on Islamic financial products and risk associated with them.

³ Legal risk is the risk of loss resulting from failure to comply with laws as well as prudent ethical standards and contractual obligations. It includes the exposure to litigation from all aspects of an institution's activities.

⁴ Basel II, paragraph 644. Working Paper on the Regulatory Treatment of Operational Risk (2001).

⁵ 12% for retail banking, asset management and retail brokerage, 15% for commercial banking and agency services, and 18% for corporate finance, trading and sales, and payment and settlement.

⁶ In 1995, the Basel Committee issued a consultative proposal to amend the 1988 Accord. This became known as the "1996 Amendment" which requires financial institutions to hold capital to cover their exposure to market risks as well as credit risks. It was implemented in 1998.

⁷ Legal risk is the risk of loss resulting from failure to comply with laws as well as prudent ethical standards and contractual obligations. It includes the exposure to litigation from all aspects of an institution's activities (BCBS 2001).

⁸ Fiennes (2007) includes reputational risk as a part of operational risk, Archer and Abdullah (2007) remark that reputational risk relating to *shariah* non-compliance risk. On the other hand Basel II and IFSB do not include this risk in their definition of operational risk.

⁹ Please refer cases of *Arab-Malaysian Finance Bhd v Taman Ihsan Jaya Sdn Bhd & Ors* (Suit No D4-22A-067 of 2003), *Bank Islam Malaysia Bhd v Ghazali bin Shamsuddin & Ors* (Suit No D4-22A-215 of 2004), *Bank Islam Malaysia Bhd v Nordin bin Suboh* (Suit No D4-22A-1 of 2004), *Bank Islam Malaysia Bhd v Peringkat Raya (M) Sdn Bhd & Ors* (Suit No D4-22A-185 of 2005), *Bank Islam Malaysia Bhd v Ramli bin Shuhaimi & Ors* (Suit No D4-22A-399 of 2005), *Bank Islam Malaysia Bhd v Mohammad Rizal bin Othman & Ors* (Suit No D4-22A-192 of 2006), *Banks Islam Malaysia Bhd v Azhar bin Osman* (Originating Summons No D4-22A-395 of 2005), *Banks Islam Malaysia Bhd v Mohd Razmi bin A. Rahman & Ors* (Writ No D4-22A-166 of 2006), *Banks Islam Malaysia Bhd v Nadiah Chai binti Abdullah & Ors* (Writ No D4-22A-204 of 2006), *Banks Islam Malaysia Bhd v Nor Azlina binti Baharom* (Writ No D4-22A-167 of 2006), *Banks Islam Malaysia Bhd v Zawawi bin Osman & Ors* (Writ No D4-22A-178 of 2006), *Banks Islam Malaysia Bhd v Baharom bin Harun & Ors* (Writ No D4-22A-203 of 2006). Refer also [2008] 5 MLJ 631 and Islamic Banking: Perspectives on Recent Case Development, Fakhiah Azahari [2009] 1 MLJA 91.

¹⁰ This Court holds that neither the Federal Constitution nor Islamic Banking Act (IBA) 1983 and the Banking and Financial Institution Act (BAFIA) 1989 in using terms "Islam" and "religion of Islam" provide as the interpretation of which mazhab of Islam is to prevail. The BBA facilities are offered as Islamic to all Muslim and not exclusively to followers of any particular mazhab. It follows, therefore that the test is that there must be no element involved that is not approved by the religion of Islam under the interpretation of any recognized *mazhabs*. Thus, the fact that the reading of the Property Purchase Agreement (PPA) and Property Sale Agreement (PSA) independently is not accepted under other mazhabs even though it accepted under mazhab Syafie means that PPA and PSA cannot be read independently for the purpose of IBA 1983 and the BAFIA 1989. On 31 March 2009, the Court of Appeal has made the judgment that in favour of IBIs which mean contrary to earlier High Court judgment. The Court of Appeal also reiterated that BBA contract is a sale transaction and therefore must not be compared to a loan transaction. The decision reaffirmed that Bank Islam's practices in relation to BBA contracts are *shariah*-compliant and valid.

¹¹ This case, *Shamil Bank of Bahrain E.C. (Islamic Bankers) v Beximco Pharmaceuticals Ltd and Others*, [2004] 1W.L.R. 1784. The governing law of the agreements was stated to be "subject to the principles of Glorious *shariah*, this agreement shall be governed by and construed in accordance with laws of England". The High Court Judge granted summary judgment according to English law and held that the court was not concerned with the principles of the *shariah* at all, and "there could not be two separate systems of law governing the contract (i.e. *Shariah* law and English law)" (DeLorenzo & McMillen, 2007). It means the judgment of the case clearly state that *Shariah* cannot invalidate English law even though the governing law of the contract is subject to the principle of Glorious *Shariah*. This represents legal risk as a contract which is supposed to be governed by *Shariah* will be interpreted not according to *Shariah* (Djojosingit, 2008).

¹² The Basel I accord dealt with only parts of each of these pillars. For example: with respect to the first Basel II pillar, only one risk, credit risk was dealt with in a simple manner while market risk was an afterthought; operational risk was not dealt with at all.

¹³ Risk weighted assets are determined by multiplying the capital requirement for market risk and operational risk by 12.5% (i.e. the reciprocal of the minimum capital ratio of 8%) and adding to resulting figures of the sum of risk-weighted assets for credit risk.

¹⁴ The term "IIFS" as used in the Exposure Draft Number 2 refers to such financial institutions that mobilize funds as deposits and investment accounts in accordance with *shariah* rules and principles.

¹⁵ The PSIA (commonly referred to as investment accounts and special investment accounts) is a pool of investment funds placed with an IIFS on the basis of *mudharabah* and can be categorized on unrestricted PSIA or restricted PSIA.

¹⁶ Gross income is defined (for conventional banks) as net interest income plus net non-interest income (comprising (i) fees and commissions receivable less fees and commissions payable, (ii) the net result on financial operations and (iii) other gross income. This excludes extraordinary or irregular items) (Basel, 2001)

Gross income is defined (for Islamic banks) as the sum of : (a) net income from financing activities (b) net income from investment activities and (c) other income (gross of: (i). any provisions (e.g. for unpaid income, for profit equalization reserve) (ii). any operating expenses, including fees paid to outsourcing service provider and depreciation of *ijarah* assets. But does not include (i) any realized or unrealized profit/losses from sales or impairment of securities in banking book (ii) any income or expense from extraordinary or irregular items and (iii) any income derived from *takaful* recoveries) LESS : Income attributable to the investment account holders and depositors (BNM, 2008)

¹⁷ Refers to consolidated entity.

¹⁸ Refers to the proportion of total revenue generated in Australia

REFERENCES

- AAOIFI (Accounting and Auditing Organization for Islamic Financial Institutions), (1999), *Statement on the Purposes and Calculation of the Capital Adequacy Ratio for Islamic Banks*, AAOIFI, Bahrain.
- Akkizidis, I. and Kumar, S.K. (2008), *Financial Risk Management for Islamic Banking and Finance*, Palgrave Macmillan, Hampshire.

- Akkizidis, I.S. and Bouchereau, V. (2005), *Guide to Optimal Operational Risk & Basel II*, Auerbach Publications, New York.
- Andrews, D.L. (2005), "Operational Risk Management", available at: <http://www.slideshare.net/Micheal22/operational-risk-management> (accessed 15 March 2011).
- Archer, S. and Abdullah, H. (2007), "Operational Risk Exposures of Islamic Banks", in Archer, S. and Karim, R.A (eds.) *Islamic Finance: Regulatory Challenges*, John Wiley & Sons (Asia) Pte Ltd, Singapore, pp. 121-131.
- Bank Negara Malaysia (BNM) (Central Bank of Malaysia), (2008), "Capital Adequacy Framework for Islamic Banks", available at: http://www.bnm.gov.my/guidelines/01_banking/01_capital_adequacy/05_cafib_20100127.pdf (accessed 15 July 2010).
- Basel Committee on Banking Supervision (BCBS), (2001), "Working Paper on the Regulatory Treatment of Operational Risk, Bank for International Settlement" Bank for International Settlements, BCBS Publications No. 8, Switzerland, available at: http://www.bis.org/publ/bcbs_wp8.pdf (accessed 10 June 2010).
- Basel Committee on Banking Supervision (BCBS), (2006), "Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework- Comprehensive Version", Bank for International Settlements, BCBS Publications No. 128, Switzerland, available at: <http://www.bis.org/publ/bcbs128.htm> (accessed 15 June 2010).
- Chapra, U. and Khan, T., (2000), *Regulation and Supervision of Islamic Banks*, IRTI, Jeddah.
- DeLorenzo, Y.T and McMillen, J.T. (2007), "Law and Islamic Finance: An Interactive Analysis", in Archer, S. and Karim, R.A.A (eds.), *Islamic Finance: Regulatory Challenges*, John Wiley & Sons (Asia) Pte Ltd, Singapore, pp. 132-197.
- Djojosingito, R. (2008), "Mitigating Legal Risk in Islamic Banking Operations", *Humanomics*, Vol. 24 No.2, pp. 110-121.
- El-Hawary, D. Grais, W. and Iqbal, Z. (2004), "Regulating Islamic financial institutions: The nature of Regulated", *World Bank Policy Research Working Paper*, No. 3227.
- Fakihah Azahari, (2009), "Islamic Banking: Perspectives on Recent Case Development", *Malayan Law Journal Article*. Vol 1, pp. 91.
- Fiennes, T. (2007), "Supervisory Implications Of Islamic Banking: A Supervisor's Perspective", in Archer, S. and Karim, R.A.A (eds.), *Islamic Finance: Regulatory Challenges*, John Wiley & Sons (Asia) Pte Ltd, Singapore, pp. 247-256.
- Ghosh, D, et al. (2008), "The Barings Bank Collapse: A Case Study", available at: <http://www.slideshare.net/thararuday/the-barings-bank-collapse-presentation> (accessed 15 March 2011).
- Harmantzis, F. (2003), "Operational Risk Management in Financial Services and the New Basel Accord", *Working Paper Series, Social Science Research Network*.
- Hassan, M.K. and Dicle, M. F. (2005), "Basel II and Capital Requirements for Islamic Banks", in *Proceeding of the 6th International Conference on Islamic Economics and Finance* (Vol. 1), Jakarta, Indonesia. 23-24th November.
- Hull, J.C. (2007), *Risk Management and Financial Institutions*, Pearson International Edition, New Jersey.
- Huq, B. I. A. and Parveen, J. A. (2006), "Evaluation of Risk Management: A Case Study of Shariah based Banks of Bangladesh" *Proceeding of 2nd International Research Conference on Islamic Banking Risk Management, Regulation and Supervision*, Kuala Lumpur. 7-8 February.
- IBS Centre for Management Research, (2004), "The Fall of Barings Bank (case code: FINC025)", available at: <http://www.icmrindia.org/casestudies/catalogue/finance/thefallofbaringsbank.htm> (accessed 15 March 2011).
- Ioannis, A. and Khandelwal, S. K., (2007), *Financial Risk Management for Islamic Banking and Finance*, Palgrave Macmillan, England.
- Iqbal, M., Ahmad, A. and Khan, T. (1998), *Challenges Facing Islamic Banks*, IRTI, Jeddah.
- Iqbal, Z. and Mirakhor, A., (2007), *An Introduction to Islamic Finance: Theory and Practice*, John Wiley & Sons (Asia) Pte Ltd, Singapore.
- Islamic Financial Services Board (IFSB). 2005a. Capital Adequacy Standards for Institutions (other than insurance institutions) Offering Only Islamic Financial Services. Published Standard No.2. Kuala Lumpur: IFSB. 15 December.
- Islamic Financial Services Board (IFSB). 2005b. Guiding Principles of Risk Management for Institutions (other than insurance institutions) Offering Only Islamic Financial Services. Published Standard No. 1. Kuala Lumpur: IFSB. 15 December.

-
- Izhar, H. and Mehmet, A. 2009. "A Theoretical Analysis of the Operational Risk Framework in Islamic Banks", *Proceeding of the International Conference on Islamic Economics and Economies of the OIC Countries 2009*, Kuala Lumpur, 28-29 April 2009.
- Jameson, R. 2001. "Daiwa Bank", available at: www.erisk.com/learning/casestudies/daiwa.asp (accessed 15 March 2011).
- Jorion, P. 2002. *Value at Risk: The New Benchmark for Managing Financial Risk*, 2nd Edition, Mc Graw Hill, Singapore.
- Kahf M. 2005. "Basel II: Implication for Islamic Banking", *Proceeding of the 6th International Conference on Islamic Economics and Finance* (Vol. 1), Jakarta, Indonesia. 23-24 November.
- Khan, T. and Ahmed, H. 2001. "Risk Management: An Analysis of Issues in Islamic Financial Industry", *IRTI Occasional Paper*, No. 5. IRTI, Jeddah.
- Nor Hayati Ahmad et al. 2009. "Risk Management in Financing Structures of Malaysian Islamic Banks" presented at Special Workshop on Risk Management of Islamic Banking Institution, 11 August, Selangor, Malaysia.
- Securities Commission. 2010. "Appendix 1 Approved Syariah Concepts and Principles for the Purpose of Structuring, Documenting and Trading of Islamic Securities", available at: http://www.sc.com.my/eng/html/icm/Guidelines-IslamicSecurities_apdx1.pdf. (accessed 15 June 2010.)
- Sundararajan, V. and Errico, L. 2002. *Islamic Financial Institutions and Products in the Global Financial System: Key Issues in Risk Management and Challenges Ahead*, *IMF Working Paper WP/02/192*, November.
- Sundararajan, V. 2004. *Development of Competitive and Innovative Islamic Financial Products and Markets: Key Issues and Policy Implications*, paper presented at International Seminar on Challenge facing the Islamic Financial Services Industry, 1-2 April, Bali, Indonesia.
- Sundararajan, V. 2005. "Risk Measurement and Disclosure in Islamic Finance and the Implications of Profit Sharing Investment Accounts", *Proceeding of the 6th International Conference on Islamic Economics and Finance* (Vol. 2), Jakarta, Indonesia. 23-24th November.
- Sundmacher, M. (2007), "The Basic Indicator Approach and The Standardised Approach to Operational Risk: An Example- and the Case Study- Based Analysis", *Working Paper Series, Social Science Research Network*.
- Syed Ali, S. 2007. "Financial Distress and Bank Failure: Lesson from Closure of Ihlis Finans in Turkey", *Islamic Economic Studies*, Vol. 14, No. 1 & 2, pp. 1-52.
- Turk, R. and Sarieddine, Y. 2007. "Challenges in Implementing Capital Adequacy Guidelines to Islamic Banks", *Journal of Banking Regulation*, Vo.1 9, pp. 46-59.
- Van Greuning, H. and Iqbal, Z. 2008. *Risk Analysis for Islamic Banks*. The World Bank Washington, Washington.

TABLE 1: Risk Factors in Losses

Case Studies	Market	Operational	Liquidity	Lack of Controls
Barings	Yes, Japanese Stocks	Yes, rogue trader		Yes
Daiwa		Yes, rogue trader		Yes
Ihlas Finans			Yes	Yes

(Source: Adaptation from Jorion, 2002)

TABLE 2: Sample calculation for Islamic bank's operational risk based on BIA

Item of Islamic Bank's Income Statements	2003	2004	2005	2006	2007	2008
	(RM '000)	(RM '000)	(RM '000)	(RM '000)	(RM '000)	(RM '000)
Income derived from investment of depositors' funds	571 711	611 655	753 777	810 545	841 659	919 496
Income derived from investment of shareholder's funds	88 596	75 593	131 222	150 088	168 834	232 545
Allowance for losses on financing	(63 880)	(103 376)	(648 030)	(1325 478)	4 816	7 547
Profit equalization reserve	(7 433)	(25 832)	(7 148)	(9 308)	(47 921)	8 317
Operating expenses	(200 011)	(222 636)	(377 499)	(375 523)	(395 753)	(450 615)
Total distributable income	388 983	335 404	-147 678	-749 676	571 635	717 290
Income attributable to depositors	(258 617)	(237 106)	(28 217)	(371 011)	(407 527)	(421 186)
Total net income (gross income)	130 366	118 298	-175 895	-1120 687	164 108	296 104
Average Gross Income for 3 Years			124 332	118 298	164 108	230 106
Operational Risks Capital Charge (Weight = 15%)			18 650	17 745	24 616	34 516
RWA for Operational Risks (12.5)			233 125	221 813	307 700	431 0