

# Risk Management in Islamic and Conventional Banks: A Differential Analysis

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## Abstract

*Islamic banking is interest-free banking which makes it necessary for Islamic banks to take active part in the operations of the business, i.e. share profits as well as losses. Banks including Islamic banks prefer to take minimum risk. On the surface, it may seem that Islamic banks face more risk and hence, will have more volatile or even negative returns on their assets.*

*This paper analyzes the risk management procedures of Islamic banks by giving a differential analysis of risk management discussing only the unique characteristics of risk management in Islamic Banking. The usual credit assessment procedures and BASEL are not discussed. This paper looks at the comparative performance of Islamic banks and conventional banks by using ROE as the benchmark.*

**Keywords:** Risk management, commercial banking, Islamic banking, price risk

## 1. Introduction

### 1.1. Background of the Study

Islamic Banking was first introduced in 1959 in Egypt. Since then, Islamic Banking is growing rapidly throughout the world and has been introduced in more than 60 countries of the world so far. Global financial players like Citibank, ABN AMRO, American Express Bank, HSBC, etc. are also participating in Islamic Banking and Financial Industry. However, skepticism still surrounds Islamic Banking keeping into view the earlier demise of BCCI. Profit and loss sharing principle requires more prudence in investment into an Islamic Bank. This research paper discusses the adequacy of specific risk management procedures of Islamic Banks combined with an empirical study of comparing profitability of Islamic and conventional banks. The research will be useful to the investors, i.e. both individuals and financial conglomerates who want to venture into Islamic Banking.

This research paper discusses risks faced and managed by Islamic Banks in ways different from conventional banks. The specific risks analyzed include reputations risk, exchange risk, price risk, operational risk, default risk, religious risk, concentration risk and liquidity risk. It gives us insights into:

- How the Islamic banks manage reputation risk when they are alleged to be involved in terrorism financing?

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- How do they manage exchange risk when currency options and currency swaps are not allowed in Islamic banking?
- How do they manage price risk and operational risk while exposed to fluctuations in the market?
- How do they manage default risk when rescheduling of an NPL is not allowed in Islamic banking?
- How do they manage liquidity risk as the intermediary function Islamic banks perform does require more time and thorough analysis to place funds.
- How do they manage concentration risk as 60% of the financing provided by Islamic Banks is by way of Murabaha facility?
- How do they manage religious risk as few scholars do not approve of Islamic Banking being compatible with Islamic principles?

Islamic Banking in Pakistan was introduced during General Zia's regime in the 1980s. Since then, it has developed rapidly. Meezan Bank, Dubai Islamic Bank, First Dawood Islamic Bank, Bank Al-Baraka, Emirates Global Islamic Bank and Bank Islami are full fledged Islamic banks operating in Pakistan. A lot of local and foreign scheduled banks have started Islamic banking windows and exclusive Islamic banking branches. According to the State Bank of Pakistan Strategic Vision 2010 Report published in March 2009, it is expected that Islamic banking in Pakistan will capture 12% of the banking industry assets and deposits by 2012.

## **1.2. Problem Statement**

Islamic banks cannot merely lend money to earn interest as interest is prohibited in Islam based on Quranic injunctions. Islamic banks are obliged to take active part in the business and opt for sharing profits as well as losses since interest based investments and borrowings are not permitted in Islam. Since, Islamic banks can not charge a fixed return unrelated with their client's operations, It may seem that Islamic banks face more risk and hence, will have more volatile returns on their assets as they have to own the asset before they sell or lease it to their clients and take on subject matter risk which conventional banks do not take. This paper probes into whether Islamic banks are riskier than conventional banks or not.

## **2. Research Methodology**

It is an exploratory as well as an empirical research. It introduces the specific risk management procedures of Islamic banks and probes into empirical data to see whether these procedures are adequate or not. A sample of four banks is selected using the 'judgmental sampling' method. Two Islamic banks, i.e. Meezan Bank Limited which enjoys 50% of the market share in Islamic Banking industry and Al-Baraka Islamic Bank are selected. Two conventional banks are selected which include one locally incorporated private bank, i.e. Bank Alfalah and one public sector bank, i.e. Bank of Khyber.

The sample has representation from both public and private sector banks and its size is adequate keeping in view that the industry is uniformly regulated by SBP. Financial statements of the banks in the sample will be analyzed with special focus on profitability ratios in the last six years.

This research paper discusses risk management procedures in context of Islamic banks in Pakistan. However, since these procedures are universally accepted by AAOIFI, which is an apex rule making authority in Islamic banking, the findings can be used with little modifications after incorporating specific country risk in subsequent research on this subject.

### **3. Literature Review**

The most distinguishing feature of the Islamic economic system is the prohibition of interest. Usury, Interest and Riba are synonymous terms but they have different technical meanings. Usury refers to the consumption loans given on higher rates and thus causing exploitation of the borrower. Interest refers to the cost of using money in finance and economic theory. Liquidity preference theory, bird in the hand theory and intertemporal saving model gives us the economic justification of interest. Interest based financial markets have caused a severe financial and economic crisis and woke up the neo-Marxists and Islamic economists which are more in favor of a mixed economy in an Islamic paradigm than the neo-Marxists who demand wholesome transformation.

Riba technically means "Any excess benefit derived on a loan over and above the principal". Therefore, definition of Riba encompasses interest and usury taken on consumption or commercial loans as well. However, there have been debates on whether the present day competitively set interest rate within a competitive financial industry comes under the interest that was prohibited 14 centuries ago. But, this issue has been settled now that interest in all its forms and manifestations must not be allowed (Ghamidi, 2007). However, Monzer Kahef (2006) urged for the recognition of financial intermediation as an independent industry as it is vital to understanding the nature and use of hybrid financial contracts which are more practical alternatives of present-day interest-based products.

Ijaz Ahmed Samdani (2007) classifies risk in Islamic terminology by arguing that Gharar, i.e. uncertainty makes a contract invalid in Islamic law. He classified Gharar into uncertainty about physical existence of the subject matter, uncertainty about the delivery method and date, ambiguities in contract with respect to the contract itself, subject matter, price and duration of contract.

An Islamic bank is normally exposed to certain internal and external risks. External risks are caused by changes in policies and regulations (regulatory risk) or by factors that affect the rates of benchmarks, such as LIBOR. Another risk relates to the fulfillment of obligations by debtors of the IB (credit risk). Operational risks are risks that relate to people/staff of the Islamic bank itself, including error, negligence and fraud, to systems and technology used in the IB, to litigation processes and/or to the processes and

procedures adopted in the IB; and trading book risks that are caused by price change of assets held by the IB (Kahef, 2005).

Sarker (1999) argues further that Islamic products have different risk characteristics and consequently, different prudential regulation should be erected. It has been argued that the nature of risks Islamic banks face resulting in unique asset liability composition due to Shariah compliance requires more prudence and strict risk management procedures (Khan and Ahmed, 2003). Similar thought is shared by Luca Errico and Mitra Farahbaksh (1998) that even though regulatory supervision of Islamic banks by their respective monetary authorities tends to follow conventional standards, but Islamic banks differ from their conventional counterparts in several ways. They conceded that minimum capital requirement should take into consideration assets composition, which entails that minimum capital requirement for uncollateralized assets must be higher. However, Monzer Kahef (2005) argued that Islamic banks have qualitatively similar credit risk to conventional banks; therefore the processes of the calculation of minimum equity requirement for credit risk exposure should not be different from the methodologies proposed for conventional banks. Islamic banks suffered from the global crisis in 1998-1999, but performed very well after the difficult periods suggesting that the interdependence of Islamic banks to other financial system is still closely related (Yudistira, 2003).

In academic economic literature, interest-based banking is even criticized from the pure economic standpoint. Fisher (1933, p.39) explains that once profit and asset price rise begins to decelerate, highly leveraged firms and speculators find themselves with debt servicing commitments that place too high a burden on available cash-flows. This initiates a general movement to liquidate assets to meet and relieve debt-service commitments. This has two distinct results. First, distress selling reduces asset values, leading to a loss of confidence, the hoarding of currency and the elimination of debt-financed speculation. Falling asset prices also lower collateral values, making banks wary of rolling over loans. Secondly, defaulting of bank loans, and the hoarding of cash, leads to multiplied contraction in the money supply due to the fractional reserve system, resulting in declining profits and prices. Higher levels of real debt induce further bankruptcies, distress asset sales and depressing prices yield a 'Fisher Paradox' even more. For Fisher, the primary problem was the combination of debt contracts fixed in nominal value, and a falling price level. Therefore, there is validity in the proposition that debt finance is potentially destabilizing (Haberler, 1937, pp.115-6, 331-6).

Islamic banks and financial institutions world-wide are running their retail banking operations at a self-imposed reserve requirement of close to 100% since they do not have privilege of T-bills. The opportunity cost of the cash held by Islamic banks as insurance against a devastating "run" is the interest rate forgone on government debt, i.e. T-bills. Islamic banks, hence suffer from two major handicaps when compared to conventional banks: (i) lack of access to the safety net provided by the Central Banks, thus having to provide its own very costly self-insurance due to the inability to diversify the risk of a "run"; and (ii) lack of access to government guarantees of all securities; they can only hold cash, thus having more of their liquid assets tied than compared with the conventional banks (Abdul-Rahman, Yahia 2006)

M. Fahim Khan (2006) is optimistic that Islamic banks will not create financial distress in the economy and massive bankruptcies that occurred in great depression in the 30s when 25% of all banks in US filed for bankruptcy are less likely to arise under the concept of Islamic banking. Assets and liabilities are balanced under Islamic banking. If there is shock on asset side, it will be immediately reflected on the liability side (because deposits share the profits/losses of the banks). Therefore, there is no unusual opportunity cost in fund generation and mobilization under Islamic banking.

Using z-score as a measure of bank's solvency, an International Monetary Fund study covering 18 banks for the period 1993-2004 finds that:

- i) Small Islamic banks tend to be financially stronger than small and large commercial banks having assets in excess of \$1 billion.
- ii) Large commercial banks tend to be financially stronger than large Islamic banks.
- iii) Small Islamic banks tend to be financially stronger than large Islamic banks.

A possible explanation for this phenomenon is that it is significantly more complex for Islamic banks to adjust their credit risk monitoring system as they become larger. As a result, as the scale of the banking operation grows, monitoring of credit risk becomes much more complex. That results in a greater prominence of problems relating to adverse selection and moral hazard. Small banks concentrate on low-risk investments and fee income, while large banks will be more concentrated in PLS banking. It was further concluded that as the presence of Islamic banks grows in a country's financial system, there is no significant impact on the soundness of other banks. This suggests that Islamic and commercial banks can coexist in the same system without substantial 'crowding out' effects through competition and deteriorating soundness.

#### **4. Risk Mitigation in Islamic Banking**

In the following lines, risk mitigation in Islamic banking with respect to seven types of risks, i.e. Reputation Risk, Exchange Risk, Price Risk, Concentration Risk, Default Risk, Liquidity Risk and Religious Risk will be discussed.

##### **4.1. Reputation Risk**

Reputation risk comes from allegations of involvement of Islamic banks in terrorism financing and apprehensions about the Shariah compatibility of Islamic banking products. This risk is mitigated through the consensus built among influential religious scholars and ensuring Shariah compliance, which is in essence ethical compliance.

##### **4.2. Exchange Risk**

Exchange risk stems from the unavailability of currency options and currency swaps in Islamic banks. This risk is covered through Forward Rate Cover to fix the cost of the imported goods in PKR in Usance LC.

### **4.3. Price Risk**

Market risk is the most important risk that the goods will not be sold or sold at prices which may not cover costs. This risk is only borne by the seller when the goods are 'held for trade'. In 'Murabiha' and 'Diminishing Musharika', operational risk is not taken by the bank. 'Destruction of property' is the only risk taken which is very remote. It is covered through insurance, the cost of which is added in the in-transfer pricing. If the tenancy and sale contract were not made dependent, the bank would have taken market risk which the bank avoids by making both contracts dependent and locking the price at the outset. Similarly, delivery risk is borne by the exporter as he does not get the payment until he supplies goods 'in order'.

### **4.4. Concentration Risk**

Islamic banks practically provide financing using Ijara and Murabiha. Most of the financing provided in international trade to commercial enterprises is by way of Murabiha. But the product has minimum risk as compared to Modarba and Musharika, which are more akin to equity financing than debt financing.

### **4.5. Default Risk**

Since clean borrowing is not possible in Islamic banking, Islamic financing is asset backed and adequately collateralized. Furthermore, title of ownership rests with the bank in Ijara and Murabiha until the actual sale transaction is made. Therefore, an Islamic bank can foreclose the asset in case of default.

### **4.6. Liquidity Risk**

Islamic banks usually have excess liquidity. General regulations compliance combined with Shariah compliance result in slight intermediation inefficiency in Islamic banks. It is partly due to the fact that most of them are new entrants and are in the process of converting their equity base into productive revenue generating assets. Since Islamic Banks cannot trade in T-bills, they are given a special permission from SBP to invest the portion of the deposits which the conventional banks use to meet statutory liquidity requirements in equity markets. Furthermore, Islamic banks cannot invest in highly leveraged companies. They can only invest in companies having a 60:40 capital structure. It makes their equity investments naturally less risky.

### **4.7. Religious Risk**

Religious risk comes from the apprehensions some schools of thoughts have about Shariah compatibility of Islamic banking. This risk is mitigated through an ongoing effort to create consensus by way of dialogue, standardizing the Islamic banking transactions and pursuing a rigorous Shariah audit.

## **5. Distinct Features of Risk Management in Islamic Banking**

Besides the usual capital adequacy ratios proposed under BASEL, followed both by conventional and Islamic banks, there are some distinct features of risk management under Islamic Banking. These distinct characteristics of risk management in Islamic banks are discussed below.

Islamic banks provide financing which is backed by assets. Islamic banks cannot deal in documents. All financing provided by Islamic banks results in the creation of assets i.e. capital formation. Islamic financing due to the asset backed nature results in productive economic activities; hence, it does not result in inflation. Furthermore, the underlying asset collateralizes the loan transaction provided by Islamic banks.

Islamic banks need to comply with conventional regulatory standards as well as Shariah standards. Shariah compliance is strictly followed under Islamic banks. This dual check covers the legal risk as there is a double check on money laundering and other fraudulent activities. Shariah compliance is ensured by the Shariah Supervisory Board, which comprises of influential religious scholars. The referent power of these scholars is utilized for further endorsing the system in the eyes of general public and increasing acceptance of Islamic banking among masses. Shariah compliance also ensures Corporate Social Responsibility (CSR) and ethical compliance. Islamic banks do not conduct business with tobacco, alcohol and other harmful toxic producing companies. This mechanism has given Islamic banking the name of 'ethical banking' in Europe.

Islamic banks are not merely interest-free. Interest free nature of Islamic banks is a necessary condition for Islamic banking but not the sufficient one. Islamic banking transactions need to avoid other elements of fraud, deceit and uncertainty. Islamic banking transactions are Gharar-free transactions. Gharar is an element of uncertainty in the contract about the product, price or other features of the contract. Gharar-free transactions ensure mutual benefit, covering and spreading risks of both counterparties to the contract by making each one's obligations clear at the outset. It is implied from the Gharar-free nature of Islamic banking transactions that such complex conventional instruments like options, swaptions are not allowed in Islamic banking.

Clean borrowing is not allowed in Islamic banking. Islamic banks provide financing only to create assets. Therefore, Islamic banks do not offer credit cards, personal loans and running finance/ overdraft. On the downside, Islamic banks by restricting themselves to asset-backed financing cannot provide need-based loans, short-term financing for overhead expenses or financing for debt swap.

Islamic banking does not permit transactions in most derivatives. Futures trading in stock and commodity markets, currency options, currency swaps, swaptions, short selling and other complex derivatives are not allowed in Islamic banking. However, Salam (advance sale/purchase) and Istisna (project financing) are close alternatives for Forward contracts in conventional banking. Derivatives have proven to be little effective for hedging and were the main factor behind economic fallout in East Asia in 1990s and in US and other developed markets in 2007. In Pakistan, Futures

trading and short selling in the stock markets has resulted in more volatility.

## 6. Conceptual Framework of Risk Management in Islamic Banking

Based on the above discussion, an effort will be made to delineate a conceptual framework among the different concepts discussed thus far. There are several types of risks, but the seven most important risks were analyzed. A parsimonious list of variables is as follows:

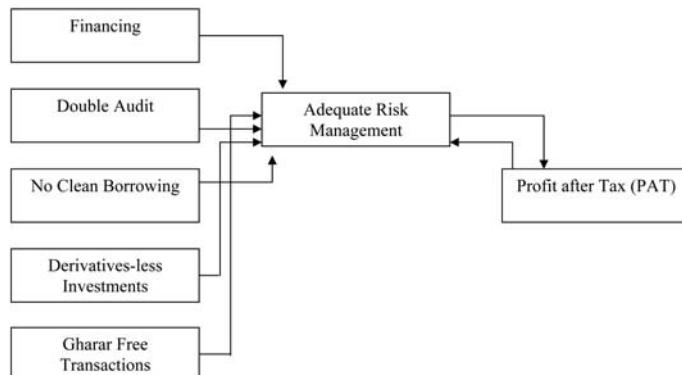
### i) Independent Variables

- Asset Backed Financing
- Double Audit
- Gharar Free Transactions
- No Clean Borrowing
- Derivatives-less Investments

### ii) Dependent Variables

- Adequacy of Risk Management in IBs
- Maximizing Profit After Tax (PAT)

There are two dependent variables and both are equally important. Although, adequate risk management procedures will get reflected in commercial success in the long-run, but the commercial success is not the only criterion of risk management procedures. It is due to the fact that commercial success depends upon the quality of product, its USPs, its effective marketing, its simplicity and besides the cultural, political and macroeconomic context in which the product is launched and marketed. Therefore, an effort is made to separate both concepts to avoid suggesting the overhaul of an effective risk management system when it does not get reflected in profitability in the short-run due to other reasons. Diagrammatically, the theoretical framework for Islamic Banking Risk Management System is shown below:



## 7. Hypothesis Testing

As stated in the problem statement, the object of the study is to see the profit compatibility of Islamic banks compared with conventional banks and this relationship is evaluated with respect to the risk management procedures. The premise is that effective risk management procedures result in commercial viability of a banking enterprise. Therefore, if the risk management procedures result in commercial success i.e. maximizing profits in the long run, then, these procedures are deemed to be adequate. However, several forces are at work in real world and a qualitative discussion is necessary on the results so achieved through empirical analysis.

If the relationship cannot be established by way of risk management procedures, then, other variables like product development, i.e. distinct product features or marketing strategy, i.e. time of launch, method of promotion, demand estimation, segmentation, customer need surveys will give us help to compare profitability of Islamic and conventional banks.

Null Hypothesis is as follows:

$$H_0: r > 0.5$$

$$H_A: r < 0.5$$

[Where 'r' is the Pearson's co-relational coefficient for Return on Equity (ROE)<sup>1</sup> in conventional and Islamic banks. As Return on Equity cannot be negative, a one-tail test is performed. 'r' is taken to be 0.5, as risk management alone is not expected to define more than 50% of the relationship.]

## 8. Data Analysis

Return on Equity (ROE) ratios of two Islamic and two conventional banks (one public sector and private sector) for six years starting from 2001 to 2006 are given below:

	Bank of Khyber	Meezan Bank	Bank Alfalah	Bank Al Baraka
2001	26.35%	16.66%	27.49%	3.30%
2002	11.96%	13.74%	29.95%	5.30%
2003	21.62%	12.16%	79.08%	1.80%
2004	15.57%	16.70%	26.89%	0.50%
2005	11.30%	15.64%	30.65%	4.30%
2006	8.24%	18.39%	20.37%	1.5%

Source: Financial Statement of Banks Published by Respective Banks, [www.sbp.org.pk/](http://www.sbp.org.pk/)

The average ROE for both conventional and Islamic banks is taken for comparison, correlation and regression.

	ROE Conventional	ROE Islamic
2001	26.92%	9.98%
2002	20.96%	9.52%
2003	21.62%	6.98%
2004	21.23%	8.6%
2005	20.98%	9.97%
2006	14.31%	18.39%

Descriptive statistics show a significant difference in mean. Average ROE in Islamic banks is almost half of that of conventional banks. This is partly due to the fact that Islamic banks are new entrants in the industry and are booking their preliminary and capital expenditures initially for tax purposes. This is supported by the fact that they have more liquidity than conventional banks. But, they are yet to fully convert their equity base into revenue generating assets.

For Risk Management analysis, the more important statistics are deviation statistics. All deviation statistics, i.e. range, standard deviation and variance in the table below show there is hardly any difference between the deviation statistics of conventional and Islamic banks. However, with greater mean, conventional banks have a more favorable co-efficient of variation even if the standard deviations are similar.

**Descriptive Statistics**

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
ROE_CON	6	12.61	14.31	26.92	21.0033	4.0060	16.048
ROE_Islamic	6	11.41	6.98	18.39	10.5733	3.9933	15.946
Valid N (listwise)	6						

## 9. Inferential Analysis

The table below shows the 'r' and  $r^2$  values. 'r' is 0.731 and  $r^2$  is 0.534. It shows that currently conventional banks are more profitable due to the learning curve effect, mature product cycles and market share, but Islamic banks are also profitable in their own respect and have the liquidity to turn things around for themselves.

The value of 'r' is 0.731 and  $r^2$  is 0.534. It supports the null hypothesis that presented the opportunities in the environment; Islamic banks having adequate risk management procedures are able to tap opportunities and be profitable like conventional banks and their risk management procedures are adequate enough to not make them fall too behind conventional banks.

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<sup>1</sup> ROE for Bank Alfalah in 2003 is very unusual. In a small sample, a very unusual value can distort the mean. Therefore, ROE for Bank of Khyber is taken for 2003 which is more reflective and close to the usual industry average.

## 9.1. Regression

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variable Removed	Method
1	ROE_Islamic <sup>b</sup>	.	. Enter

- a. Dependent Variable: ROE\_CON.
- b. All requested variables entered.

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.731 <sup>a</sup>	.534	.417	3.0585

- a. Predictors: (Constant), ROE\_Islamic

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	42.825	1	42.825	4.578
	Residual	37.417	4	9.354	.099 <sup>b</sup>
	Total	80.242	5		

- a. Dependent Variable: ROE\_CON.
- b. Predictors: (Constant), ROE\_Islamic

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1	(Constant)	28.752	3.831	7.506	.002
	ROE_Islamic	-.733	.343	-.731	.099

- a. Dependent Variable: ROE\_CON

## 10. Conclusion

A strong relationship between ROE of both Islamic and conventional banks ( $r = 0.731$ ) shows that both Islamic banks and conventional banks are profitable and the risk management procedures in Islamic banks are adequate to mitigate their largely equity-based investments and give their customers adequate return which are comparable with conventional banks. If specific country risk is incorporated, the results can be compared with Islamic banks in other countries. This paper concludes that equity-based

business of Islamic banks posing a slightly more risk than conventional banks is well mitigated by Islamic banks through their effective and adequate distinct risk management procedures.

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