

# **Performance of Islamic Banks in Portfolio Investment: Evidence from Dhaka Stock Exchange**

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## **Abstract**

The paper aims at examining the performance of Islamic Banks of Bangladesh in portfolio investment in the context of Dhaka Stock Exchange (DSE). Stocks of a total number of 26 listed companies have been purposively been selected for the study from the total number of 511 listed companies. Only secondary panel data are used to examine the three assets portfolio performance of the selected banks. Financial ratio analysis reveals that Islamic Banks offer a higher profitability and a slightly higher risk than the rest of the companies. Risk-return characteristics of Islamic Banks' common stocks are analyzed in portfolio context through the behavior of industry weighted three stock portfolios. The investigation shows that less risky portfolios mostly consisted of any of the Islamic Banks' stock. Therefore, the Islamic Banks' stock has risk reducing quality in portfolio management. The existence of Islamic Banks' stocks in the stock market as an individual stock or as a partner of a portfolio will also generate a stabilization effect to general movement of stock prices.

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**Keywords:** Portfolio Management, Islamic Banking

## **1 Introduction**

Banking is a risky business and several risk factors such as credit, liquidity, operational and market risks have been identified as critical to ensure that the banks position remain intact amid the intense competition in the industry. The survival and success of a financial organization depend critically on the efficiency of managing these risks (Khan and Ahmed, 2001). In addition, prudent risk management by financial institutions is the

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hallmark to avoid financial distress that could lead to a full blown financial crisis. In view of this, the issue of risk management in portfolio analysis is a topic of interest not only to the industry players, but also the policy makers.

A growing literature suggests that risk management is even more challenging for the Islamic Banks compared to the conventional counterparts. This is largely attributed to the fact that the Islamic Banks are faced with additional risks due to the specific features of the financing contracts, liquidity infrastructure, legal requirements and governance underlying the Islamic Banks' operations (Cihak and Hesse, 2008). The Islamic Banks have also to ensure that the risk management techniques which include risk identification and management being adopted should not be conflicting with the Shari'ah principles (Khan and Ahmed, 2001).

Some argued that the performance and profitability of Islamic Banks are affected due to a need for allocating more resources to mitigate these risks. In particular, greater risk mitigation requirements call for adequate capital and reserves, appropriate pricing and control of risks, strong rules and practices for governance, disclosure, accounting, and auditing rules, and suitable infrastructure that could facilitate liquidity management (Sundararajan and Errico, 2002). Studies on the relationship between risk management and financial performance of banks mostly have been conceptual in nature, often drawing the theoretical link between good risk management practices and improved bank performance. Schroeck (2002) and Nocco and Stulz (2006) stress the importance of good risks management practices to maximize firms' value. In particular, several other studies draw the link between good risk management practices with improved financial performances (see, for example, Smith, 1995; Schroeck, 2002). In particular, these studies propose that prudent risk management practices reduce the volatility in banks' financial performance, namely operating income, earnings, firm's market value, share return and return on equity. Schroeck (2002) proposes that ensuring best practices through prudent risk management result in increased earnings.

This study attempts at focusing on the banks' performance in three stock portfolios and linking these practices with the financial performance of the Islamic Banks. Attempts have also been made in this study to examine and to evaluate quantitatively the role of Islamic Banks in portfolio management.

## **2 Rational of the Study**

Recent financial disasters in financial and nonfinancial organizations and in governmental agencies stress the need for portfolio management. Risk management is the process by which managers satisfy the need by identifying key risks obtaining consistent, understandable, operational risk measures, choosing which risk to reduce and which to increase and by what means and establishing procedures to monitor the resulting risk position of the portfolios. As a new concept, Islamic Banking is completely different from the conventional commercial banking as its total risk is the function of the following three different factors combined together.

## 2.1 Converting Deposit Holders into Suppliers of Equity

Transformation of depositors to suppliers of equity of the bank will reduce the level of risk, and consequently, the financial leverage ratio (debt/equity) of Islamic Bank because of a low financial leverage designates a low level of fixed interest payments to creditors, with small variations in net profit and earnings per share (Weston and Brigham, 1985). Therefore, the risk of Islamic Bank declines continuously and sharply as equity is replaced with debt.

## 2.2 Replacement of Interest Payments to Deposit Holders by Profit Sharing

Since interest is abolished for deposit holders and is replaced by profit sharing with Islamic Bank, the fixed interest payment is minimized or completely eliminated from any other operation of Islamic Bank. Therefore, the coverage of interest charge ratio will be either very high or meaningless. The first and second factors of risk are not mutually exclusive, i.e., two institutions would have identical (debt/equity) ratios, but the firm with a higher coverage ratio would be properly interpreted as being less levered (Archer et al., 1983).

## 2.3 Replacing Fixed Loan Income with the Profit Sharing of Loan Customer

Islamic Banks are based on the Islamic legal concepts of Musharaka (partnerships) and Mudarabah (profit sharing). Musharaka is a contract of partnership between two or more individuals or bodies in which all partners contribute capital, participate in the management, share the profit as per- agreed ratio and bear the loss, if any in proportion to their capital/ equity ratio. As a result, both the first and second factors have the tendency to lower the risk of Islamic Banks but the third factor has the potential to increase the risk of an Islamic Bank.

## 3 Data and Methodology

### 3.1 Sample Selection

Three Industries related to financial sector are purposively selected out of 22 Industries actively trading at DSE for this study (Table 1). A total number of 26 out of 97 privately owned financial companies are purposively selected based on their paid up capital and length of operation.

Table 1: Sample selection from the companies in DSE

Serial No	Name of the Industry	Number of Companies	Sample
1	Bank	30	9
2	Cement	6	
3	Ceramics Sector	5	
4	Corporate Bond	3	
5	Debenture	8	
6	Engineering	23	
7	Financial Institutions	22	5

8	Food & Allied	16	
9	Fuel & Power	14	
10	Insurance	45	12
11	IT Sector	5	
12	Jute	3	
13	Miscellaneous	9	
14	Mutual Funds	41	
15	Paper & Printing	1	
16	Pharmaceuticals & Chemicals	20	
17	Services & Real Estate	4	
18	Tannery Industries	5	
19	Telecommunication	2	
20	Textile	26	
21	Travel & Leisure	2	
22	Treasury Bond	221	
Total		511	26

Source: Dhaka Stock Exchange

Out of a total 30 banks, only 9 privately owned banks (3 Conventional Banks and 6 Islamic Banks) are selected for this study. It covers all Islamic Banks namely Al-Arafah Islami Bank (AL-Arafah), EXIM Bank Ltd (EXIM), First Security Islami Bank (FIBL), Islami Bank Bangladesh Ltd (IBBL), Shahjalal Islami Bank Ltd (SJIBL) and Social Islami Bank Ltd (SIBL), except ICB Islamic Bank Ltd which has very bad financial performance. The reason behind such selection is the nonexistence of the public Islamic Banks in the country and public vs. private banks seems to be incomparable due to the management policies and government treatment. Five Financial Institutions out of 22 and 12 Insurance Companies out of 45 are also selected for the study.

### 3.2 Methodology

In order to analyze the risk and return relationship, this study employs various profitability ratios like return on assets (ROA), return on equity (ROE), the ratio of Gross Income/Risk Weighted Assets (GI/RWA) and their risk levels. ROA tells about the percentage of net profit/earnings that business attains by using its total available assets.

$$ROA = \frac{\text{Net Profit}}{\text{Total Assets}} \quad (1)$$

The idea of risk-weighted assets is a move away from having a static requirement for capital. Instead, it is based on the riskiness of a bank's assets.

$$GI/RWA = \frac{\text{Gross Income}}{\text{Risk Weighted Assets}} \quad (2)$$

This ratio shows a relationship between net income after taxes and shareholder's equity, and measures the efficiency of the organization in generating profits by using

shareholder’s equity. For financial ratio, data are gathered for the period of seven years from 2005 to 2011.

$$ROE = \frac{\text{Net Income After Tax}}{\text{Shareholder Equity}} \tag{3}$$

The portfolio behavior is determined through the following steps:

Firstly, the stocks of 22 actively trading companies registered with the Dhaka Stock Exchange have been classified into three industries according to their lines of business. Then each industry's weight has been calculated as follows:

Table 2: Portfolio Formulation

	Name of the Industry	Quantity	Equity (million BD)	Weight (%)
1	Bank (9 out of 30)	09	69318	83
2	Financial Institutions (5 out of 22)	05	8441	10
3	Insurance (12 out of 45)	12	5192	7
	Total	26	82951	100

Source: Annual Reports as on 31.12.2011

Secondly, Three-stock portfolios have been established by taking one stock from each sector every time. This process resulted in creating 540 portfolios (9×5×12 = 540 combinations). As the weight of stocks in the portfolio, the weight of the related industry has been used. Lastly, in portfolio analysis Islamic Banks’ stock are investigated in three-stock portfolio calculated with the help of the following formulas (Radcliffe, 1987):

$$E(R_p) = \sum_{i=0}^N X_i \cdot E(R_i) \tag{4}$$

$$\sigma_p = \left[ \sum_{i=0}^N X_i^2 \cdot \sigma_i^2 + \sum_{i=j}^N \sum_{j=1, i \neq j}^N X_i \cdot X_j \cdot \sigma_i \cdot \sigma_j \cdot r_{i,j} \right]^{1/2} \tag{5}$$

Here,

- $E(R_p)$ : Portfolio Return
- $X_i$  Percentage of the Portfolio Investment in (i)
- $X_j$  Percentage of the Portfolio Investment in (j)
- $\sigma_i$  Standard Deviation of Returns on Stock (i)
- $\sigma_j$  Standard Deviation of Returns on Stock (j)
- $E(R_i)$  Return on Stock (i)
- $r_{i,j}$  Correlation Coefficient between the Returns of Stock (i) and (j)
- $\sigma_p$  Portfolios Standard Deviation

## 4 Findings

Table 3 presents ROA of selected Islamic Banks along with banking industry average. The findings demonstrate that almost all the Islamic Banks' ROA are higher as compared to with industry performance in every year except FSIBL. It is also found that the ROAs of SJIBL are higher than those for other banks except for the year of 2011. The SD of ROA for IBBL is the lowest and hence less risky as compared to SJIBL.

Table 3: Return on Assets (ROA %)

Year	2005	2006	2007	2008	2009	2010	2011	Mean	SD	CV
All Banks *	0.70	0.79	0.89	1.16	1.37	1.78	1.52	1.17	0.40	0.34
Al-Arafa **	1.71	2.20	1.15	1.80	1.77	2.65	2.06	1.91	0.47	0.24
FSIBL **	0.05	-0.57	0.11	0.33	0.68	0.86	0.64	0.3	0.49	1.63
IBBL **	1.00	1.03	0.84	1.27	1.34	1.47	1.35	1.19	0.2	0.18
SIBL **	0.71	0.61	1.09	1.19	2.08	2.39	2.45	1.5	0.79	0.52
SJIBL **	1.72	2.17	2.60	2.26	2.08	3.01	1.26	2.16	0.57	0.26

Source: \* Bangladesh Bank & \*\*Annual Report

Table 4 shows the Gross income/risk weighted assets ratio of selected Islamic Banks along with the industry average. All Islamic Banks' GI/RWA are found to be almost higher as compared with industry performance in every year except FSIBL. It can be seen that the GI/RWA of Al-Arafah is all time higher than those for other selected banks. Specific results are shown one Table 4 which also highlights that SD of FSIBL for the results of GI/RWA is the lowest and hence less risky as compared to SJIBL. AL-Arafah scored highest mean as compared to other selected banks.

Table 4: Gross income/risk weighted assets ratio (%)

Year	2005	2006	2007	2008	2009	2010	2011	Mean	SD
All Banks*	4.41	4.45	4.66	5.10	5.03	4.01	4.18	4.55	0.41
Al-Arafa	7.95	7.91	6.46	7.96	7.30	6.56	5.59	7.10	0.93
FSIBL	3.4	3.6	2.81	3.3	4.27	4.14	4.56	3.73	0.62
IBBL	4.21	4.93	5.88	6.96	6.08	6.09	0.078	4.89	2.3
SIBL	4.29	4.03	5.16	6.48	6.57	5.25	5.35	5.31	0.97
SJIBL**	5.15	6.43	7.10	6.14	5.26	4.59	3.72	5.48	1.16

Source: \* Bangladesh Bank, \*\*Annual Report

It is to be noted from Table 5 that SJIBL and Al-Arafah's ROE are higher in contrast with Industry performance in every year except 2011 for Al-Arafah. The table also shows that ROE for both the SIBL and FSIBL are lower in all the selected years as compared to ROE performance of industry average.

Table 5: Return on equity (ROE %)

Year	2005	2006	2007	2008	2009	2010	2011	Mean	SD	CV
All Banks*	15.01	14.13	13.78	15.60	21.72	20.97	20.31	17.36	3.48	0.20
Al-Arafa**	21.55	27.81	17.05	24.70	24.10	20.01	18.34	21.94	3.82	0.17
FSIBL**	1.2	11.68	2.7	4.11	11.41	13.99	12.75	4.93	8.95	1.82
IBBL**	13.51	13.42	13	19.02	16.93	19.00	17.42	16.04	2.7	0.17
SIBL**	4.52	5.88	9.01	10.82	12.13	15.31	15.02	10.38	4.19	0.4
SJIBL**	34.46	38.44	23.21	25.58	25.10	30.71	25.51	29.00	5.69	0.20

Source: \* Bangladesh Bank, \*\*Annual Report

Table 6 represents top 30 results of portfolio return and portfolio risk. It is interesting to note that portfolios returns involving Islamic Banks (especially SJIBL and Al-Arafah) are higher while portfolio risks are lower. Dominant performance of SJIBL has been observed among the selected 30 portfolios as revealed by the higher value of returns. Dominant performance of IBBL has been also observed among the selected 30 portfolios as revealed by the lowest value of risks.

Table 6: Portfolio Rank Based on Risk and Return

			Ranking of First 30 Portfolios base on Portfolio Return (ascending order of Magnitude)		Ranking of First 30 Portfolios Based on Portfolio Risk (descending order of Magnitude)		
Sl.No.	Institution and Code		Portfolio CODE	Portfolio Return	Portfolio CODE	Portfolio SD	Rank
			ILZ	0.3903	FKX	0.1425	1
			INZ	0.3883	FKO	0.1425	2
1	National Bank Ltd	A	IJZ	0.3872	FKT	0.1426	3
2	Social Islami Bank Ltd	B	IMZ	0.3854	FKQ	0.1428	4
3	Al-Arafah Islami Bank	C	CLZ	0.3836	FKP	0.1432	5
4	First Sec. Islami Bank	D	CNZ	0.3816	FMX	0.1433	6
5	Exim Bank	E	CJZ	0.3805	FMO	0.1434	7
6	Islami Bank Bangladesh Ltd	F	CMZ	0.3787	FMT	0.1435	8
7	NCC Bank Ltd	G	ILY	0.3784	FKV	0.1437	9
8	Bank Asia	H	ILW	0.3766	FMQ	0.1437	10
9	Shahjalal Islami Bank	I	INY	0.3763	FNX	0.1437	11
10	Investment Corporation of BD	J	ILR	0.3757	FNO	0.1437	12
11	Prime Fin. & Inv.	K	IJY	0.3753	FKU	0.1438	13
12	Premier Les. & Fin.	L	IKZ	0.3752	FNT	0.1439	14
13	IDLC Finance	M	INW	0.3746	FMP	0.1440	15
14	United Leasing	N	INR	0.3737	FNQ	0.1441	16
15	BGIC	O	IJW	0.3735	FNP	0.1444	17
			IMY	0.3734	FMV	0.1445	18
			IJR	0.3726	FMU	0.1447	19
			IMW	0.3717	FNV	0.1449	20
			CLY	0.3717	FNU	0.1451	21
			IMR	0.3708	FJX	0.1451	22
			CLW	0.3699	FJO	0.1452	23
			CNY	0.3697	FJT	0.1453	24
			CLR	0.369	FJQ	0.1455	25
			CKZ	0.3685	FJP	0.1458	26

16	Peoples Ins.	P	CJY	0.3685	FJV	0.1463	27
17	Pragati Ins.	Q	CNW	0.3679	FJU	0.1465	28
18	Asia Pacific Gen Ins	R	CNR	0.3669	FKW	0.1486	29
19	Eastern Ins.	S	CJW	0.3668			
20	Reliance Ins.	T					
21	Green Delta Ins.	U					
22	Fereast Islami Life	V					
23	City General Ins.	W					
24	Eastland Insurance	X					
25	Federal Insurance	Y					
26	Asia Insurance	Z			FLX	0.1489	30

Frequency distributions for ranking of portfolio return and portfolio risk among the total 560 portfolios of Islamic Banks have been shown in Figure 1 and Figure 2 respectively. Both the figures depict that the ranks of Portfolios involving Islamic Banks are higher. Interestingly, patterns of both the frequency distributions of ranking of portfolio return (Figure 1) and portfolio risk (figure 2) are almost the same

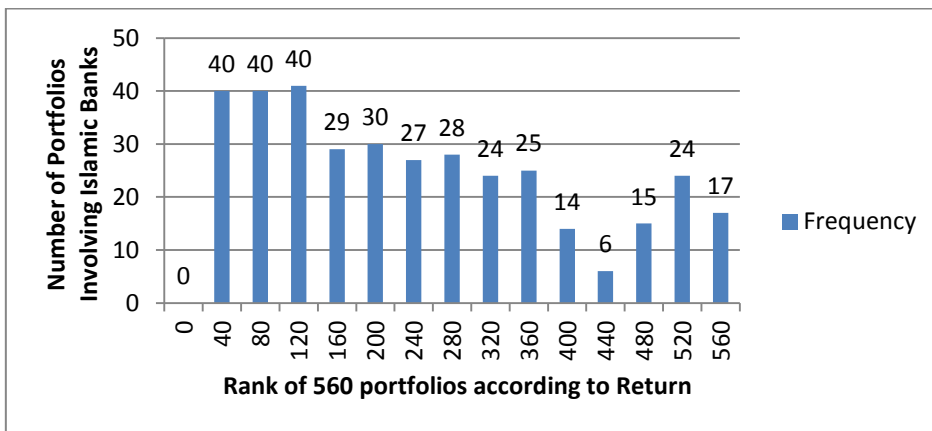


Figure 1: Frequency Distribution of Portfolio return

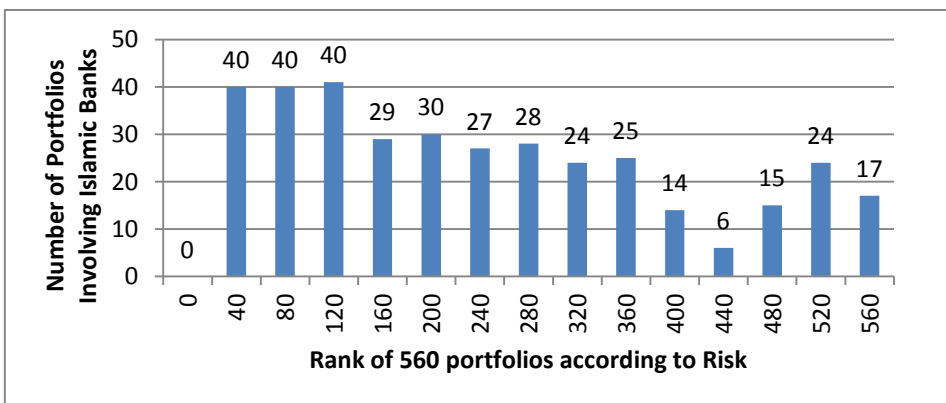


Figure 2: Frequency Distribution of Portfolio Risk



To examine the individual performance of each Islamic Bank, mean and median of 60 portfolios for each bank have been calculated on the basis of portfolio return and portfolio risk. SJIBL is found to have the highest return and the lowest risk followed by Al-Arafah Bank. Table 7 summarizes that among the 6 Islamic Banks SJIBL and Al-Arafah have strong influence in generating high portfolio return and reducing portfolio risk.

Table 7: Bank wise performance

Bank	Rank of Portfolios based on Return			Rank of Portfolios based on Risk		
	Mean	Median	Rank	Mean	Median	Rank
AL-Arafah	66.50	66.17	2 <sup>nd</sup>	66.0	66.5	2 <sup>nd</sup>
EXIM	183.50	191.53	3 <sup>rd</sup>	255.9	248.5	4 <sup>th</sup>
FSIB	223.50	224.45	4 <sup>th</sup>	371.0	383	6 <sup>th</sup>
IBBL	499.50	493.68	6 <sup>th</sup>	188.5	167.5	3 <sup>rd</sup>
SIBL	330.50	325.33	5 <sup>th</sup>	325.3	330.5	5 <sup>th</sup>
SJIBL	50.50	54.78	1 <sup>st</sup>	53.7	50	1 <sup>st</sup>

## 5 Conclusion

The risk level of an Islamic Bank is the combined effect of the three new statutes governing the operations, namely deposit holders are replaced by equity holders, interest payments to depositors are converted into profit or loss sharing, and loans to customer are transformed into capital participation. To investigate the net effect of these new responsibilities on the total risk of Islamic Bank, an analysis is conducted in three different areas. Based on the results, Islamic Banks offer a higher profitability and a slightly higher risk than the rest of the companies. Among the Islamic Banks, SJIBL should be the first choice. Risk-return characteristics of Islamic Banks' common stocks are analyzed in portfolio context through the behavior of industry weighted three stock portfolios. The investigation shows that the less risky portfolios out of the total of 560 mostly consist of any of the Islamic Banks' stock. Thus, Islamic Banks' stocks have not only risk reducing quality due to low standard deviation but also the existence of Islamic Banks' stocks in the stock market as an individual stock or as a partner of a portfolio will generate a stabilization effect to general movements of stock prices.

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