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Risk-Return Analysis of Three Asset Portfolio using Islami Banks -Evidence from Dhaka Stock Exchange

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Received: 10 December 2012 Accepted: 31 December 2012 Published: 15 January 2013

Abstract

This paper aims at analyzing performance of Shahjalal Islami Bank Ltd. (SJIBL) at micro level. The study is based on 18 companies of Dhaka Stock Exchange (DSE). As population, 93 listed companies of DSE are purposively selected from a total of 544 companies. Ratio analysis, Individual stock analysis and Portfolio analysis have done using data between 2005 and 2011. A three stock portfolio analysis has been made compiling three financial industries namely; Banking, Insurance and Financial Institutions. Evidence from the study reveals that SJIBL has high return and low risk characteristics. Portfolio result depicts that combination of Islamic Banks? (IB) stock in portfolio investment can accelerate portfolio return and can reduce risk.

Index terms— analyzing performance, Ratio analysis, Individual stock analysis and Portfolio analysis.

1 Introduction

slamic Banking has offered a new era of defining risk return relationship. Traditional theory suggests for higher return for adopting high level of risk and vice versa. But IB claims for higher return with relative lower risk and hence claims an alternative solution for a sustainable financial future. Firstly, depositor's money should be considered as equity. This transformation of depositors as equity reduces the financial leverage ratio and as a result the risk of IB as measured by standard deviation of profit profitability declines sharply. Secondly, the risk in IB depends as the level of the coverage of interest charges ratio since interest is omitted in deposit holders and is replaced by profit sharing the fixed interest payment is completely eliminated. Therefore, the coverage of interest charge ration will we either very high meaningless consequently. However, Qureshi (1984) claims that equity based financing in the Islamic framework will increase the exposure of risk.

The prime objective of the paper is to analyze various profitability ratios and their risk levels of SJIBL and compare its performance with banking industry in Bangladesh and to perform Portfolio analysis of SJIBL in order to determine it's the risk diversification characteristics.

2 II.

3 Data and Variables

Sample selection: Out of 22 Industries under Dhaka Stock Exchange, three Financial Industries (a total number of 18 out of 93 Companies) are purposively selected for the study of which SJIBL is one of the main. These Companies are selected based on their length of the operation and Paid up Capital. Out of the thirty Banks, all six privately owned Islamic Banks are selected for comparison purpose. The reason behind such selection is the nonexistence of the public Islamic Banks in the country. Number of Selected Financial Institutions and Insurance Companies is 4 of 22 and 8 of 41 respectively. Data Source: Only secondary data is used in the study using panel data for desired analysis. Research has been conducted through three different methods. First, for the last seven years various profitability ratios and their risk levels (standard deviation and coefficient of variation) are

calculated for SJIBL only. Second, for four years rates of return of SJIBL's stock and standard deviations are compared with the other common stocks listed in DSE. Third, the behavior of SJIBL's stock is investigated in three-stock portfolios in order to determine a pattern of risk diversification. For ratio analysis, data is gathered from the financial statements and annual reports of the individual banks, annual reports and quarterly statistical bulletins of 2005-2011.

4 a) Financial Models

Stock Analysis: When assessing the bank's performance, income statements do not always reveal the whole story. To assess a bank's performance potential, bank stock price movements can be analyzed **??**Madura, 1992). Here, the intention is to determine the risk-return characteristics of the stocks listed in Dhaka Stock Exchange, and then compare SJIBL stock with the others. Therefore, the annual returns of each stock for a period of Four years between 2008 and 2011 are calculated with the help of a formula shown in Appendix (Formula 1). Firstly, the stocks of 18 actively trading companies registered with the DSE are classified into three industries according to their lines of business. Then each industry's weight has been calculated: Source : Annual Report of Respective Institutions Secondly, three-stock portfolios have been established by taking one stock from each sector every time. This process resulted in creating 192 portfolios (18 C 3 = 192). As the weight of stocks in the portfolio, the weight of the related industry has been used.

In the last stage, returns and standard deviations of these industries weighted 192 portfolios have been calculated with the help of a formula shown in Appendix (Formula 2) III.

5 Literature Review

Risk is the potential that a chosen action or activity (including the choice of inaction) will lead to a loss (an undesirable outcome). The notion implies that a choice having an influence on the outcome exists (or existed). Potential losses themselves may also be called "risks".

Source : Rosli and Zaini (2008) Khan and Ahmed (2001) discuss that Islamic banks not only face risks that conventional bank face but they also have to deal with the new and unique risk as a result of their unique asset and liability structure. According to them, this new risk exists due to the compliance of Shariah requirement. Among the nature of operations in Islamic financial institutions majority are based on profit and loss sharing, as such it is perceived that such transactions pose lower risk. While profit and loss sharing contracts expose Islamic financial institutions to a specific risk related the each type of contract and Qureshi (1984) claims that equity based financing will increase the exposure of the Islamic bank to risks.

In the case of Islamic banks, risks will vary depending upon the types of instruments used in the transactions either in deposit or financing. Sundararajan and Errico (2002) and Venardos (2006) argue that Islamic banks will face greater challenges in identifying and handling risk than conventional banks because of the complexities arising from the nature of the risk for each contract and profit loss sharing concept of certain financing product.

While, Rosly and Zaini (2008) and Hassan and Dicle (2005) discuss that, the nature of risk faced by the capital owners in an Islamic bank varies and is unique in accordance to the types of financial instruments it uses, the people it hires to manage the bank and its degree of transparency.

Rosly and Zaini (2008) explain that risk associated with each single product can further be broken down into major and non-major risk. Major risk means the risk that dominates the product in use. Due to the unique nature in each product offered by Islamic banks, Kahf (2005) riskier than conventional financial institutions due to several reasons including the specific nature of risk and unlimited number of ways to finance a project using either profit & loss sharing or non-profit & loss sharing contracts. Lack of standardization in each type of contract is also another factor that is why Islamic financial institutions are riskier than its companion. Akkizidis and Khandelwal (2008) explains that the scarcity of hedging instrument, undeveloped interbank money markets and a market for government securities which are Shariah compliant, make Islamic financial institutions more vulnerable to unfavorable events than conventional financial institutions. Cihak and Hesse (2008) also argues that Islamic financial institutions pose risk to the financial system that in many regards differ from those posed by the conventional financial system.

IV.

6 Analysis

Table **??**I shows that Return on Assets of SJIBL is higher than the commercial banking sector. Risk of such profitability was measured by coefficient of variation depicts much smaller result for SJIBL than the commercial banking sector. So, risk position of SJIBL is lower than other commercial banks. The above figure shows that ROA of SJIBL for the period of 2005-2011 results all time higher than that of all bank average for the same period. It signifies average higher return of SJIBL compared to all banks average. However, the ROA also signifies that the overall performance of the management to generate profit for the period is high. Table also reveals that Gross income/risk weighted assets on average is higher in SJIBL than the commercial banking sector. With the profitability of equity holders, measured by net profit after tax over total equity, SJIBL results higher than the industry average. The standard deviation of SJIBL is higher than other commercial banks. So, in this stage, risk level of SJIBL is higher than other commercial banks. The profitability measures used here indicate that SJIBL

has achieved a higher profitability in terms of ROA, except with a slightly lower ROE ratio. Source : Results have been compiled from the panel data.

As is seen from Table **??**II, the average annual return of SJIBL has a ranking of five from the top in the total market. But, if only the commercial banking sector is considered, SJIBL's stock achieved the best performance. In terms of standard deviation of annual returns of SJIBL scored the sixth lowest risks in total market. But if only commercial banks are considered, SJIBL has the lowest deviation of annual returns among all the commercial banks. Ranking by coefficient of variation shows that SJIBL has the fourth lowest risk in the total stock market. But if only commercial banking stocks are considered, again, SJIBL offers the lowest risk. Instead of risk minimization, this finding can be expressed as profit maximization (the reciprocal of coefficient of variation), i.e. for a given level of risk, SJIBL has the fifth highest average return and the highest average return among all the commercial banks listed in the stock exchange.

It should be noted that this result does not necessarily hold in a portfolio context, where the appropriate risk measure is not only the standard deviation or coefficient of variation but is also the correlation coefficient. Source : Results have been compiled using Formula 2 (Appendix)

Table **??**V exhibits the findings of risk-return positions of portfolios. Out of the total of 192 portfolios, the results of 32 portfolios have been given. As is seen from Table **??**II, the least risky portfolio (INZ) is composed of the stocks of Shahjalal Islami Bank Limited, United Leasing and Asia Insurance. In the same way, all portfolios ranked from the range of 65 to 114. It assumes that all the portfolios are in moderate risky position. This fact can be considered as another evidence of the low risk level of SJIBL and risk reducing quality of SJIBL's stock in portfolio diversification. Source : Results have been compiled using Formula 2 (Appendix)

All 32 portfolio returns consisting SJIBL's stocks presented in Table V depicts that high portfolio return has ensured through using SJIBL's stock. The ranking of all these portfolios scored from the range of 01 and 62 which means all the top scores are in the favor of SJIBL advocating for higher portfolio return through mixing Islmai banks as portfolio asset. A simple ranking analysis among the selected Islami banks' portfolio performance as presented in Table V depicts that SJIBL ranked top in portfolio performance. The median of total 32 portfolios scored only 28 and placed SJIBL as first among the other Islami banks. AIBL, EXIM, FISBL, SIBL and IBBL ranked 2nd, 3rd, 4th, 5th and 6th position respectively. The pioneer of SJIBL's portfolio return and overall performance of all six banks out of total 192 portfolio presumes a high return and low risk attitude of Islami banks' in portfolio performance.

V.

7 Findings

Ratio Analysis: Results from the previous section shows that SJIBL has performed better on an average compared to the commercial banking sector as a whole in terms of its management efficiency (ROA). At the same time, risk level of this bank is lower as compared to total Banking Industry. The ratio of gross income over risk-weighted assets of SJIBL is performing better than the industry and exhibits a higher risk as compared to Commercial Banks Industry as a whole. As for the profitability of equity holders, SJIBL's result is considerably higher than the industry average. The risk level of this profitability of SJIBL is higher than the industry average. Stock Analysis: If only the commercial banking sector is considered, SJIBL achieved the first best performance. As compared to other commercial banks this higher return might be due to the better risk management of SJIBL. Profit maximization for a given level of risk, SJIBL has the fifth highest average return on DSE, and the highest average return among all the commercial banks listed in stock exchange, while both risk and return are simultaneously considered, SJIBL is superior.

8 Portfolio Analysis: In terms of Portfolio

Coefficient of Variance, it can be considered as an evidence of the low risk level of SJIBL and risk reducing quality of SJIBL's stock in portfolio diversification. Again, considering Portfolio Return, SJIBL's stock has not only risk reducing quality (due to low coefficient of correlation with the stock of other sector) but also generate higher return in portfolio diversification.

9 Conclusion

The risk level of an Islamic bank is the combined effect of the three new statutes governing the operations of this institution, 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. Portfolio analysis, however, also supports the above statement. Of course, it is expected that in the future, after the analysis of risk-return characteristics of Islamic banking institutions in other countries, these preliminary conclusions will be examined to establish general principles and final terminations. [1] [2]

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Figure 1:

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SL.No	Name of the Industry	Quantity	Equity(*) (million BD)	Weight (%)
1	Bank (6 out of 30)	06	69318	83%
2	Financial Institutions (4 out of 22)	04	8441	10%
3	Insurance (8 out of 45)	08	5192	7%
	T otal	18	82951	100

Figure 2: Table 1 :

2

	Return on assets (%)		Gross income/risk weighted assets		Return on Equity	
Years	*All banks	**SJIBL	*All banks	**SJIBL	*All banks	**SJIBL
2005	0.70	1.72	4.41	5.15	15.01	34.46
2006	0.79	2.17	4.45	6.43	14.13	38.44
2007	0.89	2.60	4.66	7.10	13.78	23.21
2008	1.16	2.26	5.10	6.14	15.60	25.58
2009	1.37	2.08	5.03	5.26	21.72	25.10
2010	1.78	3.01	4.01	4.59	20.97	30.71
2011	1.52	1.26	4.18	3.72	20.31	25.51
Mean	1.17	2.16	4.55	5.48	1 7.36	29.99
SD	0.40	0.56	0.41	0.94	3.48	6.33
C.V.	0.34	0.26	0.09	0.17	0.20	0.21

*[Note: Source : *Bangladesh Bank Report, **Annual Report of Respective Banks]*

Figure 3: Table 2 :

3

Bangladesh Stock Exchange

Figure 4: Table 3 :

4

CODE	Portfolio SD	Portfolio CV	Rank of PCV	CODE	Portfolio SD	Portfolio CV	Rank of PCV
IKH	0.2504	0.7300	65	IJA	0.2624	0.7412	81
IMP	0.2511	0.7520	66	IJG	0.2625	0.7831	82
IKO	0.2603	0.7824	67	ILH	0.2639	0.7367	83
IKQ	0.2605	0.7823	68	ILO	0.2639	0.7588	84
IKP	0.2607	0.8054	69	ILQ	0.2641	0.7587	85
IMH	0.2608	0.7342	70	ILP	0.2642	0.7798	86
IMO	0.2609	0.7609	71	IKR	0.2645	0.7335	87
IKA	0.2609	0.7629	72	ILA	0.2645	0.7407	88
IMQ	0.2610	0.7605	73	ILG	0.2646	0.7821	89
IKG	0.2610	0.8078	74	IMR	0.2649	0.7144	90
IMA	0.2614	0.7422	75	IJR	0.2659	0.7136	91
IMG	0.2615	0.7841	76	IKN	0.2675	0.7667	92
IJH	0.2618	0.7375	77	IMN	0.2679	0.7460	93
IJO	0.2618	0.7595	78	ILR	0.2680	0.7133	94
IJQ	0.2620	0.7594	79	IJN	0.2689	0.7451	101
IJP	0.2622	0.7810	80	ILN	0.2709	0.7442	114

Figure 5: Table 4 :

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	Risk-Return Analysis of Three Asset Portfolio Using Islami Banks-Evidence from Dhaka Stoc					
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Global Journal of Manage-ment and Business Research	CODE ILR IJR IMR ILN IJN IKR 810 4 of the to	P Portfolio Return 0.3757 0.3726 0.3708 0.3640 0.3609 0.3606	0	Ranks of PR 1 2 3 7 8 9	CODE IJQ IJO IMQ IKH IMO IKA I	P Portfolio Return 0.3450 0.3447
	IMN	0.3591		10	ILP	0.3388
	ILH	0.3582		11	ILG	0.3383
	ILA	0.3571		13	IJP	0.3357
	IMH	0.3552		14	IJG	0.3352
	IJH	0.3550		15	IMP	0.3339
	IJA	0.3540		17	IMG	0.3335

Figure 6: Table 5 :

6

Bank	Mean	Median	Rank
AIBL	36.90		
EXIM	90.18	88.50	3
FISBL	104.65	105	4
IBBL	176.5	176.50	6
SIBL	142.65	144.5	5
SJIBL	28.09	28	1

Figure 7: Table 6 :

.1 Appendix

Formula 1

.2 =

(Pt -Pt-1) + Ct Pt-1

Where, Pt = market price at the end of period (t) Pt -1 = market price at the end of period (t -1) Ct = cash flow income received during the (t) the period ri = rate of return on common stock (i) Formula 2

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