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An Evaluation of Financial Performance of Private Commercial Banks in Bangladesh: Ratio Analysis

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Abstract
Banks play an important role in the economic development of every nation. They have control over a large part of the supply of money in circulation. Since, the appearance of private commercial banks is the larger portion of the banking sector in Bangladesh, thus this study is intended to measure the performance of selected private sector banks (five), listed on both the Dhaka Stock Exchange and Chittagong Stock Exchange, in Bangladesh through extensive use of financial ratios that mainly indicate the adequacy of the risk based capital, credit growth, credit concentration, non-performing loan position, liquidity gap analysis, liquidity ratio, return on assets (ROA), return on equity (ROE), net interest margin (NIM), etc. Three indicators namely, Internal-based performance measured by Return on Assets, Market-based performance measured by Tobin's Q model (Price/Book ratio) and Economic-based performance measured by Economic Value add has been used to measure financial performance of the selected banks. Annual time series data from 2008-2012 of the selected banks from their respective audited annual reports (secondary data) were employed in multiple regression analysis to apprehend the impact of bank size, credit risk, operational efficiency and asset management on financial performance measured by the three indicators, and to create a good-fit regression model to predict the future financial performance of these banks. Statistically, the hypothesis is claiming that Bank size, credit risk, operational efficiency and asset management have significant impact on financial performance of Bangladeshi commercial banks.

Key words: *Financial Performance, Return on Assets, Tobin's Q ratio, Economic Value adds, Operational Efficiency, Asset management, Credit Risk.*

Introduction:

The financial environment of any economy consists of typically five components namely: money, financial instruments, financial institutions, rules and regulations and financial markets. Among the various financial institutions, banks are a fundamental component and the most active players in the financial system (Dhanabhakyam & Kavitha, 2012). Bank is a financial intermediary that channels funds from surplus units, the depositors, to the deficit units, the borrowers, in the process gaining from the spread of the different interest charged. By the scope of its functions, banks are the key to economic growth of any economy (Rashid, 2010). Further, banks are a fundamental component of the financial system, and are also active players in financial markets (Guisse, 2012). The essential role of a bank is to connect those who have capital (such as investors or depositors), with those who seek capital (such as individuals wanting a loan, or businesses wanting to grow). Banks have control over a large part of the supply of money in circulation. Through their influence over the volume of bank money, they can influence in nature and character of production in any country (Brigham & Houston, 2011).

In consistent with Kumbirai, & Webb (2010), a single bank is highly connected with other banks for payment system and other functions of bank such that the failure of a single bank not only affects its shareholders and depositors rather it affects rest other banks and even all rest other business. The failure of a single bank creates an economic turmoil situation and is regarded as a disaster for the economy. The recent global recession is also an example of economic disaster that occurred for the failure of banking business. So, the government of any country must have a high concern about the performance of all banks (Searle, 2008). The supervisory authority creates smooth and efficient atmosphere for fund flow and payment system. Supervisory authority measures the performance and assess the strength and weakness of banks and takes necessary actions (Iqbal, 2012). The banking sector of Bangladesh compared to its economic size is moderately bigger than many other economies of equal level of development and per capita income (Nguyen, Islam & Ali, 2011). There are more than fifty commercial banks operating in this small economy. Although over the last thirty years, the country achieved noticeable success regarding the access to banking services, in 1972 population per branch was 57,700 and in the year of 2010, it was 20,162 per branch. The statistics indicates that getting banking services is not a significant problem for the country (Nguyen, Islam & Ali, 2011).

Since, private commercial banks form the larger portion of the banking sector, this study aims at measuring the performance of selected private sector banks (five) in Bangladesh through extensive use of financial ratios that mainly indicate the adequacy of the risk based capital, credit growth, credit concentration, non-performing loan position, liquidity gap analysis, liquidity ratio, return on assets (ROA), return on equity (ROE), net interest margin (NIM), etc. Financial ratio analysis allows analysts to scrutinize a firm's financial performance. Though in line with Yap, Munuswamy and Mohamed (2012), ratio analysis is simply a postmortem analysis of past financial data, an effort has been made to know whether and to what extent different ratio affects profitability and productivity of the selected banks through correlation analysis, followed by regression analysis comparing performances of different selected private sector banks and a forecast of the future trend is also deduced.

Objectives of the Study:

The major objective of this study is to analyze the financial performance of the selected private sector banks. The following are the specific objectives of the study.

1. To determine whether bank size, credit risk, asset management and operational efficiency have statistically significant impact on internal based performance (ROA) of Bangladeshi Private Sector commercial banks.
2. To determine whether bank size, credit risk, asset management and operational efficiency have statistically significant impact on market-based performance (Tobin's Q) of Bangladeshi Private Sector commercial banks.
3. To determine whether bank size, credit risk, asset management and operational efficiency have statistically significant impact on economic-based performance (EVA) of Bangladeshi Private Sector commercial banks.

Literature Review:

Ratio analysis involves methods of calculating and interpreting financial ratios to analyze and monitor firm's performance. The basic inputs to ratio analysis are the firm's income statement and balance sheet (Gitman, 2009). Ratios play a pivotal role in the management accounting function of any organization. The main objective of ratio analysis is to use the results for decision-making purposes (Madura, 2009). It also helps identify and highlights the areas of poor performance and areas of satisfactory performance (James, 2013). By highlighting areas of good and bad performance, ratios can assist management to identify where their strengths and weaknesses are and where further effort should be directed (Payne, 2011). Ratios help in identifying the success or otherwise of particular choice of action as comparison can be made of the pre- and post-action results. (luckham, 1982). As a result bank's financial statements are needed to be analyzed using progressive ratios.

A study in Australian financial institutions (Elizabith & Greg, 2004) showed that all financial performance measures as interest margins, return on assets, and capital adequacy are positively correlated with customer service quality scores. Many researchers have been too much focus on asset and liability management in the banking sector, (Arzu & Gokhan, 2005) discussed the asset and liability management in financial crisis. They argued that an efficient asset-liability management requires maximizing bank's profit as well as controlling and lowering various risk, and their study showed how shifts in market perceptions can create trouble during crisis. Medhat, (2006) used multiple regression analysis and correlations to test the financial performance of Omani Commercial banks. He used the ROA and the interest income as performance proxies (dependent variables), and the bank size, the asset management and the operational efficiency as independent variables. He found positive strong correlation between financial performance and operational efficiency and a moderate correlation between ROA and bank size. Khan, (2013) found that the bank with higher total capital, deposits, credits, or total assets does not always mean that has better profitability performance. The operational efficiency and asset management, in addition to the bank size, strongly and positively influenced financial performance of the banks.

Ahmad, (2011) studied the financial performance of seven Jordanian commercial banks. He used the ROA as a measure of banks' performance and the bank size, asset management and operational efficiency as three independent variables affecting ROA. The results of his analysis revealed a strong negative correlation between ROA and banks' size, a strong positive

correlation between ROA and asset management ratio, and a negative weak correlation between ROA and operational efficiency. Ali et al. (2011) conducted a comprehensive study about banks' profitability in Pakistan, where they found significant relation between asset management ratio, capital and economic growth and with ROA. While they found that operating efficiency, asset management and economic growth are significant with the ROE. Siddiqui & Shoaib, (2011) found in their study "Measuring performance through capital structure in Pakistan" that size of the bank played a significant role in determining the profitability of the bank measured by ROE. They used also the Tobin's Q model as a proxy of determining banks performance while they found that Tobin's Q is affected by the size of the bank, the leverage ratio and Investments carried out by the bank.

Thus all these facts indicates that a comprehensive performance analysis should go beyond traditional measures and should employ more forward-looking proxies while taking into account risk and profitability. And taking these issues into consideration, the purpose of this study is to examine the future financial performance of five Bangladeshi private sector commercial banks by using three indicators; Internal–based performance measured by Return on Assets, Market-based performance measured by Tobin's Q model (Price / Book value of Equity) and Economic–based performance measured by Economic Value add, which cannot be measured by using traditional ratios.

Hypothesis's of the Study:

In order to achieve the research objectives and based on the literature review, the following hypotheses have been proposed for the study which are:

H_1: Bank size, Credit Risk, Asset management and operational efficiency have impact on internal based performance (ROA) of Bangladeshi Private Sector commercial banks.

H_2: Bank size, Credit Risk, Asset management and operational efficiency have impact on market-based performance (Tobin's Q) of Bangladeshi Private sector commercial banks.

H_3: Bank size, Credit Risk, Asset management and operational efficiency have impact on economic-based performance (EVA) of Bangladeshi Private sector commercial banks.

Methodology:

Since the main objective of this study is to measure Private sector banks' financial performance using the three indicators as well as to predict the future financial performance of the banks, therefore the nature of the study is descriptive. Based on the research approach deductive approach has been chosen for this study. Quantitative analysis has been chosen for this study to analyze the data.

Data:

For this study, data has been taken from secondary sources such as the Annual reports of Private sector banks were used to collect the data regarding of bank size, credit risk, operational efficiency and asset management for the time span 2008-2012.

Sample Size:

The sample of the study consists of five Bangladeshi Private Commercial banks listed on both the Dhaka Stock Exchange (DSE) and the Chittagong Stock Exchange (CSE). Annual Time Series data for both independent and dependent variables were extracted from the respective banks' annual audited financial statements from the period 2008-2012. Therefore, the total sample size of this study is 25.

Bank Name	Total Assets	Total Liabilities	Credit Facilities	Total Deposits	Net Profit
Dhaka Bank Ltd	133,142	123,458	90,140	107,427	701
Al-Arafah Islami Bank Ltd	149,320.36	133,907.07	106,650.42	118,683.39	1,945.40
NCC Bank Ltd	125,842	113,705.7	79,948.22	96,918.22	1,433.76
Trust Bank Ltd	95,260.78	88,747.89	54,616.06	82,997.33	182.70
Mercantile Bank Ltd	154,040.18	143,115.63	93,610.87	132,093.64	1,381.45

Table 2: List of the Five Selected Private Commercial Banks

Specification of Regression Models:

In order to find out the financial performance of the Bangladeshi private sector commercial banks, three models have been developed and each of them has one dependent variable and four identical, independent variables as shown in table 3. In addition, ROA was used as an internal financial performance indicator, the Tobin's Q model as a market financial performance indicator and Economic value add as an economic financial performance indicator. SPSS 17.0 has been used to process and analyze the data. Statistical tools like Regression analysis, F-test, correlation and t-test have been used to assess and interpret data. Both F-test and t-test have been performed to test the statistical significance of the parameters at 5% level of significance.

Dependent Variables	Description	Independent Variables	Description
ROA	Net Income / Total Assets	Bank Size	LOG (Total Assets)
Tobin's Q	Market value of bank / Book Value of equity	Credit Risk (CR)	Reserves for doubtful loans / Total loans and advances
Economic Value Add	Net Operating Profit After Taxes (NOPAT) - (Capital * Cost of Capital).	Operational Efficiency (OE)	Total operating expense / net interest income
		Asset Management (AM)	Operating income / total assets

Table 3: List of the Variables to Be Studied

Model 1: $ROA = \alpha + \beta_1 Bank\ size + \beta_2 CR + \beta_3 OE + \beta_4 AM + \varepsilon$…….(1)

Model 2: $Tobin's\ Q = \alpha + \beta_1 Bank\ size + \beta_2 CR + \beta_3 OE + \beta_4 AM + \varepsilon$…….(2)

Model 3: $EVA = \alpha + \beta_1 Bank\ size + \beta_2 CR + \beta_3 OE + \beta_4 AM + \varepsilon$…….(3)

Where, ROA = Return on Assets
Tobin's Q = Price/Book ratio
EVA = Economic Value add
Bank Size = log (assets)
CR = Credit Risk
OE = Operational Efficiency
AM = Asset Management
α = Constant term of the model
β = Coefficients of the model
ε = Error term

Findings and Analysis:

Results for Model 1:

The hypothesis being tested is

***H_1*:** Bank size, Credit Risk, Asset management and operational efficiency have impact on internal based performance (ROA) of Bangladeshi Private Sector commercial banks.

Therefore, the null and alternative hypotheses are:

***H*$_O$**: Bank size, Credit Risk, Asset management and operational efficiency have no impact on internal based performance (ROA) of Bangladeshi Private sector commercial banks.
***H*$_A$**: Bank size, Credit Risk, Asset management and operational efficiency have significant impact on internal based performance (ROA) of Bangladeshi Private sector commercial banks.

Table 4: Correlation matrix

		ROA (%)	LOG(Assets)	OE (%)	AM (%)	CR (%)
ROA (%)	Pearson Correlation	1	-.154	-.303	.891**	-.393
	Sig. (2-tailed)		.463	.141	.000	.052
	N	25	25	25	25	25
LOG(Assets)	Pearson Correlation	-.154	1	.083	-.275	.187
	Sig. (2-tailed)	.463		.694	.183	.371
	N	25	25	25	25	25
OE (%)	Pearson Correlation	-.303	.083	1	-.482*	-.148
	Sig. (2-tailed)	.141	.694		.015	.479
	N	25	25	25	25	25
AM (%)	Pearson Correlation	.891**	-.275	-.482*	1	-.090
	Sig. (2-tailed)	.000	.183	.015		.667
	N	25	25	25	25	25
CR (%)	Pearson Correlation	-.393	.187	-.148	-.090	1
	Sig. (2-tailed)	.052	.371	.479	.667	
	N	25	25	25	25	25

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

From the table it is evident that there is a positive correlation of ROA and asset management while negative correlation with the size, credit risk and operational efficiency. This indicates that with increase in asset management, there has been increase in ROA. While the results show that with the rest of the variables decreasing, there can be increase in ROA. Asset management has very strong positive correlation with ROA, as it is logical that with increase in efficient asset management, the return on assets will be higher.

Table 5: Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.960[a]	.922	.906	.19822	.922	59.082	4	20	.000

a. Predictors: (Constant), CR (%), AM (%), LOG(Assets), OE (%)

Referring to the table above, it was found that that the adjusted R-square value is 90% and from this it is concluded that 90% of the variation in the dependent variable (ROA) is explained by the independent variables. This indicates a strong explanatory power of the regression

Table 6 :ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.285	4	2.321	59.082	.000[a]
	Residual	.786	20	.039		
	Total	10.071	24			

a. Predictors: (Constant), CR (%), AM (%), LOG (Assets), OE (%)

b. Dependent Variable: ROA (%)

From the table above it is known that the value of F-stat is 59.08 and is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is rejected and alternative hypothesis is accepted. Hence it can be concluded that Asset size, Credit risk, operational Efficiency and Asset management have significant impact on internal financial performance of private sector commercial banks measured by ROA.

Table 7: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-8.716	2.858		-3.050	.006
	LOG(Assets)	.619	.254	.161	2.438	.024
	OE (%)	.002	.001	.094	1.287	.213
	AM (%)	.723	.057	.952	12.732	.000
	CR (%)	-.310	.063	-.323	-4.958	.000

a. Dependent Variable: ROA (%)

Thus, the analysis predicts the average ROA with about 90% explanatory power by the following model:

ROA = - 8.716 + 0.619SIZE + -0.310 CR + - 0.002 OE + 0.723AM + e

To assess the significance of each independent variable on the dependent variable ROA, the researcher has established that bank size, asset management and credit risk were found to be significant and affect ROA as their t-sig are less than 5%. However, operational efficiency has insignificant effect on ROA, as its t-sig is 0.213 (>5%). The bank size may have significant effect on the value of ROA because it measures the log of total assets of the company and ROA value needs the usage of total assets value for its determination. Credit risk may have some effect as it measures the reserve of the bank compared to the total loans. Since loans would provision for interest, it would thus affect the net income and thus have an effect on the value of ROA. In the same way, asset management involves the total assets of the banks and thus will have effect on ROA. However, operational efficiency measures how able the bank is to meet up its operating expenses. Though operating expenses affect the value of net income, however, this does not have direct link to the value of the ROA.

Results for model 2:

The hypothesis being tested is

H_2: Bank size, Credit Risk, Asset management and operational efficiency have impact on market-based performance (Tobin's Q) of Bangladeshi Private sector commercial banks.

Therefore, the null and alternative hypotheses are:

H_O: Bank size, Credit Risk, Asset management and operational efficiency have no impact on market-based performance (Tobin's Q) of Bangladeshi Private sector commercial banks.

H_A: Bank size, Credit Risk, Asset management and operational efficiency have significant impact on market-based performance (Tobin's Q) of Bangladeshi Private sector commercial banks.

Table 8: Correlation matrix

		P/B ratio	LOG(Assets)	CR (%)	AM (%)	OE (%)
P/B ratio	Pearson Correlation	1	-.519**	-.437*	.124	.194
	Sig. (2-tailed)		.008	.029	.555	.353
	N	25	25	25	25	25
LOG(Assets)	Pearson Correlation	-.519**	1	.187	-.275	.083
	Sig. (2-tailed)	.008		.371	.183	.694
	N	25	25	25	25	25
CR (%)	Pearson Correlation	-.437*	.187	1	-.090	-.148
	Sig. (2-tailed)	.029	.371		.667	.479
	N	25	25	25	25	25
AM (%)	Pearson Correlation	.124	-.275	-.090	1	-.482*
	Sig. (2-tailed)	.555	.183	.667		.015
	N	25	25	25	25	25
OE (%)	Pearson Correlation	.194	.083	-.148	-.482*	1
	Sig. (2-tailed)	.353	.694	.479	.015	
	N	25	25	25	25	25

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

From the table it was found that there is a positive correlation of P/B ratio with operational efficiency and asset management while negative correlation with the bank size and credit risk. This indicates that with increase in asset management and operational efficiency, there has been increase in P/B ratio. While the results show that with the rest of the variables decreasing, there can be increase in P/B ratio. Only with bank size, there is negative correlation of being moderately strong while with others; it is very weak no matter whether the correlation is positive or negative.

Table 9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.653[a]	.426	.311	.94792	.426	3.712	4	20	.020

a. Predictors: (Constant), CR (%), AM (%), LOG (Assets), OE (%)

The adjusted R-square value of the model is 31%, which obviously shows that 31% variation of the dependent variable (Tobin's Q or P/B ratio) is due to the independent variables, which in fact, is not a strong explanatory power of regression.

Table 10: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.342	4	3.335	3.712	.020[a]
	Residual	17.971	20	.899		
	Total	31.313	24			

a. Predictors: (Constant), CR (%), AM (%), LOG(Assets), OE (%)

b. Dependent Variable: P/B ratio

From the table above it is known that the value of F-stat is 3.71 and is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is rejected and alternative hypothesis is accepted. Hence it can be concluded that Bank size, Credit Risk, Asset management and operational efficiency have impact on market-based performance (Tobin's Q) of Bangladeshi private sector commercial banks.

Table 11: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	35.862	13.665		2.624	.016
	LOG(Assets)	-3.109	1.214	-.458	-2.560	.019
	OE (%)	.007	.006	.223	1.123	.275
	AM (%)	.103	.272	.077	.380	.708
	CR (%)	-.527	.299	-.311	-1.762	.093

a. Dependent Variable: P/B ratio

Thus, the market-based performance indicator, average Tobin's Q can be predicted with about 31% explanatory power by the following model:

Tobin's Q = 35.86 + -3.1 SIZE + -0.527 CR + - 0.007 OE + 0.103 AM + e

To assess the significance of each independent variable on the dependent variable P/B ratio, it has been found that that only bank size affect P/B ratio as their t-sig are less than 5%. However, operational efficiency, asset management and credit risk individually have insignificant effect on Tobin's O as their t-sig is >5%. The bank size may have significant effect on the value of Tobin's Q because the latter requires determination of the book value of the bank's equity and bank's size determination is thus important. However, the rest do not have any significant effect on the value of Tobin's Q as such maybe because those do not involve any incorporation of market data in their determination.

Results for model 3:

The hypothesis being tested is

H_3: Bank size, Credit Risk, Asset management and operational efficiency have impact on economic-based performance (EVA) of Bangladeshi Private sector commercial banks.

Therefore, the null and alternative hypotheses are:

H_O: Bank size, Credit Risk, Asset management and operational efficiency have no impact on economic-based performance (EVA) of Bangladeshi Private sector commercial banks.

H_A: Bank size, Credit Risk, Asset management and operational efficiency have significant impact on economic -based performance (EVA) of Bangladeshi Private sector commercial banks.

Table 12: Correlation matrix

		EVA (M)	LOG(Assets)	CR (%)	AM (%)	OE (%)
EVA (M)	Pearson Correlation	1	.388	-.160	.553**	-.343
	Sig. (2-tailed)		.055	.444	.004	.093
	N	25	25	25	25	25
LOG(Assets)	Pearson Correlation	.388	1	.187	-.275	.083
	Sig. (2-tailed)	.055		.371	.183	.694
	N	25	25	25	25	25
CR (%)	Pearson Correlation	-.160	.187	1	-.090	-.148
	Sig. (2-tailed)	.444	.371		.667	.479
	N	25	25	25	25	25
AM (%)	Pearson Correlation	.553**	-.275	-.090	1	-.482*
	Sig. (2-tailed)	.004	.183	.667		.015
	N	25	25	25	25	25
OE (%)	Pearson Correlation	-.343	.083	-.148	-.482*	1
	Sig. (2-tailed)	.093	.694	.479	.015	
	N	25	25	25	25	25

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

From the table it has been marked that there is a positive correlation of EVA with bank size and asset management while negative correlation with the operational efficiency and credit risk. This indicates that with increase in asset management and bank size, there has been increase in EVA. While the results show that with the rest of the variables decreasing, there can be increase in EVA. Only with asset management there is a moderately strong correlation.

Table 13: Model Summary

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.822[a]	.675	.610	324.25265	.675	10.393	4	20	.000

a. Predictors: (Constant), CR (%), AM (%), LOG (Assets), OE (%)

Referring to the table above, the adjusted R-square value is 61% and thus it can be inferred that 61% of the variation in the dependent variable (EVA) is explained by the independent variables. This indicates a somewhat strong explanatory power of the regression.

Table 14: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4370996.340	4	1092749.085	10.393	.000[a]
	Residual	2102795.647	20	105139.782		
	Total	6473791.986	24			

a. Predictors: (Constant), CR (%), AM (%), LOG(Assets), OE (%)

b. Dependent Variable: EVA (M)

From the table above the value of F-stat is found to be 10.39 and is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is rejected and alternative hypothesis is accepted. Hence it was found that Bank size, Credit Risk, Asset management and operational efficiency have impact on economic-based performance (EVA) of Bangladeshi Private Sector commercial banks.

Table 15: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-21749.474	4674.511		-4.653	.000
	LOG(Assets)	1911.548	415.436	.619	4.601	.000
	OE (%)	-1.627	2.043	-.119	-.796	.435
	AM (%)	392.811	92.885	.645	4.229	.000
	CR (%)	-181.115	102.340	-.235	-1.770	.092

a. Dependent Variable: EVA (M)

Thus, the EVA is predicted with about 61% explanatory power by the following model:

EVA = -21749.47 + 1911.54 SIZE + -181.12 CR + - 1.63 OE + 392.81 AM + e

To assess the significance of each independent variable on the dependent variable EVA, it has been found that only bank size and asset management affect EVA as their t-sig are less than 5%. However, operational efficiency and credit risk have insignificant effect on EVA as the t-sig is >5%. Since asset management involves determination of operating income, it thus has an impact on NOPAT and thus affecting EVA. As EVA also involves incorporation of capital, bank size will also impact this value. Though the other two should have impacted the value of EVA, the results show that they did not.

Conclusion:

In order to determine the performance of the private sector commercial banks of Bangladesh, this report took into consideration five banks and measured the performance at the three levels, namely Internal, Market and Economic performance. The internal performance was measured by using the ROA, market based was done by means of Tobin's Q and economic performance was measured by means of Economic Value Added. From the three regression models, the strongest one was the internal measure of performance that has been done by taking ROA as the dependent variable. It was found that 90% of the variation of the dependent variable was due to the independent variables. In addition, seeing into the significance of each of the independent variables, except for operational efficiency, the rest were found to have impacts on

ROA. The model measuring the economic performance also seemed to have some significance. It was seen that the variable economic value added has been explained 61% by the independent variables. However, in this case operational efficiency and credit risk did not have impacts on the dependent variable. The market performance measuring model seemed to be the least viable as only 31% of Tobin's Q was found to be explained by the dependent variables. Only bank size had some impact on the dependent variable while the other three were insignificant. There is a positive correlation with asset management and each of the dependent variables. Thus, it can be said the more operating income banks can generate to cover up the investments in the assets, the more beneficial it will be for the banks in all perspective. The banks can eventually have greater ROA as higher operating income will ensure greater net income. In addition, this will also make sure that good asset management can influence the price of the bank shares in the market because, only with the market price increasing, there can be increase in P/B ratio. Logically, a higher asset management also indicates a better EVA because there will be more excess value of cost of capital in that case.

Other independent variables need not have a consistent correlation with all the three different dependent variables. The result is consistent in case of operational efficiency having negative correlation with ROA and EVA. Credit risk had a negative correlation with all three dependent variables, which is logically correct. Bank size has negative correlation with both P/B ratio and ROA, which also seems logical, as with increase in size of bank's assets the chance of dependent variables decreasing is higher. This study will help the management to look into areas that are relevant and can thus exert potential and strong impact on their banking performance. Since, this study breaks away from the traditional ratio analysis, which is retrospective and based on accounting rather than economic data; it can be beneficial as making base for other researches.

Limitations of the Study:

The research had a few limitations which were stated bellow:

- Due to time constraints, interview of personnel from Private sector banks could not be taken which might have led to a better understanding of the internal performance of the bank.
- The sample size includes data of five private banks for five years. Increasing the sample size could improve the validity of the research.
- Since the research is based on Secondary sources only, the accuracy of the research depends completely on the accuracy of the secondary data used.
- In addition to time and fund constraints, poor data availability rendered the research to a limited sample size and only three models. With proper facilities the research could be conducted more rigorously.

Directions for Further Research:

- An extensive comparative study of the financial performance can be conducted among national commercial banks' (NCBs), private commercial banks' (PCBs) and foreign commercial banks' (FCBs) in order to understand the current scenario of the financial health position of the bank
- Extensive interviews can be conducted with the financial experts and advisors to take advice which will help to improve the financial performance of the bank and render the study more credible

- Explore new variables (various other performance indicators) that can have significant impact on financial performance of the bank
- Conduct geographical studies in urban and rural branches of the bank to find out which branch has good financial performance and poor financial performance and work on those issues.

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