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Determinants of Banks' Financial Performance: A Comparative Study between Nationalized and Local Private Commercial Banks of Bangladesh.

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ABSTRACT: *Financial performance is one of the most critical factors having impact on the decision making of the resource providers. And thus to ensure the existence in the ever growing competitive business environment, every institution should be more concerned about the factors affecting their financial performance. This paper specially focuses on identifying the factors having impact on the financial performance of the commercial banks operating in Bangladesh. An effort has also been exerted to determine whether the extent of influence of various factors on financial performance varies with respect to local private and nationalized commercial banks. For this purpose 10 local private commercial banks (PCB) and all nationalized commercial banks (NCB) have been taken covering the period from 2008-2014. Here, data has been collected from the annual reports of the banks under consideration. To draw conclusion a multiple regression has been run by considering financial performance (profitability) as dependent variable and operating efficiency, asset utilization , liquidity, credit risk, capital adequacy and size of the company as independent variables. The study finds that asset utilization and operating efficiency have significant positive impact on banks' financial performance (profitability) whereas credit risk has significant negative impact. However, for PCBs asset utilization is the most critical factor to performance. On the other hand, result shows that in case of NCB 1 taka increase in credit risk is responsible for negative return of 0.968 taka. It is found that financial performance has no significant relationship with size and liquidity of the banks.*

KEY WORDS: *Asset Utilization, Capital Adequacy, Credit Risk, Financial Performance, Liquidity, Local Private Commercial Bank, Nationalized Commercial Bank, Operating Efficiency and Size.*

I. INTRODUCTION

Banking sector of Bangladesh has gone through several structural changes during the post liberalization era and this changed competitive scenario has compelled commercial banks to give unprecedented attention towards issues related to financial performance and financial condition (Yesmine, 2013) [1]. Banking system is considered as the heart of an economy because of its contribution toward the mobilization of savings and thus to the utilization of this country's resources. In FY 2014, monetary intermediation (banks) contributed 2.8% of Bangladesh GDP whereas the contribution of insurance and other financial intermediation is only 0.4% and 0.2% respectively. Although banks' contribution has been increased consistently as a percentage of GDP during the FY 2011 to FY2014 (2.4% to 2.8%) but growth rate of this contribution has decreased during the FY 2011 to FY 2014. In 2011 banks experienced 13% growth whereas in 2014 it is only 10.5% (Bangladesh Bank) [2]. How well a financial institution is performing is of great importance for the resource providers for making correct investment decisions. Profitability of bank is one of the parameters from which resource providers can understand performance of the banks. Financial performance depends on various factors. Some of them are endogenous such as control of expenditure; expansion of banking business; timely recovery of loans and productivity and some are exogenous consisting of direct investments such as SLR (Statutory Liquidity Ratio), CRR (Cash Reserve Ratio) and directed credit programs such as region wise, population wise guidelines on lending to priority sectors (Bhatt & Ghosh, 1992) [3]. Therefore, in order to ensure sound financial performance banks should focus on the factors likely to affect profitability and the extent of their influence. Consistent with these findings this study attempts to identify the factors and the extent of their impact on financial performance of nationalized and local private commercial banks operating in Bangladesh.

II. LITERATURE REVIEW

Several research works have been conducted on financial soundness and performance of banking sector throughout the world by using variety of approaches. For assessing the financial performance of Palestinian commercial banks Alkhatib & Harsheh (2012) [4] took five Palestinian commercial banks listed on Palestine securities exchange covering the period 2005-2010. Employing the correlation and multiple regression analysis to capture the impact of bank size, credit risk, operational efficiency and asset management on financial performance the study found statistically insignificant impact of bank size, credit risk, operational efficiency and asset management on financial performance of Palestinian commercial banks.

Fantal, Kemal, & Waka (2013) [5] assessed the relationship between selected internal and external corporate governance mechanisms, and bank performance as measured by ROE and ROA covering the period 2005 to 2011. The study indicated that board size and existence of audit committee in the board had statistically significant negative effect on bank performance; whereas bank size had statistically significant positive effect on bank performance. Again, capital adequacy ratio had statistically significant positive effect on bank performance. However, absence of organized stock exchange; high government intervention; lack of corporate governance awareness, absence of national standards of corporate governance and weak legal framework to protect minority shareholder rights are the major factors with adverse impact on corporate governance and bank performance in Ethiopia.

Ben & Goaied (2008) [6] examined the impact of bank characteristics, financial structure, and macroeconomic conditions on Tunisian banks' net-interest margin and profitability during the period of 1980 to 2000. They suggested that banks that hold a relatively high amount of capital and higher overhead expenses tend to exhibit higher net-interest margin and profitability levels, while size is negatively related to bank profitability. The study also concluded that during the period under study stock market development had positive impact on banks' profitability and private banks were relatively more profitable than their state owned counterparts. The results suggested that macroeconomic conditions had no significant impact on Tunisian banks' profitability.

Bhatt & Ghosh (1992) [3] observed that the profitability of commercial banks depend on several factors some of them are endogenous and some exogenous. The endogenous factors represent control of expenditure, expansion of banking business, timely recovery of loans and productivity. The exogenous factors consist of direct investments such as SLR (Statutory Liquidity Ratio), CRR (Cash Reserve Ratio) and directed credit programs such as region wise, population wise guidelines on lending to priority sectors. The regulated and restricted regime in the operation of banking system in terms of investment, credit allocation, branch expansion, interest rate determination and internal management eroded the productivity and profitability of commercial banks.

Dermuguc and Huizinga (2001) [7] studied the impact of financial development and structure on bank profitability using bank operating in developed and developing countries over the 1990–1997 periods. The paper finds that due to tougher competition bank development is related to low profitability and stock market development leads to higher profitability and margin for banks.

Sufian & Habibullah (2009) [8] examined the performance of 37 Bangladeshi commercial banks between 1997 and 2004. The study revealed that bank loans intensity, credit risk, and cost have positive and significant impacts on bank performance. Again size exhibits a negative impact on return on average equity (ROAE), while the opposite is true for return on average assets (ROAA) and net interest margins (NIM). Again, the study also examined the impact of macroeconomic indicators and concluded that the variables have no significant impact on bank profitability, except for inflation which has a negative relationship with Bangladeshi banks profitability.

Guru, Staunton, & Balashanmugam (2002) [9] investigated the determinants of bank profitability in Malaysia using a sample of 17 commercial banks during the period 1986 to 1995 period. The findings revealed that efficient expenses management was one of the most significant factors in explaining high bank profitability. Among the macro indicators, high interest ratio was associated with low bank profitability and inflation was found to have a positive effect on bank performance.

Ameur & Mhiri (2013) [10] studied 10 commercial Tunisian banks during the period 1998 to 2011 period to identify factors explaining Tunisian bank performance. This study incorporated bank-specific as well as industry-specific and macroeconomic factors affecting bank performance. The findings suggested that the bank capitalization as well as the best managerial efficiency have positive and significant impact on the bank performance. The study also concluded that industry-specific factor such as the concentration has a negative and a significant impact on performance. Moreover, macroeconomic indicators do not have a significant impact on bank performance.

Kosmidou, Tanna, & Pasiouras (2005) [11] studied relationship between performance of UK banks and credit risk measured in terms of loan loss reserves. Findings indicate that loan loss reserves are positive on net interest margin, but have negative insignificant effect on bank profits. However, Fraser and Rose (1974) came to the conclusion that loan-to-deposit ratio had no effect on bank profitability.

Kolapo & Ayeni (2012) [12] carried out an empirical investigation into the quantitative effect of credit risk on the performance of commercial banks in Nigeria over the period of 11 years (2000-2010). The results showed that an increase in non-performing loan and an increase in loan loss provision reduce profitability (ROA) of banks while an increase in total loan and advances leads to increase profitability The study recommended that banks in Nigeria should enhance their capacity in credit analysis and loan administration while the regulatory authority should pay more attention to banks' compliance to relevant provisions of the Bank and other Financial Institutions Act (1999) and prudential guidelines.

Kumbirai & Webb (2010) [13] investigated the performance of South Africa's commercial banking sector for the period 2005- 2009 by employing ratio analysis. The study revealed that overall bank performance improved in the year 2005 and 2006. A significant change in trend is noticed at the onset of the global financial crisis in 2007 which cause to reduce profitability, liquidity and resulted in deteriorating credit quality in the South African banking sector.

Mullineaux (1978) [14] used a profit-function approach in his study and found that balance sheet structure had a significant impact on profitability and depending on the nature of the balance sheet items; the relationship can either be negative or positive.

Hassan & Bashir (2002) [15] conducted a study covering Islamic banks worldwide during 1994-2001 to identify the determinants of Islamic banks' profitability. The study concluded that high capital and loan-to-asset ratios lead to higher profitability and implicit and explicit taxes affect the bank performance measures negatively while favorable macroeconomic conditions impact performance measures positively.

Siddique & Islam (2001) [16] studied the commercial banks of Bangladesh during the period 1980-1995 and concluded that the commercial banks are performing well and contributing to the economic development of the country. During 1980-1995 asset utilization of 100 taka contributed to generate profit of 0.09 taka.

Chowdhury & Ahmed (2009) [17] conducted a study by considering 5 commercial banks operating in Bangladesh. The study concluded that the prospect of private commercial banks in Bangladesh is very bright as they have observed a stable growth of branches, employees, deposits, loans and advances, net income, earnings per share during the period of 2002-2006.

Choong, Thim, & Kyzy (2012) [18] studied the Performance of Islamic Commercial Banks of Malaysia and analyze their performance. The empirical results indicated that credit risk, liquidity rate and concentration of Islamic commercial banking are the most contributing factors in the performance of local Islamic commercial banks in Malaysia.

Review of previous literatures reveal that number of studies has been done in the context of financial position or performance. However, in the context of Bangladesh no sufficient studies has been found for making a comparative analysis of local private commercial banks and state owned commercial banks with respect to the differential impact of various factors on financial performance. Hence, in attempt to fill this research gap, this study has the objectives of identifying the factors having impact on the financial performance of local private and nationalized commercial banks operating in Bangladesh and of making a comparative analysis between the banks under private and public sector in terms of differential extent of influence of selected variables on their financial performance.

III. METHODOLOGY

RESEARCH DESIGN

This research work is conclusive in nature. This study covers 70 firm-year observations of 10 local private commercial banks and 28 firm-year observations of 4 nationalized commercial banks operating in Bangladesh covering the period 2008 to 2014. Here, private commercial banks under considerations have been ranked and selected on the basis of average asset holdings of 2014. To meet the objectives of this study, data has been collected from secondary sources mainly from annual reports of the selected banks. For this research work purpose, Return on Total Assets (ROA) has been used as the proxy of financial performance. On the other hand, variables like Operating Efficiency (OPEFFI), Asset Utilization (AUTI), Liquidity (LIQ), Credit Risk (CR), Capital Adequacy (CADE) and Size (SIZE) of the company have been used to measure the impact of these variables on the financial performance (if any).Using SPSS this study uses the following multiple regression model to investigate the relationship between independent variables and dependent variable.

$$ROA = \alpha + \beta_1 OPEFFI + \beta_2 AUTI + \beta_3 LIQ + \beta_4 CR + \beta_5 CADE + + \beta_6 SIZE + \epsilon$$

DEFINITIONS OF THE VARIABLES:

OPERATIONAL EFFICIENCY

It is the ability of a bank to minimize or manage its expenses in a way to produce output without hampering the quality. Thus, theoretically a bank which can manage its expenses efficiently and effectively is expected to be more profitable. Here, total operating income to total operating expense ratio is considered as the proxy of a bank's operational efficiency. A high operational efficiency ratio reflects a bank's ability to effectively manage its operating expenses and thus is likely to affect profitability positively.

ASSET UTILIZATION

The asset utilization ratio measures management's ability to make the best use of its assets to generate revenue or income. Thus, the more effectively a bank utilizes its assets, the more profitable the bank will be. The asset utilization ratio has been calculated by dividing total operating income by average total assets.

LIQUIDITY

Here, Liquidity (LIQ) is measured as loan-to-deposit ratio. This ratio represents the availability of cash in the hand of banks to meet the demand of deposit holders. If substantial portion of deposited amount is used for sanctioning loan by a bank then it will cause a high liquidity ratio and thus that bank might not be able to cover any unforeseen withdrawals, thus will create a risk. Again on the other hand, if a bank keeps too much money to maintain high liquidity, it might be forgoing chances of earning more profits. On the basis of these arguments a relationship between financial performance and liquidity can be assumed.

CREDIT RISK

Here, provisions for doubtful loans -to-loan ratio has been used as a proxy for Credit Risk (CR). A high CR ratio of a bank signals that there is a chance of default by a high number of borrowers in near future and therefore, the bank is maintaining substantial portion of provision against the doubtful loans. Loan loss provisions or allowance of loan losses will generally appear in the Statement of Comprehensive Income and thus will cause to reduce net income.

CAPITAL ADEQUACY

Capital adequacy and availability ultimately determine the robustness of financial institutions to shocks to their balance sheets. Thus, it is useful to track capital adequacy ratios that take into account the most important financial risks—foreign exchange, credit, and interest rate risks—including risks involved in off-balance sheet operations. The most commonly used indicator in this respect is the ratio of capital to risk-weighted assets. A bank with a high capital-to-asset ratio is protected against operating losses more than a bank with a lower ratio, although this depends on the relative risk of loss at each bank. Thus the higher the percentage, the lower the chance of facing financial distress.

SIZE

Several studies found a relationship between size of a bank and its financial performance. Dermiguç Kunt and Huizinga (1999) [19] found a positive relationship as larger banks are more capable to realize economies of scale and reduce the cost of gathering and processing information. Pasiouras and Kosmidou (2007) [20] report the same result and argue that larger banks might have a higher degree of production and loans diversification than smaller ones. However, extremely large banks might illustrate a negative relationship between size and performance due to agency costs, the overhead of bureaucratic processes, and other costs related to managing large firms.

The variables, their labels and expected signs and relationships are presented below:

Variables	Variable Labels	Variable Definition	Expected sign and relationship
Dependent Variables			
Return on Asset	ROA	$= \frac{Net\ Income}{Total\ Asset}$	+/-
Independent Variables			
Operating Efficiency	$OPEFFI$	$\frac{Total\ Interest\ Income}{Total\ Operating\ Expense}$	$OPEFFI$ has a significant positive relationship with ROA.
Asset Utilization	$AUTI$	$\frac{Total\ Operating\ Income}{Average\ Total\ Asset}$	$AUTI$ has a significant positive relationship with ROA.

Liquidity	LIQ	$\frac{Loan}{Total\ Deposit}$	LIQ has a significant positive or negative relationship with ROA.
Credit Risk	CR	$\frac{Loan\ Loss\ Provision}{Loan}$	CR has a significant negative relationship with ROA.
Capital Adequacy	$CADE$	$\frac{Tier\ One\ Capital + Tier\ Two\ Capital}{Risk\ Weighted\ \ Asset}$	CADE has a significant positive relationship with ROA.
Size	SIZE	LN(Total Asset)	SIZE has a significant positive or negative relationship with ROA.
The constant	α		+/-
The error term	ϵ		+/-

FINDINGS & ANALYSIS:

Table 1 (F statistic & Adjusted R Square)				
	Private Commercial Banks		Nationalized Commercial Banks	
	Value	Sig.	Value	Sig
F Statistic	45.162	.000	58.675	.000
Adjusted R Square	0.793		0.948	

The values of F Statistic and the respective values of sig. imply that the used model fit significantly for both Private Commercial Banks (PCB) and Nationalized Commercial Banks (NCB). Again, here the table 1 shows that Adjusted R Square for Private Commercial Banks and for Nationalized Commercial Banks is 0.793 and 0.948 respectively. The result indicates 79.30% variation in the financial performance of PCB and 94.8% of that of NCB can be explained by the independent variables - operating efficiency, asset utilization, liquidity, credit risk, capital adequacy and size.

Table 2 (Coefficients)				
	Private Commercial Banks (PCB)		Nationalized Commercial Banks (NCB)	
	Beta	Sig.	Beta	Sig
Constant	-.067	.068	-.037	.604
OPEFFI	.301	.000	.128	.006
AUTI	.785	.000	.358	.015
LIQ	-.059	.374	-.214	.164
CR	-.472	.000	-.968	.000
CADE	.222	.002	-.003	.967
SIZE	.089	.188	.049	.521

In our study operating efficiency measures how much interest income generated from one taka of operating expense. So higher operating efficiency ratio indicates better performance, more profit and lower operating efficiency ratio indicates poor performance, lower profit. So operating efficiency is expected to have positive impact on ROA. In case of both PCB and NCB, the outcome is consistent with the researcher's expectation. Our study also found significant positive relationship between Operational Efficiency with ROA for both PCB (β=.301, $p<0.05$) and NCB (β=.128, $p<0.05$) which is consistent with Bashir (2000) [21], Naceur (2003)[22], Barth et al (2003)[23], Athnasoglou et al (2005)[24] and Vong and Hoi (2009)[25].

An organization's financial performance depends on how they utilize their resources as proper utilization of assets generally enables business organizations to earn more. And thus Asset Utilization is expected to have positive impact on ROA. The regression outcome shows that out of six selected factors asset utilization has the most influential impact on the variation of PCB's financial performance. It shows significant positive relationship between asset utilization and bank's financial performance (β=0.785, $p<0.05$) which is consistent with Karim and Alam (2013)[26], Ahmed, (2011)[27].This is also true for NCB (β=0.358, $p<0.05$) but the extent of influence of asset utilization on NCB's performance is less than that of PCBs.

The largest component of interest bearing assets of a bank is loans. Most of the interest income comes from these loans. So it has a great impact on profitability. Our study shows insignificant negative relationship between liquidity and ROA in case of both PCB and NCB.

Credit risk is the possibility that the borrower might be unable to repay back the promised amount. Credit risk is expected to be negatively related with banks performance. An increasing trend in the ratio of loan loss provision to total loans signals an inefficient credit management as well as a deterioration in the quality of credit portfolios and consequently, in financial institutions' cash flows, net income, and solvency. In our study we found significant negative relationship of CR with ROA for both PCB (β= -.472, $p<0.05$) and NCB (β= -.968, $p<0.05$) which is consistent with the study conducted by Sufian (2009)[28], Kosmidou, Tanna and Pasiouras (2005)[11], Karim and Alam (2013)[26]. It is to note that in case of NCB Credit Risk is the most important factor that explains changes in financial performance. Here 1 unit changes in loan loss provision leads to .968 unit change in ROA.

Capital Adequacy Ratio could be one of the dominant factors in ensuring sound financial position of a bank. The ratio is used to protect depositors and to promote the stability and efficiency of the financial system of the economy and thus a declining trend in this ratio may signal increased risk exposure and possible capital adequacy problems. A bank with a high capital adequacy ratio is protected against operating losses more than a bank with a lower ratio, although this depends on the relative risk of loss at each bank. Here we found a significant positive relationship for PCB (β= .222, $p<0.05$) but for NCB it is negative and insignificant as well (β= -.003, p=0.967).Our study also finds an insignificant positive relationship between size and ROA for both private and nationalized commercial banks operating in Bangladesh.

IV. CONCLUSION

In Bangladesh, the banking industry dominates the financial sector and thus macroeconomic development largely depends on the soundness of this industry. Now-a-days, Banking industry is emphasizing to provide efficient banking services and thus focusing on capital adequacy, quality asset growth and strong liquidity to ensure sound operation. Using regression analysis this study finds that financial performance of commercial banks operating in Bangladesh is significantly influenced by their operational efficiency and asset utilization. Result shows that efficiently utilized expense of 1 taka leads to generate return of 0.301 taka for PCB and of 0.128 taka for NCB. Again, properly managed asset of 1 taka contributes to make a return of 0.785 taka for PCB and of 0.358 taka for NCB. For Nationalized Commercial Banks Credit Risk is the most dominating factor. Here outcome shows that 1 taka of bad loan is responsible for a negative return of .968 taka. Again, this study finds a significant positive relationship between capital adequacy and ROA for PCB. But in case of NCB the relationship is negative and not significant.

On the other hand, this study finds insignificant negative relationship between Liquidity and ROA. Based on the above explanations it can be concluded that commercial banks of Bangladesh should give more focus on credit risk, asset utilization and efficient utilization of operating expenses in order to improve their financial performance and soundness.

V. LIMITATIONS & FURTHER RESEARCH

The findings of this research work are subject to several limitations. First, this study doesn't incorporate foreign commercial banks operating in Bangladesh as well as the commercial banks started operations in 2012. Second, this study covers only the quantitative variables. These parameters alone are not sufficient to make an overall assessment of financial system's performance. The assessment of financial performance may also depend on a broad range of qualitative elements. In particular, financial performance may also be affected by prevailing economic and political conditions. Hence, future research may be conducted in the same contest by incorporating foreign commercial banks, specialized banks and banks that have started their journey currently. Again, future studies can be done by taking into other quantitative factors like leverage, loan to asset ratio and so on. Moreover, different points of time can be accounted to make inter-company and intra-company comparative analysis. Finally, qualitative variables can be taken into consideration to increase the confidence on the performance of financial institutions.

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APPENDIX:

Appendix A: List of Banks under consideration		
Serial No.	Type of Banks	Name of Banks
1	Local Private Commercial Banks	Prime Bank Limited
2		National Bank Limited
3		Southeast Bank Limited
4		AB Bank Limited
5		Brac Bank Limited
6		Dutch Bangla Bank Limited
7		Mercantile Bank Limited
8		Eastern Bank Limited
9		Bank Asia
10		City Bank Limited
11	Nationalized Commercial Banks	Agrani Bank Limited
12		Janata Bank Limited
13		Rupali Bank Limited
14		Sonali Bank Limited