

Financial Performance between State-owned and Private Commercial Banks in Bangladesh: A Comparative Study of Using CAMEL Rating

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Abstract

Today the importance of banking sector cannot be underestimated as this sector interlinks worldwide financial system. The aim of the study is to identify whether there is any difference regarding financial performance between state-owned banks and private commercial banks of Bangladesh or not. To justify this statement CAMEL Analysis has been used. A sample of six banks from each category has been selected altogether. For the study, 5 years data (2010 to 2014) have been collected. Different statistical tools especially independent sample t-test are used. This paper found significant differences in case of capital adequacy and liquidity management among all the elements of CAMEL between these two sectors and found no differences among the rest of the elements. The paper may be helpful for the bankers and bank stakeholders.

JEL classification: G21

Keywords: CAMEL Rating, Commercial Banks, Bangladesh.

Introduction

For any country no matter whether it is developed or developing financial institution is a prime sector for the swiftness of money in the economy. According to Rose (2005) bank is a financial intermediary to accept deposits and grant loans; offers the widest menu of services of any financial institutions. The importance of banking industry cannot be overlooked in the development of a nation. For the assessment of performance of banking system, Padmanabhan Working Group (1995) recommended rating model CAMEL (Capital Adequacy, Asset Quality, Management Quality, Earnings, Liquidity) to assess the financial performance of commercial banks. CAMEL rating is supervisory rating system to identify banks which require increased supervision. This paper focuses on comparative study of financial performance between state-owned banks and private commercial banks by using CAMEL. In this paper, the element “S” or sensitivity to market risk has been avoided as state-owned banks do not trade their shares publicly. Total 12 banks are selected for this study. Among those 6 are private commercial banks and 6 are state-owned banks. There are several papers on the comparison of banking industry but the comparison of financial performance between state-owned commercial banks and privately-owned commercial banks by using CAMEL are rarely noticeable in Bangladesh. That’s why an attempt has been taken to show the differences. The next section focuses on research question,

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third section shows the previous literature and fourth section shows the rationale of the study. The next section illustrates the objective of the study followed by the methodology. The later section focuses on the analysis and then the next section explains the findings. The last section includes the conclusion.

Research question

The following research question has been determined for the study:

RQ₁: Is there any significant difference between the financial position of state-owned and private commercial banks based on CAMEL?

Literature Review

CAMEL rating is a managerial tool to identify banks which require increased supervision (Bangladesh Bank Annual Report, 2013-2014). It is a managerial rating system originally developed in the U.S. to classify a bank's overall condition and is also implemented outside the U.S. by various banking supervisory regulators. The Uniform Financial Institutions Rating System (UFIRS) was implemented in U.S. banking institutions in 1979 and later it is followed globally by the recommendation of U.S. Federal Reserve. The system has become internationally known with the abbreviation CAMEL, reflecting five assessment areas: capital, asset quality, management, earnings and liquidity (Wikipedia, 2016). Later the letter “S” has been added with this rating system which indicates Sensitivity to Market Risks in 1995. It is basically indicated by the ratios like Price-Earnings ratio (P/E ratio), Price-Equity ratio or market value to book value ratio etc.

The rating covers an assessment of the financial soundness by using a scale of 1 to 5 in which scale 1 represents the best condition and 5 represents the worst situation.

According to Nathan Settembrini (17 February, 2016) CAMEL stands for;

- Capital adequacy: How well capitalized is the bank?
- Asset quality: How risky is the asset portfolio?
- Management: How capable is the bank's leadership?
- Earnings: Is the bank generating a healthy return?
- Liquidity: How well managed is the balance sheet?

Rating	Composite Range	Description	Meaning of composite rating under CAMEL Rating Analysis
1	1.00-1.49	Strong	Basically, sound in every respect. Findings are of a minor nature and can be handled routinely. Resistant to external economic and financial disturbances. No cause for supervisory concern.
2	1.50-2.49	Satisfactory	Fundamentally sound. Findings are of a minor nature and can be handled

			routinely. Stable and can withstand business fluctuations well. Supervisory concerns are limited to the extent that findings are corrected.
3	2.5-3.49	Fair	Financial, operational or compliance weakness ranging from moderately severe to unsatisfactory. Vulnerable to the onset of adverse business conditions. Easily deteriorate if actions are not effective in correcting weaknesses. Supervisory concern and more than normal supervision to address deficiencies.
4	3.5-4.49	Marginal	The immoderate volume of serious financial weaknesses. Unsafe and unsound conditions may exist which are not being satisfactorily addressed. Without corrections, these conditions could develop further and impair future viability. High potential for failure. Close supervision surveillance and a definite plan for correcting deficiencies.
5	4.5-5	Unsatisfactory	High immediate or near-term probability failure. The severity of weaknesses is so critical that urgent aid from stockholders or other financial sources in necessary. Without immediate corrective actions, will likely require liquidation, merger or acquisition.

Source: Khan (2008, p.59-60)

Merchant (2012) analyzed the performance of Islamic banks and conventional banks during the crisis and after the crisis by comparing the performance of Islamic and conventional banks based on the Gulf Cooperation Council (GCC). He used CAMEL parameters ratios such as Equity to Asset for capital adequacy; Investment Loss Reserve for asset quality; Cost to Income for management quality; Net Profit to Total Asset and Net Profit to Total Equity for earning performance and Net Loan to Total Asset for liquidity. Interpretation of different ratings of CAMEL had been done by Trautmann (2006) as well such as 1 indicates strong performance; 2 indicates above average performance which means sound and relatively safe operations; 3 indicates performance that is flawed to some degree; 4 indicates unsatisfactory performance and if left unchecked, such Performance could threaten the solvency of the banking company and 5 indicates very unsatisfactory performance, in need of immediate remedial attention for the sake of the banking company's survival. Some academicians and other researchers had assessed the financial condition of banks for both state-owned and private banks by using CAMEL ratings in recent times. Gupta (2014) analyzed the performance of public sector banks in India using CAMEL approach for a five year period from 2009-13 and concluded that there is a statistically significant difference between the CAMEL ratios of all the public sector banks in India. Said and Saucier (2003) evaluated the liquidity, solvency and efficiency using CAMEL rating techniques and results supported that the major problem of failed banks was not inefficiency of management,

but below standard capital adequacy and considerable problems in their assets quality. Significantly above average efficiency of ailing banks could be explained by a survival strategy that pushed them to drastically improve management. Prasuna (2003) analyzed the performance of 65 Indian banks according to the CAMEL model using data of a single year (2003-04). The author concluded that better service quality, innovative products and better bargains were beneficial because of the prevailing tough competition. Sarker (2005) studied the CAMEL model for regulation and supervision of Islamic banks by the Bangladesh Bank. The study aided the regulators and supervisors to develop a Shariah benchmark to supervise and inspect Islamic banks and financial institutions from an Islamic standpoint. Gupta and Kaur (2008) evaluated the performance of 20 old and 10 new Indian private sector banks on the basis of CAMEL model for the period of 2003-07. Chaudhry and Singh (2012) analyzed the impact of the financial reforms on the soundness of Indian banking through its impact on the asset quality and concluded that banking reforms have indeed transformed Indian banks into strong, stable, profitable and prosperous entities by identifying the key players as risk management, NPA levels, effective cost management and financial inclusion which had been considered a key bearing on the ability of Indian banks to remain competitive and enhance soundness. Anojan and Nimalathan (2014) had done research to show the comparison of financial performance between state and private sector banks during war and post-war scenarios of Sri Lanka by using different tools like ratio, descriptive and independent samples t-test analysis. The study revealed that private banks' financial position as well as profitability levels was higher than state banks both during the war and post war period.

Ahsan (2016) measured the financial performance of three selected Islamic Banks of Bangladesh (Islami Bank Bangladesh Limited, Export Import Bank of Bangladesh Limited, Shahjalal Islami Bank Limited) using CAMEL rating analysis approach and found that all the selected Islamic banks were in strong position on their composite rating system. Aspal and Dhawan (2014) used CAMEL approach to assess the performance of old private banks of India for the period of 2007-12 selecting 13 old banks as a sample. Islam and Ashrafuzzaman (2015) used CAMEL analysis to compare between Islamic and conventional banks of Bangladesh selecting some indicator ratios for each category such as;

CAMEL variables	Selected indicators
C	Total capital to Total assets Total Loans to Total capital
A	Total Loans to Total Assets
M	Operating expenses to Total assets Interest expenses to Total Deposits
E	Net income to Total assets Net interest income to Total assets
L	Total liquid assets to Total assets Total liquid assets to Total Deposits

The study conducted over 10 banks (5 from each category) using 5 year data (2009-2013) and revealed that asset quality significantly differs between these two sectors among the CAMEL variables.

Gupta and Sundram (2015) worked to compare the financial performance of selected public and private sector banks in India from 2009-10 to 2013-14. The study found that overall performances of private sector banks are better than public sector bank. Sathya (2005) investigated the effect of privatization of banks on performance and efficiency in India. The researcher has concluded that partially privatized banks have performed better as compared to fully PSBs' in respect of financial performance and efficiency point of view. Chaudhary & Sharma (2011) focused on how efficiently public and private sector banks have been managing NPA. They concluded that public banks must pay attention on their functioning to compete private banks. Banks should be well versed in proper selection of borrower/project and analyze the financial statement Sultana & Modak (2013) worked on to compare the public and private pay structure in Bangladesh. For this 120 respondents of Bangladesh Agricultural University were interviewed through semi-structured questionnaire. The study found that in Govt. organizations low job satisfaction is a regular scenario. Low status and low working conditions are the main factors for bad performance in govt. sector. In private sectors the degree of skill and intelligence was considered but a lower attention was given to minimize the differential of salary between the highest and the lowest grades. Waleed, Shah, & Mughal (2015) worked on comparison of private and public banks performance. It stated that Debit Ratio, Debt to Equity Ratio, Return on Equity and Earnings per Share of Private Banks is higher than Public Banks whereas Return on Asset of Public Banks is higher than Private Bank. Rahman and Islam (2017) studied the performance of private commercial banks of Bangladesh by taking 17 private commercial banks of the country as a sample. After analyzing the 24 ratios under each category of CAMEL rating using 7 years data (2010-2016) they concluded that Eastern bank stood at the top position among the selected sample based on CAMEL rating. Kumari (2017) investigated the financial performance of foreign commercial banks in Sri Lanka. The researcher selected three foreign banks for the study. Data for the study was collected for the time period of 2008-2014. She concluded that foreign sector banks are better in the performance of capital adequacy and earnings than the other variables. Zedan and Daas (2017) evaluated the performance and financial soundness of Palestinian Commercial Banks for the year 2015 using CAMEL rating model. They used a sample of 5 banks.

Rationale of the study

CAMEL rating is used to measure the actual financial health of commercial banks which satisfies almost all criteria required for this measurement. That is why our study focuses on comparative analysis of financial performance between state-owned and private commercial banks in Bangladesh using this method.

Objective of the study

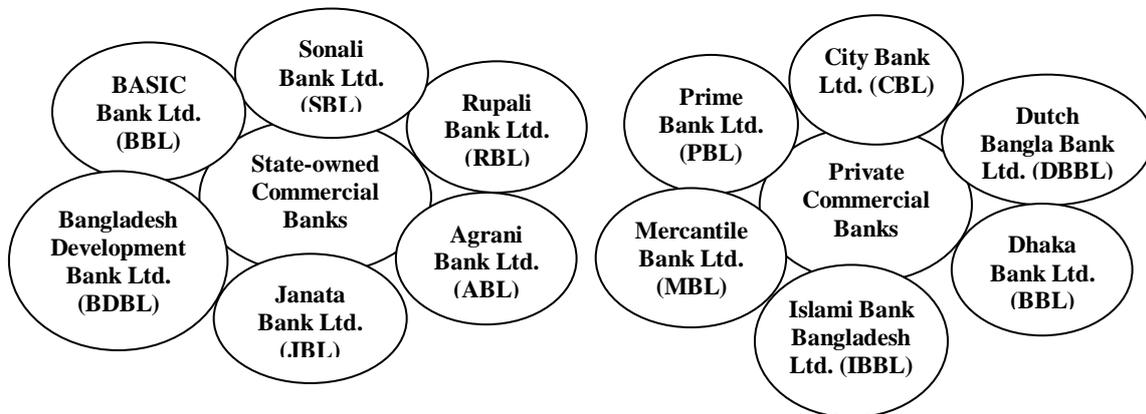
The objectives of this study are as follows;

- To show the overall scenario of both the banking sectors on the basis of CAMEL ratings.
- To compare financial positions between state-owned banks and private banks based on CAMEL ratings.

Methodology

Sample size

For the study all 6 state-owned banks and randomly 6 private commercial banks among 48 commercial banks including local, foreign and Islamic commercial banks have been selected. (Wikipedia, 2016).



5 years data (2010-2014) such as Current assets, Current Liabilities, Retained Earnings, total assets, shareholder's equity, total liabilities, net profit, interest expenses, net interest income etc. have been collected from the selected banks of each category. Then required ratios have been calculated using these raw data except Capital Adequacy Ratio (CAR) and Earning Per Share (EPS) which have been collected directly from the audited financial statements of selected banks. The CAMEL variables are discussed as follows;

Capital adequacy

Capital is considered as the blood for any institution. Generally financial institutions or banks assess capital adequacy through capital trend analysis. To get a high capital adequacy rating, institutions need to comply with interest and dividend related rules and practices. Other factors involved in rating and assessing an institution's capital adequacy are its growth plans, economic environment, ability to control risk, and loan and investment concentrations (Investopedia, 2016).

Asset quality

Efficient asset utilization is essential for maintaining survival and growth for any organization. Banks are not exception. Asset quality covers an institutional loan's quality which reflects the earnings of the institution. Assessing asset quality involves rating investment risk factors that the company may face and comparing them to the company's capital earnings. This shows the stability of the company when faced with particular risks. Examiners also check how companies are affected by fair market value of investments when mirrored with the company's book value of investments. Lastly, asset quality is reflected by the efficiency of an institution's investment policies and practices (Investopedia, 2016).

Management

Management efficiency is one of the prime dimensions of financial soundness. Management assessment determines whether an institution is able to properly react to financial stress. This component rating is reflected by the management's capability to manage and control risks of the institution's daily activities. It covers the management's ability to ensure the smooth operation of the institution as they comply with the necessary and applicable internal and external regulations (Investopedia, 2016).

Earnings

Profitability ensures growth of banks. An institution's ability to create appropriate returns to be able to expand, retain competitiveness, and enrich capital is a key factor in rating its continued viability. Institutions generally determine this by assessing the company's growth, stability, valuation allowances, net interest margin, net worth level and the quality of the company's existing assets (Investopedia, 2016).

Liquidity

To assess a company's liquidity, institutions look at interest rate risk sensitivity, availability of assets which can easily be converted to cash, dependence on short-term volatile financial resources and Asset Liability Management (ALM) technical competence (Investopedia, 2016).

Table 1: Selected ratios for CAMEL variables

CAMEL variable	Selected ratios for measurement
Capital adequacy (C)	Total Liabilities to Capital(TL to Cap) Capital Adequacy Ratio (CAR)
Asset quality (A)	Total Liabilities to Total Assets(TL to TA) Total Assets Turnover (TATO)
Management (M)	Operating costs to Total Assets (OC to TA) Interest expenses to Total Deposits(Int. exp to TD) Earnings per Share (EPS)
Earnings (E)	Return on Assets (ROA) Net Interest Income to Total Assets (NII to TA)
Liquidity (L)	Return on Equity (ROE) Current Assets to Total Assets (CA to TA) Current Assets to Total Assets (CA to TD) Net Working Capital (NWC)

Data source and type

The study is based on quantitative data which is collected from annual audited financial statements of the sample banks from both sectors. The data type which is used in this research is a quantitative in nature. Different articles and websites of the selected sample banks are used as secondary source of data.

Mode of analysis

This study is quantitative in nature and related to the analysis of financial performance of selected banks both in public and private sectors. A CAMEL rating is used to forecast the financial condition and also to compare between these two sectors. CAMEL is a ratio-based model used to evaluate the performance of banks with the help of different criteria, viz. Capital Adequacy, Asset Quality, Management Quality, Earnings and Liquidity (Gupta, 2014). This is a descriptive research study. For the analysis different statistical tools like mean, standard deviation etc. are used to check consistency and stability of different variables used in calculating relevant financial ratios as well as to justify CAMEL position of selected banks of both sectors. For the comparison independent sample t-test has been used. MS Excel and Statistical Package for Social Science (SPSS) 16.0 software have been used to compute these statistical values. Graphical presentation has also been done to clarify scenarios.

For the analysis various financial ratios have been selected and calculated firstly and then forecast the financially position of each banks using the CAMEL rating.

Research hypothesis

For Independent sample t-test following hypothesis has been drawn:

H₀: Financial performance of public and private banks does not significantly differ based on CAMEL rating.

H₁: Financial performance of public and private banks significantly differs based on CAMEL rating.

Analysis

The selected banks of each sector have been categorized in the following way based on the performance as on December 2015;

Table 2: CAMEL ratings for selected banks

Bank Categories	Selected or sample banks	CAMEL Rating
State-owned Commercial banks	SBL	Marginal or 'D-class' Banks
	RBL	Marginal or 'D-class' Banks
	ABL	Marginal or 'D-class' Banks
	JBL	Marginal or 'D-class' Banks
	BASIC	Marginal or 'D-class' Banks
	BDBL	Fair or 'C-class' Banks
Private Commercial banks	CBL	Fair or 'C-class' Banks
	DBBL	Satisfactory or 'B-class' Banks
	DBL	Satisfactory or 'B-class' Banks
	IBBL	Satisfactory or 'B-class' Banks
	MBL	Fair or 'C-class' Banks
	PBL	Strong or 'A-class' Banks

Source: www.dailyindustry.com

It is clearly viewed that private commercial banks are more financially sound than state-owned banks as all the state-owned banks are categorized as marginal or “D” except BDBL. It can be seen that most of the private banks are categorized in B class except PBL and MBL. The following graphs show the average values for each ratio (annexure I and II) of selected state-owned banks and private banks for the last five years (2010-2014).

Capital adequacy



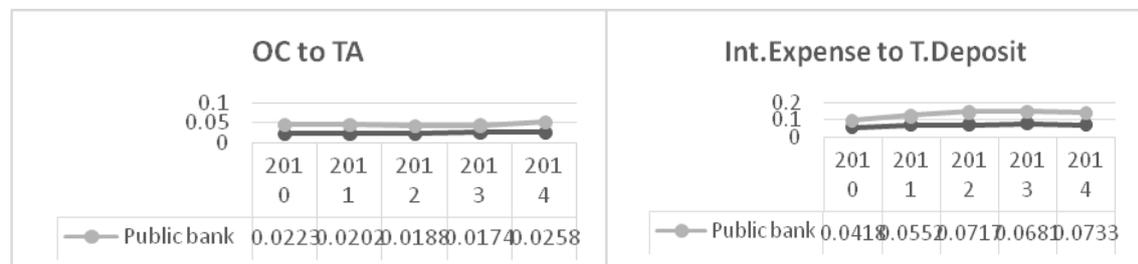
According to the graphs, public banks are in better position in maintaining capital adequacy. These two sectors basically differ in case of CAR.

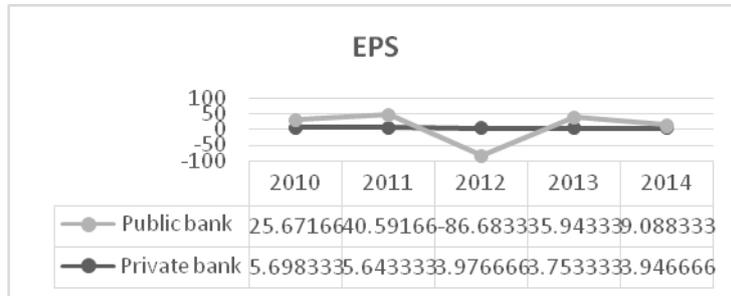
Asset quality



The graphs show public banks are using more debt than private banks. The trend of TATO is almost common for both sectors.

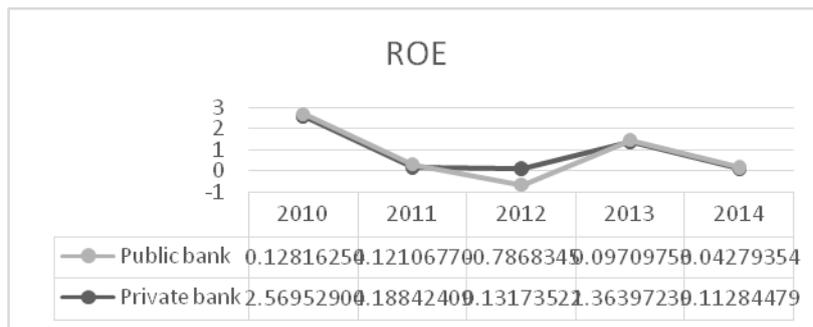
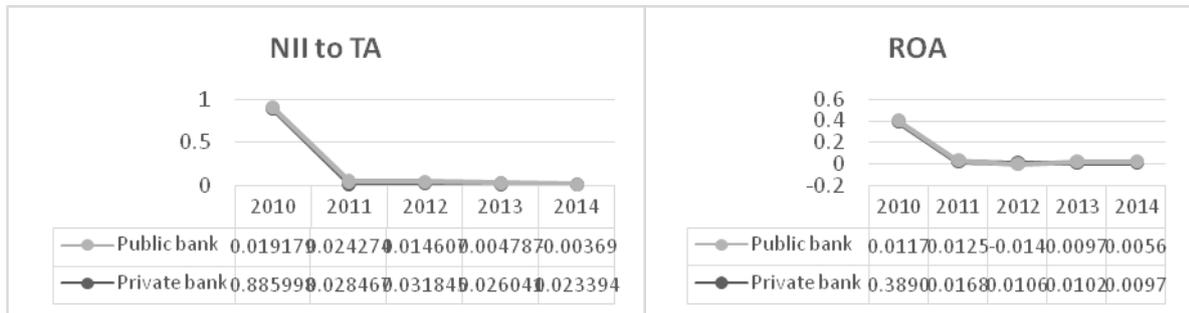
Management





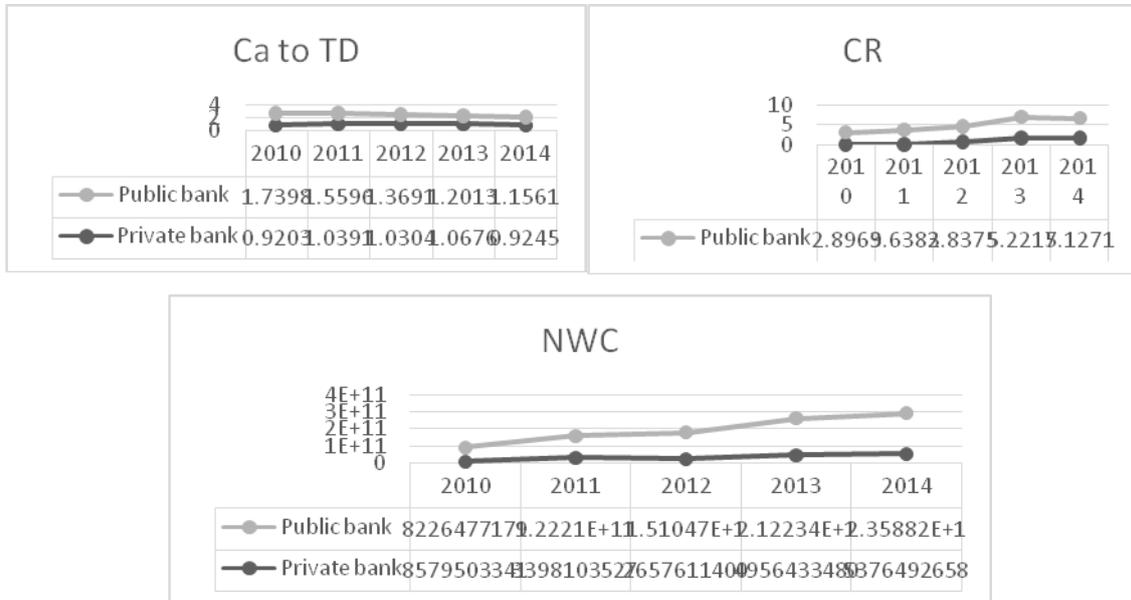
All the graphs show both the banking sectors represent the consistent trend except EPS.

Earnings



All the graphs show insignificant change for both sectors.

Liquidity



Above graphs show that there is a significant difference between the two sectors. But it can be seen that the ratios of public banks are a little higher than those of private banks.

Table 3: Results for independent sample t-test

Elements of camel	Selected ratios which indicates the element	Difference between standard deviation of two banking sector	Column used from independent sample t-test	t-test value	sig. (2-tailed)
C	Total Liabilities to Capital(TL to Cap)	Different	Equal variances not assumed	2.031	.051
	Capital Adequacy Ratio (CAR)	Different	Equal variances not assumed	3.992	.000
A	Total Liabilities to Total Assets(TL to TA)	Not different	Equal variances assumed	-.532	.597
	Total Assets Turnover (TATO)	Different	Equal variances not assumed	1.052	.301
M	Operating costs to Total Assets (OC to TA)	Not different	Equal variances assumed	1.502	.139
	Interest expenses to Total Deposits(Int. exp to TD)	Not different	Equal variances assumed	1.787	.079
	Earnings per Share (EPS)	Different	Equal variances not assumed	-.024	.981

E	Return on Assets (ROA)	Different	Equal variances not assumed	1.108	.277
	Net Interest Income to Total Assets (NII to TA)	Different	Equal variances not assumed	1.094	.283
	Return on Equity (ROE)	Different	Equal variances not assumed	2.005	.053
L	Current Assets to Total Deposits (CA to TD)	Different	Equal variances not assumed	-2.331	.026
	Current Ratio(CR)	Different	Equal variances not assumed	-4.819	.000
	Net Working Capital (NWC)	Different	Equal variances not assumed	4.978	.000

According to the results found from independent sample t-test following summary of performance measurement can be stated:

Table 4: Summary of result

Elements of CAMEL	Selected ratios which indicates the element	Significance of differentiation based on t-test and α
C	TL to Cap	Significant
	CAR	Significant
A	TL to TA	Not Significant
	TATO	Not Significant
M	OC to TA	Not Significant
	Int. exp to TD	Not Significant
	EPS	Not Significant
E	ROA	Not Significant
	NII to TA	Not Significant
	ROE	Significant
L	CA to TD	Significant
	CR	Significant
	NWC	Significant

The Table 4 has shown that ratios indicated capital adequacy and liquidity significantly differed between both sectors. Rests of the ratios are not differing significantly. So it can be said that state-owned banks have significantly differed from private banks in case of capital adequacy and liquidity as null hypothesis ($\alpha \leq .05$) has been rejected for these two variables.

Consequences of comparison	CAMEL Variables
Significant difference	Capital Adequacy
	Liquidity
No Significant difference	Asset Quality
	Management Capability
	Earnings

Findings of the study

The result of the study shows that in case of liquidity and capital adequacy both public and private sectors significantly differ. Again in terms of asset quality, management capability, and earnings there are no significant differences. From the analysis of average ratios, it is revealed that state owned banks are maintaining capital adequacy in a better way but in case of self-funding of asset, private banks are in good shape.

Conclusion

Several papers have been found where CAMEL rating were applied for the comparison of private sector banks and public sector banks. But in Bangladesh this study is rarely found. That's why this paper has been originated. This rating system helps the central bank to nurture all the scheduled banks as per their present conditions. The outcome of the study based on CAMEL analysis shows that in case of liquidity and capital adequacy both public and private sectors notably differ. The paper may be useful for the bankers and academicians. Further studies may be possible focusing on the reasons behind the current ratings.

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Annexure I**Private Banks**

	TL to Cap	CAR	TL to TA	TATO/TR	Opr. Cost to TA	Int exp. To Tdeposit	EPS	ROA	NII to TA	ROE	Ca to TD	Current Ratio	NWC
2010	11.82382	10.445	0.896391	1.357673	0.023267221	0.057320466	5.698333	0.389069	0.885998	2.569529	0.920369	0.224851163	8579503341
2011	10.33393	11.795	0.90585	0.060339	0.024344614	0.069484842	5.643333	0.016858	0.028468	0.188424	1.039123	0.076487988	33981035274
2012	11.17403	11.9	0.913119	0.056039	0.02375363	0.074253542	3.976667	0.010659	0.031846	0.131735	1.03045	0.733357694	26576114000
2013	131.6395	12.53333	0.910309	0.053535	0.026269322	0.08050796	3.753333	0.010205	0.026042	1.363972	1.067687	1.76324778	49564334807
2014	10.94492	13.14333	0.912197	0.050515	0.025358022	0.069695386	3.946667	0.009698	0.023394	0.112845	0.924508	1.617985326	53764926580

Annexure II**Public Banks**

	TL to Cap	CAR	TL to TA	TATO/TR	Opr. Cost to TA	Int exp. To Tdeposit	EPS	ROA	NII to TA	ROE	Ca to TD	Current Ratio	NWC
2010	11.5408	4.760733	0.842781	0.050101	0.022362032	0.041849898	25.67167	0.01178	0.01918	0.128163	1.739851	2.896939311	82264771798
2011	10.87731	4.908417	1.194393	0.050386	0.020257599	0.055210772	40.59167	0.01257	0.024274	0.121068	1.559657	3.638289895	1.2221E+11
2012	23.94843	4.571283	0.885164	0.043154	0.018801053	0.071718507	-86.6833	-0.01468	0.014607	-0.78683	1.36919	3.837568205	1.51047E+11
2013	14.40636	4.190667	0.892188	0.036096	0.017398466	0.068155108	35.94333	0.0097	0.004787	0.097098	1.201375	5.221705219	2.12234E+11
2014	12.05072	4.12055	0.885583	0.030217	0.025853237	0.073332801	9.088333	0.005693	-0.0037	0.042794	1.156103	5.12710911	2.35882E+11