

Impact of Banks Characteristics on Banks Financial Performance: A Study of Selected Public Sector Banks of India

Nandan Velankar and K.S. Thakur

Abstract

Return on assets (ROA) is defined as the ratio of net income to total assets. This ratio shows the rupee amount of net income generated per rupee of assets, and indicates how well the assets of the bank are utilized in generating net income. Many of the banks characteristics are responsible for the inconsistency in ROA of banks. This research paper is an attempt to analyze the impact of banks characteristics on banks financial performance. The research, "impact of banks characteristics on banks financial performance: a study of selected public sector banks of India" has been carried out for the time period of 2005-06 to 2014-15 (10 years) financial years of ten selected public sector banks of India. The cause and effect relationship was checked by regression model using EViews7. Since, the time series data was employed, stationarity of the data was checked in order to avoid spurious regression. The Augmented Dickey - Fuller test was used for unit root testing to check the stationarity of the time series data. Research has disclosed a significant relationship between banks characteristics and banks financial performance.

Keywords: Banks Characteristics, Financial Performance, ROA, Public Sector Banks.

Introduction

The banking sector in any economy serves as channel for growth and development. Banks are able to perform these roles through their central functions of financial intermediation, provision of a competent payment system and facilitating the implementation of monetary policies. In intermediation, banks are involved in the mobilization of savings of the surplus economic units and channeling such funds to the deficit economic units particularly business enterprises for the purpose of expanding productive capacity for economic growth and development, (Gweyi and Karanja, 2014).

In operating the payment mechanism, the banking system liability serves as a medium of exchange. In execution of monetary policies, banks serve as agents through which the nation's monetary policies are implemented. For effective performance of the above functions, banks have to maintain proper liquidity to keep their doors open in the short run. Banks have to manage proper leverage to keep their investors and customers satisfy. Capital adequacy and debt coverage are also plays a vital role in deciding the banks financial performance and as well financial wealth. With the proper management of all aforesaid variables banks are able to maintain adequate financial performance to enhance solvency in pursuing their existing and

new customers and shareholders, (Ojong Ejoh & Ubi Iwara, 2014).

Conceptual Framework

This research aims to examine the impact of bank characteristics on financial performance of the bank. To execute this relationship in a cause and effect manner, bank characteristics is considered as an independent variable which was categorized in four deferent financial indicators; liquidity (Quick Ratio), leverage (Debt-Equity Ratio), capital adequacy (Equity to Total Assets Ratio), and debt coverage (Loan to Deposit Ratio). While the financial performance is taken as dependent variable, which was represented by return on assets (ROA).

Liquidity Ratio:

It is extremely essential for every organization to be able to meet its obligations as they become due. Liquidity ratio measures the ability of the organization to meet its current obligations (liabilities). In fact, analysis of liquidity establishes a relationship between cash and other current assets with current obligations provide a quick measure of liquidity towards the organizational financial performance. Every financial organization like banks always ensures that they do not suffer from lack of liquidity, and also that they do not have excess liquidity because avoidance of liquidity may result in a poor credit worthiness, loss of investors and customers confidence.

The term 'Liquidity' refers to the ability of a firm to meet its short-term maturing obligations within one year. The Liquidity resources of a firm may be kept in various forms: cash in hand and cash at bank in current assets, reserve drawing power under a cash credit or overdraft arrangement and short term deposits. Cash balances in current account provide the highest degree of liquidity (Nandi, 2012).

Cash conversion cycle shows the relation between liquidity and profitability. It is more important to measured profitability compared to if the company is using current ratio (Eljelly, 2004 as cited in Saleem and Rehman, 2011).

Liquidity refers to investment in current assets and current liabilities which are liquidated within one year or less and is therefore crucial for firm's day to day operations (Kesimli & Gunay, 2011 as cited in Sanghani, 2014).

Mostly banks deals in cash and cash equivalent. Cash equivalent are those assets which can be converted into cash immediately or reasonably soon without a loss of value. Thus, every bank throws their efforts to maintain low level of liquidity ratio (quick ratio). In this research it is considered that liquidity is a strong measure to evaluate the financial performance of banks. Thus, liquidity ratio (quick ratio) is taken as an independent variable to check the cause and effect relationship with financial performance (return on assets) of bank as a dependent variable.

Leverage Ratio:

Leverage allows a greater possible returns to the investor than otherwise would have been available, but the probable loss is also greater; if the investment becomes valueless, the loan principal and all accrued interest on the loan still need to be repaid. This represents financial risk and may reflect negative relationship with financial performance (Andy et al., 2002 as cited in Luke, 2015). Long term creditors, like debenture holders, financial institutions, etc. are more concerned with the long term financial strength of the organization. In fact, an organization should have a strong short as well as long-term financial position. In this research financial leverage ratio (debt-equity ratio) is taken as an independent variable to check its impact on financial position (ROA) of the bank (Pandey, 2005).

Capital Adequacy Ratio:

Banks capital adequacy is measured with equity to total assets Ratio (EQTA). Equity capital is the instantaneous source of funds for banks. Equity capital is the sum of common stock, perpetual preferred stock, surplus funds, bonus issue reserves, capital reserves and contingencies, and minority equity interest in subsidiary companies. Bank assets consist of investment, bills discounted, short term funds, loans and advances, cash, equipment or lease, fixed assets and other assets. The ratio of Equity capital to total asset is a good measure for the capital adequacy of a bank. The higher ratio in favor of equity capital, the better it is for bank capital to absorb losses in excess of loan loss reserves provided in the period. Thus, the study adopted Equity to Total Assets Ratio (EQTA) as a measure of capital adequacy, (Ojong Ejoh & Ubi Iwara, 2014).

Capital adequacy ratio is an important tool for assessing safety and soundness of banks wrote in the content, the bank with high capital ratio or more equity capital is showing that the bank is safer and is more able to get higher profitability (Vong and Chan, 2009 as cited in Al-Qudah and Jaradat)

The bank with high capital adequacy ratio or more equity capital is showing that the bank is safer and is more able to get higher profitability. Thus, in this research capital adequacy is carried as an independent variable and tried to find its relationship with banks financial performance.

Loan Deposit Ratio:

Bank's LDR is determined by the bank's ability to collect and distribute funds to third parties in the form of credit. The higher the LDR showed greater use of bank deposits for lending, which means bank has been capable to run intermediary function properly. However, if the LDR is too high then also raise liquidity risk for banks. The implementation of financial intermediation gives effect to banking performance. This means that banks will have good financial performance if the banks apply its intermediary function optimally, (Buchory, 2012)

Credit deposit ratio bears a positive relationship with profitability as it highlights effective utilization of deposits which are the major and cheapest source of revenue to the bank. However, a lower ratio may indicate that the deposits are merely serving as a burden to the banking business (Athanasoglou et al., 2005 as cited in Bhatia, Mahajan and Chander, 2012).

Return On Assets:

Return on assets (ROA) reflects as to how well a bank's management is using the banks real investment resources to generate profits. It is determined by, "net income / total assets", (Bhatia, Mahajan and Chander, 2012).

To measure the financial performance and competence of the management of a bank, Return on assets (ROA) turn out to be the most important indicator to utilize. This research adopted Return on assets (ROA) as a measure of profitability in banks because ROA measures how profitable and efficient the management of a bank towards using the bank's total assets in generating income, (Ojong Ejoh & Ubi Iwara, 2014).

Review of Literature

Qudah and Jaradat, (2014) Worked on panel data and disclosed the impact of bank characteristics represented by leverage measured by total deposits to total assets. The regression results show that the total deposits to total assets has a negative and significant impact on both the dependent variables, return on assets (ROA) and return on equity (ROE).

Nedunchezian, and Premalatha (2013), study was focused on analyzed the impact of mergers by taking selected financial ratios on financial performance of the banks and the results were revealed that in case of growth rate of return on assets ratio and other income to total income except Indian overseas bank shows less improvement after mergers and while analyzing the growth of debt equity ratio all the selected except Indian overseas bank shows less improvement after mergers.

Goyal (2013), studied the impact of capital structure (financial leverage) on profitability as measured by ROE, ROA & EPS of public sector banks in India listed on national stock exchange during 2008 to 2012 methodology-regression analysis has been used for establishing relationship between return on equity, return on assets & EPS with capital structure results, they found a positive relationship of short term debt with profitability as measured by ROE, ROA & EPS.

Williams and Emerah (2012), analyzed that money supply is an important determinant of capital adequacy base in Nigeria. Its high coefficient and very strong level of significance even at one percent suggests that increase in money leads to an increase in bank capital base and return on investment in the rest of the world proxies by long-run us interest rate is not a strong or significant determinant of capital adequacy base. While the deposit liabilities and liquidity risk variables are not correctly signed and are not statistically significant but may increase capital adequacy base via increase in money supply.

Buchory (2014), applied multiple regression test by taking four independent variables; capital adequacy ratio, net interest margin, non performing loans and return on assets to determine the effect on loan to deposit ratio as a dependent variable. They found that capital adequacy ratio, net interest margin, non performing loans have significant effect on loan to deposit ratio while return on assets has no significant effect on loan to deposit ratio in the context of Indonesian banking sector.

Berger and Bouwman (2013), formulate and tested hypotheses regarding the effect of bank capital on bank performance (survival probability, market share, and profitability) during financial crises and normal times. Major findings of their research were capital enhances the performance of all sizes of banks during banking crises and during normal times and market crises, capital helps only small banks unambiguously in all performance dimensions; it helps medium and large banks improve only profitability during market crises and only market share during normal times.

Kartik (2012), Research examined that the company must maintain a considerable amount of cash & bank balance in order to meet its short-term commitments and for emergency requirements. This will help the company to make adequate arrangement of credit facilities with banks so as to maintain good amount of liquidity. Study suggested that if the quick ratios are equal or bit above the standard norm of 1:1 then, liquidity position of the company is satisfactory and therefore, the company should try to maintain adequate amount of liquid assets to meet its short-term maturing obligations. The study of correlation analysis reveals both positive and negative coefficients. Out of eight ratios relating to liquidity management selected during the period under study, four ratios namely, ITR, DTR CTR and WCTR registered positive association with the selected profitability ratio (ROI) and the remaining ratios like CR, QR, WCTAR and DER witnessed negative association with the selected profitability ratio. Of the eight coefficients, five coefficients are found to be statistically significant and the remaining three are insignificant.

Lartey, Antwi and Boadi (2013), Research revealed a weak positive relationship between the liquidity and the profitability of the average listed bank in Ghana. They used return on assets (ROA) and temporary investment ratios (TIR) as the main representatives of profitability and liquidity. In conclusion, both the liquidity and the profitability levels of the listed banks were decreasing within the period 2005-2010. There was a weak positive relationship between the liquidity and the profitability of the listed banks. They suggested that the adequate liquidity helps the bank minimize liquidity risk and financial crises. The bank can absorb any possible unforeseen shock caused by unexpected need for decrease in liabilities or increase in assets.

Saleem and Rehman (2011), The study empirically addressed the relationship between liquid ratios and profitability. It is concluded that liquidity ratios affect the profitability ratios. There is only one limitation of this study that, the data is only of 6 years data due to availability of data constraint.

Naceur and Kandil (2009), They have applied their research to check the cause and effect relationship between the loan deposit ratio (LDR) independent variable and return on assets (ROA) as dependent variable in the commercial banks of Malaysia. The outcome of the research was a positive impact of LDR on profitability (ROA) of the banks.

Gul, Irshad and Zaman (2011), the study investigated the impact of bank-specific characteristics and macroeconomic indicators on bank's profitability in the Pakistan's banks for the 2005-2009 periods. Individual bank characteristics (internal and external factors) were considered as determinants of bank profitability in Pakistan. The results disclosed that bank-specific characteristics and macroeconomic indicators have significant impact on profitability of the Bank's in Pakistan.

Biswal and Gopalakrishna (2014), the research examines the possible determinants (credit to deposit ratio) and their effects on banking profitability as estimated by Net Interest Margin. Using secondary data from 2008 - 2013, the study classifies banks operating in India under high CD ratio and low CD ratio. CD ratio represents the proportion of loan asset created from deposits. The results confirmed that determinants of bank profitability have varied impact for banks under high CD ratio and low CD ratio categories.

Bhatia, Mahajan and Chander (2012), found the determinants affecting profitability of the banks operating in private sector in India. Post recession period; 4 years, (2006-07 to 2009-10) during which the banks in developed nations like USA have determinants of profitability of private sector banks in India 17 been affected badly. An assessment of profitability in the Indian banks too needs to be made during this relevant time period. The research is performed with interest rate spread, credit deposit ratio, non performing assets, operating expenses, business per employee, profit per employee and investment deposit ratio as independent ratio and profitability (ROA) as a dependent variable to establish the relationship. Spread ratio, credit deposit ratio, profit per employee, business per employee, capital adequacy ratio and non-interest income that show a positive association with profitability measured in terms of roa. However, one variable, that is, investment deposit ratio has a negative relationship with profitability against the expected relationship.

Misra and Dhal (2010), This study analyzed the non-performing loans of public sector banks in India in terms of the response of NPLs to terms of credit, bank size and macroeconomic condition variables. Using the pooled regression analysis, the study found that the terms of credit variables had significant effect on the banks' non-performing loans in the presence of bank size and

macroeconomic shocks. Study concluded that the business cycle impact on non-performing loans could be managed with appropriate terms of lending in terms of maturity, loan interest rate and capital requirement.

Bodla and Verma (2006), The research was an attempt to identify the key determinants of profitability of public sector banks in India. The analysis is based on step-wise multivariate regression model. The study has disclosed that the explanatory power of some variables is significantly high; such variables include NII, OE, P&C and Spread. However, some variables namely CD ratio, NPAs and BPE are found with low explanatory power. Hence, the variables non-interest income, operating expenses, provision and contingencies and spread have a significant relationship with net profit. Among them two variables P&C and OE are found having negative relationship. Study had concluded that control over non-performing assets, operating expenses, provision and contingencies are major areas of concern for the management of public sector banks.

Dey (2014), Study was carried out to examine the performance of local commercial banks of Bangladesh. Research concluded that asset quality, earning and bank size play a positive role in determining commercial banks' overall profitability. He has given some suggestions on the basis of the study for future analysis; to introduce additional bank specific, industry specific and macroeconomic variables in order to get more appropriate results towards financial performance (ROA).

Jhamb and Prasad (2012), Study revealed the positive correlation for seven out of ten parameters is observed. Only in two cases the correlation is lowly positive. The parameter showing negative is ratio of net interest margin to total assets, business per employee and ROA. This difference is probably due to different short term strategies followed by new private and public sector banks. Research had throw a light on the important issue related to profitability of the PSBs that the public sector banks and old private banks have been quite slow in keeping pace with the changing technology, which is regarded as one of the major reasons affecting their profitability and productivity.

Objectives of The Study

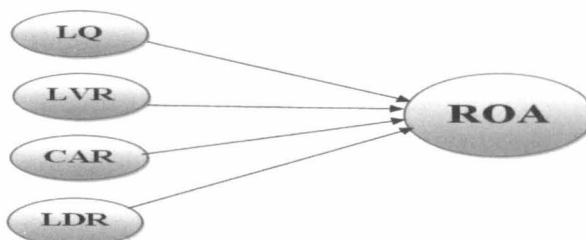
Following are the main objectives of the present study:

- To analyze the impact of banks characteristics on banks financial performance.
- To open new avenues for further researches.

Hypothesis of The Study

H0 - There is no significant impact of liquidity ratio, leverage ratio, capital adequacy ratio, debt coverage ratio (banks characteristics) on Return on assets (Financial performance).

Figure - 1 : Conceptual model of the research



Research Methodology

The study was empirical and causal in nature. It is aimed to find out the Impact of capital structure on profitability. The study is done to analyze the relationship in Indian context. For the same various indicators have been considered to define the banks characteristics specifically; liquidity ratio, leverage ratio, capital adequacy ratio, debt coverage ratio were taken and to define the banks financial performance return on assets was considered. The data have taken for the last 10 years (2005-2006 to 2014-15). The population of the study included all the public sector bank of India. And the sampling frame was top 10 public sector bank of India on their cap size basis. Liquidity ratio is measured by total liquid assets to current liabilities, leverage ratio is measured by total deposit to total assets, capital adequacy ratio is measured by equity to total assets, debt coverage ratio is measured by total loan to total deposit and Return on assets is measured by net income to total assets were the sampling elements. Non probability purposive sampling technique was used for collecting the data.

Result & Discussion

UNIT ROOT TEST

Since time series data was employed, it is important to test for the stationarity of the variables in order to avoid spurious regression. The Augmented Dickey - Fuller test was used for unit root testing. The results of the unit root test for the variables are presented below:

Table -1: Unit Root Test Results

<i>Variable</i>	<i>ADF-statistic</i>	<i>Critical value</i>	<i>Level of significance</i>	<i>Order of integration</i>
LQR	-3.758474	-3.505595 -2.894332 -2.584325	1%5%10%	Level
LVR	-5.374908	-3.498439 -2.891234 -2.582678	1%5%10%	Level
CAR	-5.551364	-3.498439 -2.891234 -2.582678	1%5%10%	Level
LDR	-5.622159	-3.497727 -2.890926 -2.582514	1%5%10%	Level
ROA	-4.513348	-3.497727 -2.890926 -2.582514	1%5%10%	Level

The Unit Root tests showed that all variables were stationary at level Order of integration. Augmented Dickey- Fuller unit root test statistics are greater than their critical values considered at 1% level of significance was considered for LQR (liquidity ratio), LVR (leverage ratio), CAR (capital adequacy ratio), LDR (loan deposit ratio) and ROA (return on assets) to be stationarity check, the absolute ADF statistic value should be greater than the critical value of any one selected percentage level from available three levels ignoring the sign.

Regression Assumption Tests

Heteroskedasticity Test:

This test is applied to check whether the residuals are heteroscedastic or homoscedastic. It is desirable that residuals should not be heteroscedastic, it should be homoscedastic.

H0- residuals are not heteroscedastic.

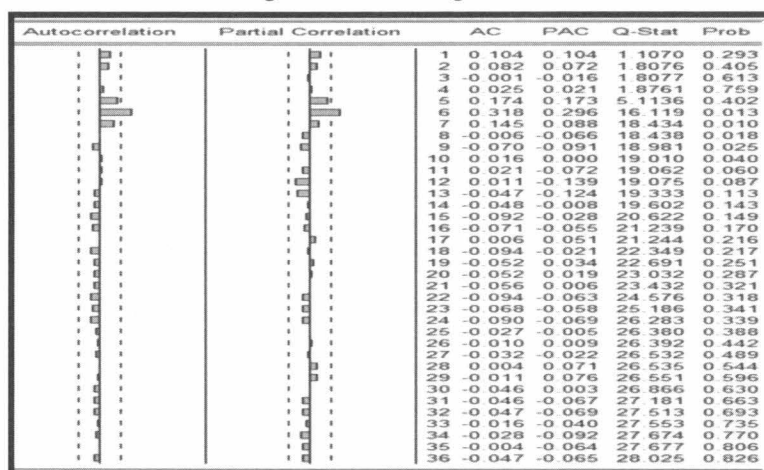
Table- 2: White Heteroskedasticity Test

F-statistic	1.904636	Probability	0.068679
Obs*R-squared	14.34253	Probability	0.073263

From the above table it is resulted that P-value (0.073263) of Observed R-square is more than standard value (0.05) so, null hypotheses is not rejected. It means the residuals are not heteroscedastic.

Correlogram Residual Test of Stationarity:

Figure - 2 Correlogram Test



Here, in the above figure, Correlogram residual test jointly applied on all the variables liquidity ratio, leverage ratio, capital adequacy ratio and loan deposit ratio (independent) & return on assets (dependent). The assumption of this test is that all the spikes must be restricted within the fitted (regression / estimated or predicted) line and actual line. Thus, there is no autocorrelation in the data and it explained the stationarity of the data.

Statistically, stationarity is checked by measuring the last P value of the Q-Statistics (0.826) is more than the standard value (0.05), hence these results recommend that the data is stationary.

ARCH LM Test:

H0- residuals are not serially correlated.

Table- 3: ARCH Test

F-statistic	1.053414	Probability	0.307275
Obs*R-squared	1.063583	Probability	0.307275

From the above table (Table-3) it is resulted that P-value (0.307275) of Observed R-square is more than standard value (0.05) so, null hypotheses is not rejected. It means the residuals are not serially correlated.

REGRESSION ANALYSIS:

Table- 4: Coefficient Table

VARIABLE	COEFFICIENT	STD.ERROR	T STATISTIC	PROB.
C	-21.09630	8.287490	-2.545560	0.0125
LQR	0.446913	0.063982	6.984926	0.0000
LVR	-1.045136	0.518538	-2.015545	0.0467
CAR	0.770967	0.389529	1.979230	0.0500
LDR	0.325679	0.100168	3.251333	0.0016

Dependent Variable: ROA

The outcome of regression model has shown that the Prob. value of t-statistic of independent variables; LQR (0.0000), LVR (0.0467), CAR (0.0500) and LDR (0.0016) respectively is less than or equal to 0.05 so, there is a significant effect of liquidity ratio, leverage ratio, capital adequacy ratio and loan deposit ratio on return on assets.

$$y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e$$

$$ROA = -21.09630 + 0.446913 (LQR) + (-1.045136) (LVR) + 0.770967 (CAR) + 0.325679 (LDR) + e$$

Table - 5

R-squared	Adjusted R-squared	Durbin-Watson statistic	F-statistic	Prob.(F-statistic)
0.489945	0.468469	1.048376	22.81356	0.00000

MODEL SUMMARY

The above model summary table defines the results of regression analysis. The coefficient of determination 0.468469 means that 46.84 % of the variation in net profit is being explained by the independent variables liquidity ratio, leverage ratio, capital adequacy ratio and loan deposit ratio. Value of F-statistic 22.81356 is significant at 0.000 which is less than 5% reveals, model is good fit.

Suggestions and Conclusion

1. Liquidity measures the ability of an organization to meet its short term obligations and the solvency of organization. Liquidity ratio is measured by total liquid assets to total current liabilities. Current research has found significant impact of Liquidity ratio on Return on assets.
2. Leverage measured by total deposit to total assets (TDTA): Leverage means magnification of either profits or losses. Leverage represents instrument to determine the possibility of the inability of the firm to pay its debts, particularly in the long term. Total Debt to owner's fund it's also called as debt-equity ratio. Current research has found significant impact of Leverage ratio on Return on assets.
3. Capital adequacy measured by Bank with high capital adequacy ratio or additional equity capital is a sign of that bank is protected and is more able to get higher profitability. The

result of this study has revealed a significant impact of capital adequacy ratio on Return on assets.

4. This ratio used for determines long-term financial position of a firm or company and is planned in the form of relationship between total loan and total deposits. It is seen by investors and analysts worldwide as the factual measure of riskiness of the bank.

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Dr. Nandan Velankar, Asst. Professor, Prestige Institute of Management, Affiliated to Jiwaji University, Gwalior .
Madhya Pradesh, India

Prof. K.S. Thakur, Chairman and Head, School of Commerce and Business Studies, Jiwaji University, Gwalior, Madhya Pradesh, India