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THE INTERVENING EFFECT OF INTERNAL AND EXTERNAL FACTORS ON FINANCIAL PERFORMANCE OF BANKS: A CASE STUDY OF INDIAN PUBLIC SECTOR BANKS

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Abstract

The banks encourage capital formation, promote innovation, monetization and enhance business activities in the economy. Banks also play the role of facilitator of monetary policy. The success of banking sector depends upon the financial performance of the banks. The main objective of the present study is to examine the influence of bank specific (internal) factors and macroeconomic (external) factors on the performance of Public sector banks in India. The bank specific factors include Capital Adequacy, Asset Quality, Management Efficiency, Earning Quality and Liquidity. The macroeconomic factors such as GDP growth rate and average annual inflation rate were taken into consideration for analysis. The financial performance of public sector banks was measured by Return on Assets (ROA) and Return on Equity (ROE) variables. The results of the study reported that the except capital adequacy ratio variable all other bank specific variables (Asset Quality, Management Efficiency, Earning Quality, Liquidity) and macroeconomic variable gross domestic product had significantly influenced the financial performance of public sector banks in India. The implications of the study suggested that instead of optimum capital adequacy ratio maintained by banks, the other variables related with management and governance of banks had significant effect on financial performance of banks.

Keywords: Capital Adequacy Ratio, Asset Quality, Management Efficiency, Earning Quality, Liquidity, GDP, Inflation

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1. Introduction

A sound and vibrant financial system is a prerequisite for the growth and economic development of a nation (Ebong, 2005 and Shonekan, 1997). The banking system acts as fuel which boosts economic efficiency by mobilizing savings and channelizing them to high return assets. Fase and Abma (2003) posited that the economic growth of a country depends upon the expansion of financial system. Arun and Turner (2004) emphasized that the significance of banks is more prominent in developing countries because financial markets are generally immature, and banks are typically the foremost source of finance for the bulk of the firms and are usually the main depository of economic savings (Athanasoglou et al., 2006). Schumpeter (1934), Gurley and Shaw (1955), Tobin (1956), Goldsmith (1969) and McKinnon (1973) opined the significance of banking system on the level and growth rate of national income in fostering economic development via the identification and funding of productive sector. Similarly, Levine (2005) advocated five channels which have positive impact on the economic growth through development of financial system. These are monitor investment, manage risk, mobilise savings, financial intermediaries and facilitate the exchange of goods and services. Beck and Levine (2004), in their study, observed that these factors related with financial system positively affected economic growth.

The banking system reflects the economic health of the country. In India the financial sector is led by commercial banks and any failure in this sector has vast repercussions on the economic growth of the country. This is because of the fact that any failure in the banking sector has a contagion effect, which can lead to overall financial crisis and economic distress. In order to avoid the crisis and safeguard the interests of customers and the economy, governments paid due attention to regulate the economy through their central banks to nurture a strong and vibrant banking system (Heffernan, 1996 and Shekhar & Lekshmy, 2007). The present banking failures in the developed nations and their bailouts thereof inspired present study to assess financial performance of public sector banks in India. The performance of banks may be affected by internal and exogenous determinants (Al-Tamimi, 2010; Aburime, 2009). These determinants can be categorized into bank specific (internal) and macroeconomic (exogenous/external) factors. The individual bank's performance is influenced by internal factors which are primarily individual bank's characteristics. These characteristics are mainly affected by the internal resolution of management of the bank. The macroeconomic factors are sector specific or nationwide factors which are outside the preview of the banks and influence the profitability of banks. This study was conducted primarily to highlight the effects of internal and external factors on financial performance of Public Sector Banks in India

from the period 2007-2014. For this purpose CAMEL approach is followed to assess the financial performance of public sector banks. Many studies conducted to assess the bank performances were based on CAMEL and CAMELS methodology which uses bank specific factors which have influence on the performance of overall banking system. Aspal and Malhotra (2011); Dhawan and Aspal (2014); Mishra and Aspal (2011). As contribution to banking literature, this study also incorporated the macroeconomic variables (GDP and Inflation) to judge their influence on the financial performance of public sector banks in India. In the light of existing literature in the area and existing theories the first objective of this study is to explore the influence of banks' specific factors on the financial performance of Indian Public Sector Banks. The second objective of the study is to examine whether macroeconomic (external) factors have significant influence the performances of Indian of Indian Public Sector Banks.

2. Review of Literature

The banking environment in India has undergone many regulatory and financial reforms such as interest rate deregulation, easing of banks' licensing policy, functional autonomy to the public sector banks, strengthening the capital structure for ensuring stability etc during the last two decades. These economic reforms in the banking system have brought about many structural changes and Indian banking system has made significant progress. In India the structure of commercial banks is diversified with a number of public sector banks, in addition to old private, new private and foreign banks. The co-operative banks cater to the need of small finances in rural and urban areas.

In order to assess the financial performance of banks extensive empirical studies have been conducted to assess the determinants that influence the performance and profitability of banks (Goddard et al., 2004; Kosmidou et al., 2005 and Athanasoglou et al., 2006). Similar type of the studies for evaluating the performance of banks have been conducted by AbdusSamad and Hassan (1999); Shaari and Fadhilah (2001); How et al. (2005); on the Malaysian banking industry; Seref (1995) on the Bahrain Islamic Bank; Bashir (2003) on the Middle Eastern countries; Naceur and Goaied (2001) on the Tunisian banking industry. Under the influence of economic reforms followed by India since 1991, there has been significant change in the profitability and performance of banks. It is apparent that a strong, vibrant and profitable banking system is capable to absorb adverse shudders and helps to enhance the stability of the financial sector (Athanasoglou et al. 2005). Poor performance of banking sector may results into the failures and brings crises in economic sector. In order to ensure economic stability governments supervise and monitor the banking system with the help of central banks to

encourage a strong and vibrant banking sector which evade banking failure and crisis and shield the economy and interest of the customers (Heffernan, 1996; Shekhar and Lekshmy, 2007). Thus, to evade financial crunch due consideration was paid to performance of banks. Aburime (2009) analyzed that the magnitude of profitability of banks can be assessed at the micro and macro levels of the economy. At the micro level, profit is considered as crucial condition for competitiveness of banking system. Therefore, the prime objective of bank management is to maximize profits for sustainability and competitiveness. At the macro level (Flamini et al., 2009) observed that a strong and vibrant banking system is in a better position to absorb the adverse shocks and contribute to the strength of the financial sector.

Many empirical research studies suggested that the bank performance is affected by both internal and exogenous/external factors. Athanasoglou et al., (2005) cited the internal factors as capital adequacy, management efficiency, size of bank and risk management capacity, and the major external factors viz interest rate, inflation, economic growth and ownership etc. Aburime (2009); Al-Tamimi (2008); Demirguc & Huizinga (1999) and Naceur and Goaied (2001) detected that the internal factors influencing the bank performance include bank specific characteristics like capital adequacy, operating expenses, liquidity, concentration etc. while external factors include macroeconomic variables like financial structure, inflation rate, economic growth etc. Das (2013) analyzed factors and the overall stance of monetary policy by including real GDP growth rate and inflation as additional variables in the regressions.

3. Important Performance Indicators, Factors which affect Performance and Methodology

3.1 Bank Performance Indicators

The eventual objective of commercial banks is profits. In order to achieve this ultimate objective the banks follow various strategies and perform a wide variety of activities. Researchers have used a variety of ratios to measure the profitability of banks of which Return on Assets (ROA) and Return on Equity (ROE) are the prominent ratios which are discussed below (Berger, 1995; Murthy and Sree, 2003; Beck, Cull & Jerome, 2005; Al-Tamimi, 2008; Flamini McDonald & Schumacher, 2009).

Return on Asset (ROA): ROA is significant ratio that specifies the profitability of a bank. It is defined as ratio of Income to its total asset (Khrawish, 2011). It assesses the capability of the banks' management to generate income by use of banks' assets available with them. It indicates the efficiency of the management of an organization in generating

net income from all the resources (Khrawish, 2011).

Return on Equity (ROE): ROE explains the relationship between profit earned by a bank and the total amount of shareholder equity. ROE is the return which shareholders expect for their investment. The higher the ROE ratio means, better the bank in terms of profitabilty. Khrawish (2011) highlighted that ROE is calculated by dividing net income after taxes of an organization with its total equity capital. It represents the effectiveness of a bank in using shareholders funds and reflects the rate of return earned on such funds.

3.2 Factors Influencing Bank Performance

Aburime (2009) and Al-Tamimi (2010) classified the factors affecting bank performance into two categories viz. bank specific (internal) and macroeconomic (external) factors. These are independent factors which determine the profitability of banks. Internal factors are individual bank specific features which influence profitability of banks. The exogenous factors are outside the control of the banks and influence the profits of banks. Flamini et al. (2009) in their studies opined that internal and external factors have significant influence on the performance of banks. The relevant factors are discussed below.

Internal Factors/ Bank Specific Factors: Researchers have adopted CAMEL framework as proxy for banks' internal factors which affect the profits (Dang, 2011). CAMEL framework, which represents Capital adequacy, Assets quality, Management efficiency, Earning performance and Liquidity, was developed by US Federal Deposit Insurance and recommended by Basle Committee on Banking Supervision and widely used as model for evaluating bank performance. In India Prasuna (2004) analyzed the performance of Indian banks by adopting the CAMEL Model. The components of CAMEL model are discussed below.

Capital Adequacy: Capital adequacy is one of the crucial indicators of the financial health of a banking system. Capital Adequacy reflects the overall financial position and ability of management to meet the requirement for additional capital of the banks. Capital Adequacy is defined as percentage ratio of a bank's primary capital to its assets (loans and investments), used as a measure of its financial strength and stability. According to the Capital Adequacy Standard set by Bank for International Settlements (BIS), banks must have a primary capital base equal at least to eight percent of their assets. Capital Adequacy Ratio (CAR) = (Tier-I + Tier-II)/Risk Weighted Assets.

Asset Quality: Asset quality depends on the quality of credit evaluation, monitoring and collection within each bank, and could be improved by collateralizing the loans, having

adequate provisions against potential losses, or avoiding asset concentration on one geographical or economic sector. The assets quality of a bank is measured by the percentage of net non-performing assets to net advances. Net NPAs are calculated by deducting net of provisions on non-performing assets and interest in suspense account from Gross NPAs.

Management Efficiency: Efficiency of management means adherence of preset standards, ability to design and retort to changing environment and managerial capability of the bank. In order to determine the management efficiency of selected banks Profit per employee is taken as proxy ratio. It is computed by dividing the profit after tax earned with the total number of workers of the bank. The higher the ratio, higher is the efficiency of the management and vice versa.

Earning Quality: The quality of earnings is a significant measure which signifies the quality of income earned from core activity such as income from lending operations. Dechow and Schrand (2004) defined high earnings quality should reflect the firm's current operating performance and a good indicator of future operating performance. In present study earning quality is determined by the ratio of operating profit to total assets. This ratio highlights the amount of profits earned by a bank from its core income earning activities. The optimal use of assets brings higher operating profits for the bank.

Liquidity: A satisfactory liquidity position can be attained either by increasing liabilities or by transforming its assets quickly in the form of cash. Bank should follow adequate steps to safeguard the liquidity risk. For this a good proportion of funds should be invested in high return assets. Rudolf (2009) emphasized that the liquidity expresses the degree to which a bank is capable of fulfilling its respective obligations. Dang (2011) opined that adequate level of liquidity is positively related with bank profitability. In present study liquidity is calculated by dividing approved securities by total assets**.**

Macroeconomic (Exogenous/External) Factors: To assess the influence of external factors on the performance of banks, two variables viz. gross domestic product and inflation are used in the analysis. The trend of GDP has an influence on the demand for banks assets. For instance, during the declining GDP growth the demand for credit decreases which in turn adversely influences the profits of banks. On the other hand, during boom situation in country the growing GDP growth has positive effect on the demand for credit. In the period of boom the demand for credit increases in comparison to recession period (Athanasoglou et al., 2005).

An increase in anticipated inflation raises the nominal interest rate. This increases the

expectations of all creditors or debtors to realize high nominal values for financial instruments at maturity. Aburime (2009) investigated the influence of macroeconomic variables on bank profitability using 154 Nigerian banks covering the period from 1980 to 2006 and observed that interest rate; inflation, monetary policy and exchange rate had significant impact on bank performance in Nigeria.

4. Research Methodology

This study uses secondary data obtained from Reserve Bank of India's official site and published financial statements of nineteen public sector banks in India for period of eight years from 2007-2014. The sample banks selected for the study are Allahabad Bank, Andhra Bank, Bank of Baroda, Bank of India, Bank of Maharashtra, Canara Bank, Central Bank of India, Corporation Bank, Dena Bank, Indian Bank, Indian Overseas Bank, Oriental Bank of Commerce, Punjab & Sind Bank, Punjab National Bank, Syndicate Bank, Union Bank of India, United Bank of India, UCO Bank and Vijaya Bank. In the present study we have not included the State Bank of India and its subsidiaries, because of ongoing merger, the data is not available for the sample period. The multiple linear regression model was applied to examine the relative significance of each independent variable in influencing the financial performance of banks.

5. Model Specification and Analysis

In the present study the prime dependent variables used are Return on Equity (ROE) and Return on Asset (ROA). The independent variables are considered as Capital Adequacy, Asset Quality, Management Efficiency, Earning Quality and Liquidity which were proxied by selected ratios viz. Capital Adequacy Ratio (CAR), Net NPA to Net Advances Ratio, Profit per Employee Ratio, Operating profit to Total Asset Ratio and Approved Securities to Total Asset Ratio respectively. The external factors incorporated as independent variables are GDP growth rate and average annual inflation rate.

The multiple regression models used for assessing the performance of selected banks are specified as:

$$ROE_{it} = \alpha_0 + \beta_1 CAR_{it} + \beta_2 ASSQ_{it} + \beta_3 MGTEFF_{it} + \beta_4 ERNQ_{it} + \beta_5 LIQ_{it} + \beta_6 GDP_{it} + \beta_7 INFL_{it} + e_{it} \quad (1)$$

$$ROA_{it} = \alpha_0 + \beta_1 CAR_{it} + \beta_2 ASSQ_{it} + \beta_3 MGTEFF_{it} + \beta_4 ERNQ_{it} + \beta_5 LIQ_{it} + \beta_6 GDP_{it} + \beta_7 INFL_{it} + e_{it} \quad (2)$$

Where:

ROE_{it} and ROA_{it} = Performance indicators of Bank *i* at time *t*

α_0 = Intercept term

CAR_{it} =Capital Adequacy of bank *i* at time *t*

$ASSQ_{it}$ = Asset Quality of bank *i* at time *t*

$MGTEFF_{it}$ = Management Efficiency of Bank *i* at time *t*

$ERNQ_{it}$ = Earning Quality of Bank *i* at time *t*

LIQ_{it} =Liquidity of Bank *i* at time *t*

GDP_{it} = Gross Domestic Product at time *t*

$INFL_{it}$ = Average annual inflation rate at time *t*

e_{it} = Error term where *i* is cross sectional and *t* time identifier

On the above specified models the appropriate diagnostic tests were applied to check for normality, existence of multicollinearity and heteroscedasticity.

5.1 Diagnosis of Multicollinearity and Heteroscedasticity in Regression Analysis

The presence of multicollinearity was tested with the help of correlation coefficient test and Variance Inflation Factor (VIF). Correlation coefficient more than 0.8 between independent variables indicates the presence of multicollinearity (Guajarati, 2007) and (Cooper and Schindler, 2003). The tables (1) and (2) depict the absence of multicollinearity. All the correlation coefficients between the independent variables are less than 0.8.

Table 1: Table of correlation

Variables	ROE	CAR	ASSQ	MGTEFF	ERNQ	LIQ	GDP	INFL
Proxy Variables	**Return on Equity**	**Capital to Risk-weighted Assets Ratio**	**Net NPAs to Net Advances Ratio**	**Profit per Employee**	**Operating profit to Total Asset Ratio and**	**Approved Securities to Total Asset Ratio**	**Gross Domestic Product (Growth Rate)**	**Average annual Inflation Rate**
ROE	1.000							
CAR	.335*	1.000						
ASSQ	-.767*	-.326*	1.000					
MGTEFF	.561*	.427*	-.377*	1.000				
ERNQ	.317*	.097	-.189*	.257*	1.000			
LIQ	.066	-.146*	-.093	-.250*	-.095	1.000		
GDP	.342*	.081	-.370*	-.013	.061	.096	1.000	
INFL	.243*	.377*	-.216*	.304*	.020	-.346*	-.240*	1.000

Source: Authors' calculations based on data collected.

Table 2: Table of correlation

Variables	ROA	CAR	ASSQ	MGTEFF	ERNQ	LIQ	GDP	INFL
Proxy Variables	**Return on Assets**	**Capital to Risk-weighted Assets Ratio**	**Net NPAs to Net Advances Ratio**	**Profit per Employee**	**Operating profit to Total Asset Ratio and**	**Approved Securities to Total Asset Ratio**	**Gross Domestic Product**	**Average annual Inflation Rate**
ROA	1.000							
CAR	.422*	1.000						
ASSQ	-.757*	-.326*	1.000					
MGTEFF	.655*	.427*	-.377*	1.000				
ERNQ	.362*	.097	-.189*	.257*	1.000			
LIQ	.134*	-.146*	-.093	-.250*	-.095	1.000		
GDP	.318*	.081	-.370*	-.013	.061	.096	1.000	
INFL	.203*	.377*	-.216*	.304*	.020	-.346*	-.240*	1.000

Source: Authors' calculations based on data collected.

Furthermore to verify the multicollinearity we examined the VIF score which should not be more than 3 (Guajarati, 2007). It can be inferred from the analysis of table (3) that the VIF of the stated variables lies below 3. This highlights the absence of multicollinearity in this analysis.

Table 3: Variance Inflation Factor Scores of Regression Analysis

Variables	VIF Values (ROE)	VIF Values (ROA)
Capital Adequacy	1.392	1.392
Asset Quality	1.639	1.639
Management Efficiency	1.517	1.517
Earning Quality	1.097	1.097
Liquidity of Bank	1.271	1.271
GDP	1.369	1.369
Annual Inflation Rate	1.542	1.542

Source: Authors' calculations based on data collected.

The problem of heteroscedasticity is avoided with the help of GLS method, which is preferred to OLS. The GLS technique assigns weight to each observation and capable of generating estimators which are best, linear, unbiased and efficient (BLUE) (Gujarati, 2007).

5.2 Relationship between Banks' Performance and Banks' Specific Factors

The table (4) depicts the correlation between the specified bank specific factors and its

association with bank performance as stated by Return on Equity (ROE) and Return on Assets (ROA). The relationship is examined by the correlation coefficients between the dependent and independent variables. The higher the values of the coefficients, the stronger are the relationship and vice-versa. The sign of correlation coefficients indicates the direction of the relationship.

Table 4: Correlation Coefficient between Dependent Variables and Independent Variables

VARIABLES	ROE	ROA
Capital Adequacy	.335*	.422*
Asset Quality	-.767*	-.757*
Management Efficiency	.561*	.655*
Earning Quality	.317*	.362*
Liquidity of Bank	.066	.134*
GDP	.342*	.318*
Annual Inflation Rate	.243	.203

Source: Authors' calculations based on data collected.

The table (4) highlights that in terms of correlation capital adequacy ratio is positively correlated to ROE and ROA. The positive relationship among these indicates that banks face no instability in earnings due to leverage. Bouwman (2009) also argued that higher capital adequacy ratio motivates banks to invest in safer investments, such as lower-risk loans or securities, which can influence the profitability of bank. The negative correlation coefficient between asset quality (measured as Net Non-Performing Assets to Net Advances Ratio) with ROE and ROA is very strong. This is because loans and advances constitute the largest share of assets that generate income for the banks. The other determinant of bank performance i.e. management efficiency which is proxied by Profit per Employee ratio is also positively related to ROE and ROA. Earning quality of banks which is measured in the present analysis by operating profit to total assets ratio is also positively associated to ROE and ROA. Liquidity of the banks measured by approved securities to total assets ratio is also positively correlated with ROE and ROA but the relationship is very feeble. This is because of the reason that liquidity is more connected with honoring the obligation of depositors than investment.

So far as macroeconomic factors are concerned the relationship between gross domestic product (GDP) and bank performance is positive. This manifests the argument that GDP growth of the economy directly influences the financial performance of bank. The other external factor inflation is also positively associated with the financial performance of public sector banks in India, but the correlation is not very strong. This is due to fact that

inflation can influence the value of money, purchasing power and the real interest rate that banks charge and collect.

5.3 Results of Regression

The main goal of this study is to analyze whether bank specific factors influence the financial performance of public sector banks in India or not. In order to determine the influence of bank specific and external (macroeconomic) factors on the performance of Indian commercial banks, regression analysis is applied on the sample data. For the analysis, the null hypothesis is framed that the bank specific factors have no significant influence on the financial performance of Indian commercial banks.

Table 5: Model 1: ROE as Dependent Variable

Explanatory Variables	**Constant**	**CAR**	**ASSQ**	**MGTEFF**	**ERNQ**	**LIQ**	**GDP**	**INFL**
Proxy Variables		**Capital to Risk-weighted Assets Ratio**	**Net NPAs to Net Advances Ratio**	**Profit per Employee**	**Operating profit to Total Asset Ratio and**	**Approved Securities to Total Asset Ratio**	**Gross Domestic Product**	**Average annual Inflation Rate**
β_i	8.609* (0.046)	0.208 (0.512)	-3.352* (0.000)	0.815* (0.000)	1.089* (0.005)	3.705* (0.006)	0.448* (0.002)	0.399* (0.027)
t-values	2.017	-0.657	-9.270	6.322	2.880	2.765	3.184	2.237
R^2	0.720			Adj. R^2	0.706			
F-Test	52.894							

Source: Authors' calculations based on data collected.

* Statistically significant at the 5% level

Table 6: Model 2: ROA as Dependent Variable

Explanatory Variables	**Constant**	**CAR**	**ASSQ**	**MGTEFF**	**ERNQ**	**LIQ**	**GDP**	**INFL**
Proxy Variables		**Capital to Risk-weighted Assets Ratio**	**Net NPAs to Net Advances Ratio**	**Profit per Employee**	**Operating profit to Total Asset Ratio and**	**Approved Securities to Total Asset Ratio**	**Gross Domestic Product**	**Average annual Inflation Rate**
β_i	-0.015 (0.940)	0.025 (0.108)	-0.170* (0.000)	0.065* (0.000)	0.080* (0.000)	0.380* (0.000)	0.022* (0.002)	0.010 (0.248)
t-values	-0.075	1.617	-9.723	10.364	4.388	5.853	3.156	1.160
R^2	0.814			Adj. R^2	0.804			
F-Test	89.758							

Source: Authors' calculations based on data collected.

* Statistically significant at the 5% level

The regressions results presented in tables (5) and (6) respectively lead to the rejection of null hypothesis, that there is no significant influence of bank specific (internal) factors on the financial performance of Indian public sector banks. For rejection of null hypothesis the level of confidence is assumed to be 95%. However, the results highlight that CAR has no significant influence on bank performance variables ROE and ROA. The other selected variables have significant influence on the financial performance of Indian public sector banks.

The second objective of this study is to analyze the extent of macroeconomic (external) factors viz. GDP and inflation on the financial performance of Indian public sector banks. To analyze this null hypothesis framed which states that external (macroeconomic) factors have no significant influence on the financial performance of Indian commercial banks. It can be observed from table (5) that both GDP rate and Annual Inflation Rate have significantly influenced one of the bank performance variables ROE i.e. return on equity. However, in case of ROA as shown in table (6) GDP has significant influence but inflation has no statistically significant influence on it.

6. Conclusion

The present empirical analysis reveals that asset quality, management efficiency, earning quality and liquidity has statistically significant influence of the performance of public sector banks in India. The correlation between bank performance and independent factors such as capital adequacy, management efficiency, earning quality & liquidity is found to be positive, whereas, in case of asset quality the relationship is negative. These results are in line with the studies conducted by Kosmidou (2008). In the study capital adequacy proxied by capital adequacy ratio (CAR) is found to have insignificant effect on the performance of public sector banks. But, this does not reflect that capital adequacy of banks has no influence at all. But it shows that capital adequacy has low influence on performance of public sector banks during the period of study.

Berger (1995) in his study reported positive association between bank performance and capital. The asset quality has shown negative but significant relationship with explanatory variables ROA and ROE. This highlights that poor quality of asset or higher non-performing assets relate to poor financial performance of banks. It can be concluded that banks having good quality of assets and less amount of non-performing assets are more profitable than the others banks. Naceur and Goaied (2001) in his study indicated that macroeconomic variables (inflation and GDP) did not have significant impact on bank performance. The influence of external (macroeconomic) factors on the financial performance of Indian public sector banks is mixed. These results resemble with the

studies conducted by Alabede (2012) for Nigerian banks. Our study reveals that GDP has positive correlation with ROE and ROA and the relationship is statistically significant. This implies that rising trend of GDP growth influence demand for bank credit positively, which in turn increased the profitability of banks. However, the other macroeconomic variable inflation has positive correlation with ROE and ROA, but in case of ROA the results are statistically insignificant. From this it can be inferred that inflation has no significant impact on ROA. The findings of this study suggest that both bank specific and external factors have significant influence on the financial performance of public sector banks in India.

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