

## Role of Public Sector Banks in India

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### ABSTRACT

*The "Profitability of Indian Public Sector Banks: A Determinants Study" explores the factors affecting 26 Indian Public Sector Banks' financial results following the global financial crisis. To assess the impact of the macroeconomic and bank-specific factors based on the CAMELS system, the Random Effect Model on the balanced panel data for the period 2012-2017 was carried out. Total Investments in Total Assets, Operating Profit in Total Assets and Provisions on Loans are the banks' basic factors affecting the profitability of the public sector banks in India, whereas the impact of macroeconomic factors on the profitability of the banks was negligible.*

*Keywords – Financial Performance, Indian Public Sector Banks, Random Effect Model.*

### INTRODUCTION

The financial system is a centre for a strong economy and must be stable and profitable at the same time. For investment and economic growth, an efficient banking system is essential. In order to fulfill the necessity of hiring and deploying funds, commercial banks serve as a bridge between depositors and borrowers and have to deal with different risks that are generally defined as credit risk, liquidity risk, market risk, operational risk and macroeconomic risk. As an institution that is exposed to multiple risks when dealing with depositor assets, creating a solid regulatory and supervisory structure helps to mitigate and manage risks, thus encouraging the robust growth of the economy. For banks to deliver their services and withstand the shocks of the economy, effective regulatory regulation and frequent supervision are necessary. The banking crisis leads, as seen in the subprime crises, to a severe economic collapse (Marshall, 2009). As seen in the cases of Kingfisher Airlines in 2011 and the Punjab National Bank Letter of Undertaking in 2018, in cases of lending by banks with flawed lending policies, insufficient monitoring mechanism leads to delinquent advances creating a contagion effect. In his study, Sundararajan et al. (2002) stressed the need for a strong banking supervisory mechanism. The CAMELS system for the evaluation of financial institutions was proposed by the Basel Committee of the Bank of International Settlements (BIS) in 1988 to improve supervision. The regulators' supervisory office uses CAMELS ratings to classify organisations that need attention. The scores are assigned based on the bank or financial institution's financial statements. The

CAMEL rating is an important instrument for examiners and regulators (Barr S Richard et al., 2002). In the areas of economical, managerial and operational dimensions, it decides the overall conditions of banks. It tests a bank's risk and financial stability, and the results help the supervisory authorities classify banks in need of full regulatory attention.

The monitoring results help managers draw up their business and capital planning plans, risk appetite, risk monitoring, and recovery planning plans. Depositors and other stakeholders will be the direct beneficiaries of supervisory information, such as that found in CAMELS ratings. Small depositors are safe against potential bank default (Gilbert and Vaughn, 1998). The Basel Committee on Banking Supervision (2010) stressed solvency ratings, the development of liquidity and proposed new capital regulations, including the supervisory position of banks in maintaining higher capital reserves. The supervisory ratings differ from 1 to 5, the highest rating being 1 (representing the least amount of regulatory concern) and the lowest being 5. The six components in the risk management area for calculating the overall score are as follows:

C-Capital Suitability

A-Quality of Properties

M-Efficiency in Management

E- Efficiency Earning

L-Liquidity

S-Market Risk Sensitivity

The CAMELS method is a quantitative methodology consisting of a series of primary performance metrics globally referred to in the Basel Committee's recommendations to determine the financial health of commercial banks (Roman & Sargu, 2013). The supervisory data obtained during the bank survey is not shared with the public, but studies indicate that it flows into the financial markets (FRBSF, 1999). In an effort to be open and market-friendly, under unfavorable and extremely adverse economic and financial circumstances, the US and the European Union share the test results and also the outcome.

## **OBJECTIVES OF THE STUDY**

The objectives of the study are to analyze

- The effect of bank-specific factors on the profitability of public sector banks and public sector banks
- The effect of macroeconomic variables on the profitability of banks in the public sector

## **Banking in India**

In response to the need to meet the dynamic global climate, India opened up its economy in the 1990s, primarily by putting an end to the Raj licencing system and the permit system. The

banking sector has implemented numerous reforms, including the opening up of the sector to private and international players, interest rate deregulation, the reduction of the Cash Reserve Ratio (CRR) and the Statutory Liquidity Ratio (SLR), in line with the recommendations of the Narasimhan Committee, rendering the sector competitive in order to provide customers with a better experience (Vijay Joshi and David Little, 1998). At the same time, this exposed the sector to the risk of losses across asset classes and geographical boundaries and demanded close attention from the monetary authorities on the supervisory front (RBI, 2008-09). The opening of the industry to private players decreased banks' government control from 58.9% in 1970 to 41.6% in 1995. (La Porta et al., 2002). Ownership in the banking sector, despite a steady decrease in its share, remains overwhelmingly in the public sector. As of March 31, 2017, in addition to cooperative credit institutions, the Indian Banking System consists of 27 public sector banks, 21 private sector banks, 43 international banks, 56 regional rural banks, 54 scheduled urban cooperative banks and 1498 non-scheduled urban cooperative banks. More than 70 per cent of the banking market is owned by public sector banks, leaving their private counterparts with a comparatively smaller share. Deposits rose at a CAGR of 12.03 percent during the 2006-2017 period and reached 1.54 trillion by the end of the 2017 financial year. Under Pradhan Mantri Jan Dhan Yojana, 255.1 million accounts were opened as of November 9, 2016. (PMJDY).

Due to the progressive policies implemented by the Government of India in 2017, the number of bank accounts has risen, which also calls for good risk management. The banking sector in India is sound, adequately capitalised and well-regulated with High Quality Liquidity Assets (HQLA) and SLR investments, according to the Reserve Bank of India (RBI), and it is much better compared to other economies in the world. Credit, market and liquidity risk studies indicate that Indian banks are generally resilient and well regulated (SS Mundra, 2015). On the other hand, the quality of assets remains a matter of concern; in its financial stability report, the Reserve Bank of India reported that gross NPAs which increase to 9.3% by March 2017 if the macro environment becomes unfavorable (RBI, 2017).

As of 30 September 2017, the Public Sector and Private Sector Banks' total non-performing assets were Rs.7,33,974 crore and Rs.1,02,808 crore respectively. The NPAs are harmful to the banks' financial health; it is found that massive NPAs are burdened by the public sector banks and the banks' profitability is at stake. There is a growing concern about the risk posed by India's PSBs. The RBI withholds the data from the supervisory studies, unlike the western economies, citing it as in the greater interest of the country. It is in the interest of the stakeholders to understand the factors affecting the financial performance of the banks, with the control of the supervisory knowledge exercised by the regulator in India, in the case of public sector banks dominating the banking sector in India. Centered on the CAMELS system, this paper aims to research macroeconomic factors and bank-specific factors.

### **Research Gap**

The quality of assets, the effectiveness of credit risk management by banks and the world of recovery speak to financial health volumes. In 2011, with the financial crisis in the euro region, market turmoil was not restricted to the euro area, but it had an impact on the global economy. This was a strong call for policy makers to pay attention to improving credit risk policies and to establish an early warning system for signs of distress. The impact of macroeconomic and bank-

specific factors on the profitability of public sector banks in India over the recent period has not been completed and hence the analysis to assess the impact of macroeconomic and bank-specific factors on the profitability of public sector banks in India based on the CAMELS system with a random effect model on balanced panel data for the period 201 has not been completed. The authors try to add determinants that affect the profitability of public sector banks operating in an environment of controlled dissemination of public domain supervisory results to the body of study.

## **METHODOLOGY**

The analysis is based on secondary data obtained from the Reserve Bank of India website and results from the Economic Survey. Data was collected for 26 of the 27 public sector banks that came into existence on 19 November 2013, except Bharatiya Mahila Bank. In order to critically analyse the determinants of the profitability of the public sector banks in India, the Random Effect Model is employed on the balanced panel data for the period 2012-2017. The Random Effect Model assumes that the variance between individuals is random and unrelated to the separate variables used in the model (Greene, 2008). The discrepancies occurring across the organisations are assumed to affect banks' profitability.

## **DETERMINANTS**

### **Bank Specific Factors**

The following are the Bank Unique Factors that could have an impact on the banks' profitability.

Return on Equity (ROE) tests the firm's performance relative to the funds employed by the founders. It tests a firm's ability to produce income from the money invested in the company by its shareholders. A company with a high return on equity implies an efficient use of capital that provides better results. After fulfilling the contractual commitments, the profits available to the shareholders calculate the bank's financial results. Return on Equity (ROE) is a strong and widely recognised metric by the analysts (Murthy and Sree, 2003).

Capital Adequacy concentrates on the bank's overall financial position. It is a measure of the capital of a bank expressed as a percentage of the weighted credit exposure of a bank's risk. It focuses on earnings success and strength, the ability to raise additional capital and risk exposure in relation to off-balance sheet operations. This parameter demonstrates that the bank is prepared to face adverse economic circumstances and protects banks from financial distress. The capital available helps the bank to sustain the business of the bank in the event of adverse circumstances such as extreme abrupt withdrawals (Athanasoglou et al., 2005).

Asset quality impacts a bank's financial performance. The largest component of assets on a bank's balance sheet is loans. A good loan portfolio with timely collections results in banks becoming profitable. The main cause of most bank failures is poor asset quality (Grier, 2007). The biggest risk for a bank is the losses arising from unpaid loans (Dang, 2011).

Management Productivity tests management's capacity and performance. It studies the capabilities of the bank's management, human resources, control, equipment and risk

management systems. Efficiency in management determines the overall performance of the institution and its risk profile.

Earnings quality describes the trend in earnings, the profitability of banks and the productive use of their assets (Roman and Sargu, 2013). It focuses on budgeting systems, processes for forecasting, and information systems for management. In order to retain the loan and lease loss allowance and other valuation allowance accounts, the adequacy of the provisions is required.

Liquidity depends on the availability of assets to be readily transformed into currency. This is also a measure of the capacity of banks to pay on time for their short-term obligations. Having the requisite liquid assets is essential. Therefore, liquidity levels are efficiently tracked (Derviz and Podpiera, 2004). Adequate liquidity is correlated favourably with bank profitability (Dang 2011).

Market risk resilience focuses on the ability of banks' earnings to withstand negative changes in interest rates, foreign exchange rates, commodity prices or share prices, and to recognise, calculate, monitor and manage market risk exposure.

The study's bank-specific variables are

The profitability of the banks taken as the dependent variable is expressed by ROE.

The independent variables that were evaluated to determine their effect on the banks' profitability are

- (i) Adequacy of capital calculated by Capital Adequacy Ratio (CAR)
- (ii) Value of assets calculated by Total Investments in Total Assets (TITA)
- (iii) Productivity of management measured by company per employee (BPE)
- (iv) Quality of profits measured by Total Assets Operating Profit (OPTA)
- (v) Liquidity to be taken as proxy by the Credit Deposit Ratio (CDR)
- (vi) Market risk sensitivity reflected by the loan / loan provision (PRL)

### **Macroeconomic Factors**

The businesses are influenced by the external environment which shapes up based on the economic policy and global markets. Macroeconomic indicators such as Gross Domestic Product (GDP), Inflation, Industrial Output, National Per Capita Net Income and Employment Rate, among others, provide analysts with adequate information on the course of the economy, which also affects the financial sector's business climate.

The Whole Sale Price Index (WPI) shows an improvement in the profitability of economic activity, and the level of economic activity across sectors is shown by the IIP. External factors can influence investment decisions, thereby affecting the investment portfolio and the quality of

assets. Bourke (1989) indicates that to research the profitability of banks, the Consumer Price Index could be used.

The GDP Growth Rate is a critical factor in assessing bank profitability (Omar Masood and Ashraf, 2012). Net National Product (NNP) calculates the monetary value of all finished goods and services, excluding subsidies and depreciation, regardless of their location, produced by the country's production factors.

The following macroeconomic variables are taken into account to research the profitability of banks.

- (i) Index of Wholesale Prices on Numbers (WPI)
- (ii) Rate of growth of gross domestic product (GDPGR) and
- (iii) National Income Growth Rate Per Capita Net (PCNNIGRRR)

### **FINDINGS AND DISCUSSION**

Descriptive Statistics relating to the Macroeconomic Factors and Bank Specific Factors in terms of dependent and independent variables are presented in Table -1 to analyze their effect on profitability of the banks.

**Table-1 Descriptive Statistics**

<b>Macroeconomic Factors</b>			
	<b>GDPGR</b>	<b>WPI</b>	<b>PCNNIGR</b>
Mean	105.7441	109.1000	104.4500
Median	106.7466	110.6500	105.1500
Maximum	108.0101	113.9000	106.8000
Minimum	100.0000	100.0000	100.0000
Std. Dev.	2.703839	4.649218	2.304316
Skewness	-1.444356	-1.002189	-0.940407
Kurtosis	3.563926	2.740609	2.625894
Sum	16496.08	17019.60	16294.20
Sum Sq. Dev.	1133.166	3350.360	823.0300
Observations	156	156	156

Compiled from the reports of RBI

	<b>Bank Specific Factors</b>						
	<b>Dependent Variable</b>	<b>Independent Variables</b>					
		<b>ROE</b>	<b>CAR</b>	<b>TITA</b>	<b>BPE</b>	<b>OPTA</b>	<b>CDR</b>
Mean	4.741693	11.75692	25.91790	141.5438	1.643781	73.50865	1.268053
Median	7.295000	11.66000	25.93230	136.9500	1.646732	74.48065	0.902382
Maximum	21.98000	14.67000	37.59966	262.1000	2.632209	86.93624	7.042165
Minimum	-44.37287	9.000000	16.33763	79.84000	0.702680	42.39083	0.200482
Std. Dev.	12.33260	1.059401	3.643090	33.46298	0.389563	7.548318	1.050621
Skewness	-1.696820	0.228494	0.192704	1.238746	-0.063460	-1.252311	2.454724
Kurtosis	6.294474	2.778771	3.475200	5.240951	2.583489	6.116768	10.66316
Sum	739.7041	1834.080	4043.192	22080.83	256.4298	11467.35	197.8163
Sum Sq. Dev.	23574.41	173.9611	2057.176	173564.5	23.52270	8831.451	171.0896
Observations	156	156	156	156	156	156	156

### Compiled from the reports of RBI

The descriptive statistics presented in Table-1 indicates that the Public Sector Banks clocked ROE of 4.75% on an average, which is fairly healthy. The range of the ROE has fluctuated between 21 to -44 indicating a large fluctuation which is due to the change in the economic conditions during the period. All the variables except ROE and BPE are symmetrical. The Kurtosis value of all variables is positive and the density of the tails is heavier indicating that the data is not normally distributed

**Table-2**

Dependent Variable: ROE				
Method: Panel EGLS (Cross-section random effects)				
Sample: 156				
Periods included: 6				
Cross-sections included: 26				
Total panel (balanced) observations: 156				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	39.24682	26.70799	1.469479	0.1439
GDPGR	0.458112	0.580939	0.788573	0.4316
PCNNIGR	-0.544422	0.656687	-0.829044	0.4084
WPI	-0.226610	0.167668	-1.351538	0.1786
CAR	0.316066	0.410324	0.770284	0.4424
TITA	-0.324006	0.118326	-2.738253	0.0069
BPE	-0.002007	0.012015	-0.167081	0.8675
OPTA	8.138420	1.072661	7.587134	0.0000
CRD	0.022067	0.067133	0.328709	0.7428
PRL	-8.985371	0.415492	-21.62587	0.0000

### Compiled from the reports of RBI

TITA, OPTA and PRL are important among the explanatory variables from the results given in Table-2 and influence the profitability of the banks. The Overall Assets Operating Profit is optimistic and significant; management should pay attention to improving its revenues and improving its operating performance. The loan provision that tests the capacity to adapt to market risk is negative and substantial. The arrangements made by banks can provide indications of banks' profitability at a substantial level of 5 percent. The study on macroeconomic variables found that the WPI, GDPGR and PCNNIGR macroeconomic factors are not statistically important in describing the profitability of banks.

### FINDINGS

- Among the bank specific factors, TITA, OPTA and PRL influence the profitability of the banks
- The provisions made by the banks can provide indications of the profitability of the banks
- The effect of macroeconomic factors viz., WPI, GDPGR and PCNNIGR on the profitability of the banks are not statistically significant.

## **SUGGESTIONS**

By focusing on asset quality, earning quality, and market risk sensitivity, management will pay attention to improving their profits and maximizing their operational performance.

## **CONCLUSION**

Based on the findings, we conclude that the bank-specific variables Total Expenditure to Total Assets, Operating Profit to Total Assets, and Provision against Loans are essential to understand the profitability of the Public Sector Banks in India. Public sector banks should pay attention to these factors and reinforce their financial results by adjusting to the sensitivity of the market and the use of total assets. The loan provision has a negative effect on its earnings, meaning that it is important to pay attention to overseeing the loans made on the balance sheet. There are no important predictors for macroeconomic variables such as WPI, GDPGR and PCNNIGR.

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