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Profitability of Indian Public and Private sector Banks - Empirical Evidence

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***Abstract:** Banking sector reforms in the last 25 years has made the Indian banking sector vibrant and strong. Banking reforms rationalized banking system by opening new private sector banks, prudential norms for quality of asset, deregulation of interest rates and digital banking. Major players in Indian banking sector are the public sector banks. Study explores fundamental profitability determinants of public and private sector banks in India. The study selected eight banks each from public and private sector banks in India for eighteen years, from year 2000- 2001 to 2017-2018.The Global banking benchmark on profitability, ROA is considered as the dependent variable. Bank specific, Industry level and Macro level Independent variables were analyzed to find out the fundamental variables significant to the profitability of banks in public and private sector. Study uses fixed effect and Pooled OLS model to explore fundamental variables determining the profitability.*

***Keywords :** Profitability, Public sector banks, Private Sector Bank, Return on Asset, Fixed Effect, Pooled OLS Model*

I. INTRODUCTION

Before independence the private sector banks in India had played a key role in the development of the Indian banking sector. After Independence, there were 566 private banks in India. The share of private sector banks in India later reduced, due to the nationalization of 14 major private banks in July 1969 and 6 private banks in April 1980. Thereafter, the share of public sector banks subsequently increased substantially in terms of number of branch network and total business.

At present, there are 18 public sector banks and 21 private sector banks. Private Banks 12 old private banks and 9 new private banks, which were started in the period after 1993-94; after the banking reforms in India. The major portion of the Indian banking sector is still controlled by public sector banks (more than 70% market share in business), with their majority ownership held by Government of India, through the business of government and government owned institutions. As compared to public sector banks, private sector banks depend on individuals, corporate and institutions for business. Private sector banks, not having any privileged government business, generate their own business from individuals, households and corporates. For the last two decades private banks in India show good performance in terms of profitability, channels and digital space. Hence the study focuses on determinants of profitability of private and public banks to compare and make suggestions for better performance of banks in India.

A. Profitability

Pandya (2014) explains the distinction between 'Profit' and 'Profitability', terms which are commonly used in the language of business. But there is a clear difference between the two terms. Profit is an absolute measure, whereas, the profitability is a relative indicator of the profit earned against the utilization of resources available in the business, as profit per employee, per total assets, per unit of sale price/output, etc. However, they are closely related, in the sense that they are interdependent and complimentary to each other. Profit refers to the amount of gain earned by the enterprise during the period while profitability is the efficiency and productivity of the business. It is the capacity of the business to make profit by the utilization of available resources. It is the ability of enterprise to generate return on resources used in the business.

II. LITERATURE REVIEW

Bodla (2006) tried to identify determinants of profitability of Indian public sector banks and found following variables, non- interest income, operating expenses, provisions & contingencies and spread having significant relationship with net profit. Though there is tremendous growth in number of foreign and private banks operating in India from year 1991 to 2004 the public sector banks continue to dominate the banking industry in terms of branch expansion and market share in business. The current study focused on the determinants of profitability of the public sector commercial banks in India covering a period of 13 years from 1991-92 to 2003-04. Kerker & Kerker (2008) analyzed profitability of Indian banks in the post liberalization period and concluded that there is no relationship on relative efficiency of bank ownership with bank deposit, whether deposit is taken as input or output. Their study examined the impact of banking reforms on individual bank's efficiency and profitability. The study used data envelopment analysis on bank-specific variables for the period 1997 to 2004.

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Dangwal & Kapoor (2012) further examined the performance of nationalized banks in India and assessed through overall profitability indices. Their study used data of 19 nationalized banks from year 2002-03to 2006-07. They analyzed the index of spread ratios, burden ratios, and profitability ratios and found that four banks had excellent performance, five achieved good and four attained fair performance.

They also evaluated profitability of different categories of commercial banks in India and causes of difference in their profitability. The study concluded that return on funds and return on advances are high in the case of private sector as well as foreign banks and very low in the case of public sector banks**.**

Uppal & Juneja (2012) measured the performance of major bank groups in India on the basis of determining factors like deposits, borrowings, advances and investments on different periods. Their study revealed that foreign banks perform much better than all other groups, whereas the performance of old private banks is disappointing. The performance of new private banks and public banks was found to be satisfactory. Nagaraju (2014) analyzed the performance of Indian public sector and private sector banks and revealed that Indian public and private banks under performed in terms of marketability and profitability. The performance of banks on profitability is relatively better than marketability. Inefficiency was better explained by ownership than size**.**

Dani (2014) studied the determinants of profitability and found that the most critical determinant variable is yield on advance. Ratio of term deposit to term liability and employee cost to total expenses were also identified as key determinants. Capital adequacy ratio, Growth in net profit, cash to deposit, debt to equity were found to be irrelevant to profitability of banks. Saini (2014) examined profitability of public and private sector banks in India and concluded that there is significant difference in profitability of public and private sector banks in India. The study revealed that there is an increasing trend for public and private sector banks in productivity and increasing trend in profitability for private sector bank. Vadrale & Katti, (2018) analyzed profitability performance of Indian public and private banks, based for data on seven indicators including spread during year 2001-2015 and found that performance of private banks was better than public banks.

The present study aims to explore the fundamental determinants of profitability of Indian public and private banks. The major objectives are to identify profitability determinants of Indian public and private sector banks and to explore fundamental determinants of profitability of Indian public and private sector banks.

III. METHODOLOGY

The data used to analyze the relationships of profitability variables are time series panel data of Public and private sector Banks in India. The panel data across the period 18 years, from year 2000-01 to 2017-18 has been analyzed. The study made an attempt to identify and explore the key determinants of profitability of public and Private Sector Banks in India.

A sample consisting of 8 banks from private sector bank group and 8 banks from public sector bank group. Private sector banks selected are ICICI Bank, HDFC Bank, Axis Bank and IndusInd Bank of New group and Federal Bank, J&K Bank., South Indian bank and Karur Vysya Bank of Old Group. Public Sector Banks selected are State Bank of India, Punjab National Bank, Bank Of Baroda, Bank Of India, Central Bank Of India, Canara Bank, Syndicate Bank, , Union Bank Of India. These Banks were selected under judgmental sampling for the study keeping in view their key role in developing banking business in private sector in India, specifically in terms of deposits and advances positions as on 31-3-18.

The data for the empirical analysis was sourced from RBI website and from the various publications of RBI (Annual reports on Trend and Progress of Banking in India and Statistical tables relating to banks in India). To explore the fundamental determinants of profitability of public and private bank groups in India, the fixed effects, Pooled OLS model has been used.

In fixed effects

$$\Pi it = \alpha i + \beta Xit + uit \qquad i = 1,\ldots,N;\ t = 1,\ldots,T, \qquad (1)$$

where, Π_{it} is Return on Assets of i_{th} bank group in t_{th} period; X_{it} is vector of k explanatory variables for i_{th} bank group in t_{th} period, $\hat{\beta}$ is parameter to be estimated and u_{it} is error term and assumed IN (0, σ^2). α_i , 1…N are constant coefficients specific to each bank groups (Baltagi, 2003).

$$ROAit = \alpha i + \beta 1\, NIMit + \beta 2\, NIIit + \beta 3\, ICit + \beta 4\, WICit + \beta 5\, WBEit + \beta 6\, BURit + \beta 7\, OPit + \beta 8\, CARit + \beta 9\, NNPAit + \beta 10\, P\&Cit + \beta 11\, GDPit + \beta 12\, REPOit + \beta 13\, CPIit + uit \qquad (3)$$

In the above specification ROA represents the dependent variable (profitability measure). The definition of explanatory variables shown in the table.

IV. RESULT AND DISCUSSION

The variables identified for the study have been explained in Table 1.

Table 1 : Variables of the Study

SNo.	variables	Definition
1	ROA	ROA= Net Profit / Total Assets (Global benchmark > 1%)
2	NIM	NIM= (Interest earned - Interest paid) / Total assets (Global benchmark >3%)

3	CAR	CAR= Capital/risk weighted assets (Global benchmark >9%)
4	BURDEN	BUR= (Noninterest income-Noninterest expenses)/total assets.
5	WBE	WBE= Wage bill / Total expenses
6	WBIC	WBIC= Wage bill/Intermediation cost
7	WBI	WBI= Wage bill/Total income
8	OPERATING PROFIT	OP=Operating profit/total assets
9	NNPA	NNPA= net NPA/ net advances (Global benchmark<3%)
10	PROV&CONTI.	PC = Provision & Cont. /total assets
11	INTERMEDIATION	IC=operating exp. / total assets.
12	NII	NII= Noninterest income / Total assets
13	REPO RATE	REPO=Rate fixed by RBI for bank.
14	CPI RATE	CPI= Consumer price Index by CSO
15	GDP RATE	GDP= GDP growth rate by CSO

Study used panel data techniques to examine the determinants of profitability. Table 2 presents the estimate of fixed effect as well as pooled OLD model for the banks in public sector.

Table 2: Determinants of Profitability of Public Sector Banks in India

Variables	Pooled OLS Model		Fixed Effect Model	
	Coefficient	t-value	Coefficient	t-value
C	-0.345229	-1.213383	-0.277040	-0.918827
NIM	3.320044	3.755584*	2.315428	2.643279*
NII	4.593715	3.899092*	3.277906	2.812353*
IC	-4.778185	-4.034150*	-3.472401	-2.969869*
WIC	0.006614	1.686359***	0.004654	0.965560
WBE	0.006844	0.741998	0.022281	2.080526**
BUR	1.267147	3.319395*	0.816547	2.154890**
OP	-2.529947	-2.886339*	-1.658304	-1.918886***
CAR	0.015775	1.313995	0.015527	1.100759
NNPA	-0.007531	-0.785748	0.001143	0.116261
PC	-0.725476	-12.33400*	-0.697241	-11.85228*
GDP	0.000549	0.086408	-0.000770	-0.121750
REPO	-0.002196	-0.152524	0.007996	0.518247
CPI	0.004350	0.585948	0.012797	1.686269***
R-Square	0.894173		0.915447	

Notes: *, ** and *** denotes significance at one, five and ten percent levels, respectively.

To examine the determinants of profitability of public sector banks, the study uses Pooled OLS and Fixed effects model. Depending on model fitness (R-square value), the Fixed effects estimation is chosen and the empirical results reveal that the NIM, NII, WBE, BUR and CPI have a positive significant impact on the Return on asset during the study period. The variables such as IC, PC and OP have a negative relationship with Return on asset and found to be statistically significant. Table 3 presents the results of the analyses.

Table 3: Determinants of Profitability of Private Sector Banks in India

Variables	Pooled OLS Model		Fixed Effect Model	
	Coefficient	t-value	Coefficient	t-value
C	0.10	0.64	0.09	0.57
NIM	0.55	4.16*	0.57	4.26*
NII	0.03	0.25	0.01	0.06
IC	-0.04	-0.40	-0.09	-0.84
WIC	0.00	-0.32	0.00	1.12
WBE	0.00	0.27	-0.01	-0.62
BUR	-0.46	(-)4.19*	-0.41	(-)3.57*
OP	0.39	3.1*	0.42	3.47*
CAR	0.01	1.67***	0.00	0.37
NNPA	0.01	0.84	0.00	0.43
PC	-0.99	(-)20.13*	-0.95	(-)16.93*
GDP	-0.01	(-)1.98**	-0.01	(-)1.68***
REPO	0.00	-0.37	-0.01	-0.85
CPI	-0.01	-0.95	-0.01	-1.46
R-Square	0.93		0.94	

Notes: *, ** and *** denotes significance at one, five and ten percent levels, respectively.

To examine the determinants of profitability of Private sector banks, the study uses Pooled OLS and Fixed effects model. Depending on model fitness (R-square value), the Fixed effects estimation is chosen and the empirical results reveal that the NIM and OP have a positive significant impact on the Return on asset during the study period. The variables such as BUR, PC and GDP have a negative relationship with Return on asset and found to be statistically significant.

Net interest margin, Operating profit, Burden, Provision and contingencies and Gross domestic product are being the important determinants of profitability of private sector banks in India.

Results found that Net Interest margin, Noninterest income, Wage bill to total expenses, Burden, Intermediation Cost, Operating Profit, Provision and Contingencies and CPI are the fundamental determinants of profitability of Public Sector Banks in India.

The study revealed that Net Interest margin, Operating Profit, Provision and Contingencies, Burden and GDP are fundamental determinants of Profitability of Private Sector Banks in India.

V. IMPLICTIONS

It is evident from the results that Public sector bank has to take steps to improve Net interest margin, Noninterest income, Operating profit, and control Burden, Wage bill to total expenses, Intermediation cost and Provision and contingencies in order to improve profitability. Private sector banks have to take steps to improve Net interest margin, Operating profit and control Burden, Provision and contingencies in order to improve profitability.

VI. CONCLUSION

Private sector banks in India have recorded very long history in banking sector since inception of Presidency Banks (Imperial Bank) in the beginning of 19 century. Public sector banks have started functioning after the nationalization of private banks in 1969 (14nos) and in the year 1980 (6nos). Banking sector reforms in India (1991) has given ways to opening of new private banks in India. The study made an attempt to explore the key bank specific, industry specific and macroeconomic determinants of profitability of public and private sector banks in India. The study revealed the fundamental variables to improve Profitability (ROA) of Public and Private sector banks in India. The Managements of respective Public and Private sector banks have to focus on their specific variables identified by the study to improve their profitability to improve their bottom line.

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