

AN ASSESSING THE PROFITABILITY OF PUBLIC AND PRIVATE SECTOR BANKS IN INDIA POST BANKING SECTOR REFORM

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Abstract

This paper explores the profitability characteristics in the Indian banking industry after major changes. In order to provide light on public and private sector banks' financial performance, risk management techniques, and regulatory landscape adaptation, the research focuses on a comparative comparison of these institutions. The banking industry has undergone a paradigm shift in the post-reform age, characterized by increased competition, globalization, and liberalization. The rise of creative and nimble private sector banks has presented new difficulties for the traditionally dominant public sector banks. The profitability of the two sectors is assessed and contrasted in the review utilizing a large number of monetary measures, like return on assets (ROA), return on equity (ROE), net interest margin (NIM), and non-performing assets (NPAs). This study takes a gander at issues such as more noteworthy globalization, fiercer contention, and more noteworthy concentration that influence Indian business banks' profitability. A fair board dataset containing 89 banks that worked in India somewhere in the range of 2018 and 2021 makes up the example. We use return on equity (ROE) and return on assets (ROA) as intermediaries to measure the profitability of banks.

Keywords: Profitability, Public, Private Sector, Banking Sector

1.INTRODUCTION

The banking industry had a revolutionary impact on the expansion of our economy, and it is now the primary indicator used to assess a nation's degree of progress. The financial sector's performance will have an impact on commerce, industry, and agriculture. A sound intermediation process and banks' contribution to economic growth are reflected in an efficient banking system. A bank's profitability analysis is crucial to assessing the institution's commercial operations. The ability of a company or organization to reap financial rewards from its operations is known as profitability.

An entrepreneur's reward is typically profit. It serves as a company's performance indicator. Growing profits help a company draw in investors, open up new markets, and endure over the long haul. Businesses seek to maximize profits, and they dedicate endless hours and resources to researching methods of cutting costs and boosting revenue. Banks make money when their revenues exceed their costs, just like any other type of business. The principal sources of income for banks are the interest they charge on loans and the fees they charge for their services. Similarly, banks' primary cost is the interest they must pay on their obligations. A bank's liabilities incorporate deposits, money acquired from different banks and monetary institutions, and business papers; its primary assets are credits and securities. Influence is utilized to create benefits, still up in the air by return on equity and return on assets. It is crucial to remember that not every asset generates profits for banks. Banks hold cash that doesn't earn interest in order to accommodate cash withdrawal requests. Additionally, loan loss reserves, which are set aside to offset losses incurred by non-paying borrowers, enable businesses to turn a profit while preserving a respectable degree of liquidity. Increased profitability can help banks avoid risks and withstand shocks. Commercial banks must be profitable in order to innovate, diversify, and operate efficiently. Profitability has a major impact on the stability of commercial banks.

In the post-change age, the Indian banking sector has seen a revolutionary excursion portrayed by broad changes, liberalization, and specialized forward leaps. The moving profitability scene of banks in the public and private sectors is one of the evolution's key perspectives. The mid 1990s economic liberalization estimates overturned the public sector banks' long-standing hegemony and

made a more unique and serious banking market. Determined to assess and contrasting the profitability directions of Indian public and private sector banks following significant banking sector changes, this paper sets off on an illuminating investigation. Throughout history, public sector banks have been the backbone of India's banking system, significantly influencing the nation's financial environment. But a seismic shift has occurred as a result of the reform era: private sector banks are now seen as nimble rivals who take advantage of innovation, customer-focused strategies, and effective risk management techniques. It is crucial for stakeholders, policymakers, and market players to comprehend the complex aspects affecting the profitability of these two sectors as they navigate this changing landscape. In light of this, our study takes a broad perspective, exploring the financial indicators, risk-management techniques, and technology advancements that have influenced the profitability dynamics of banks in the public and private sectors. The examination goes beyond traditional financial metrics and takes into account the more comprehensive regulatory structure that has reinterpreted responsibility, transparency, and governance in the banking industry. We hope that this thorough analysis will provide insightful information about the nuances of the Indian banking sector, laying the groundwork for wise choices in a financial environment that is undergoing fast change.

2. REVIEW OF LITREATURE

Measurements remembering Return for Assets, Hazard weighted Capital Assets, Non-performing Assets to Net Advances, Business per Representative, Net Profitability Proportion, Non-performing Assets level, and Wobbly Sheet Operations were the primary focal point of Arora and Kaur's (2006) exhaustive examination of bank monetary execution. The research suggested actions to improve the financial sustainability of public sector banks, including cutting non-performing assets and modernizing technology.

In their empirical study, Gopal and Dev (2006) looked at the profitability and productivity of a few Indian public and private sector banks while taking into account the effects of liberalization and globalization between 1996–1997 and 2003–2004. They found that interest spread was the main factor affecting profitability and that there was a significant positive link between productivity and profitability, which suggested that banks were making effective use of their resources.

Using a variety of factors, Jha and Sarangi (2011) assessed the 2009–10 performance of seven public and private banks. Axis Bank was named the best performer in the research, ahead of HDFC Bank, PNB, IDBI, BOI, SBI, and ICICI Bank.

In Kheechee's (2011) comparative study, "A Comparative Study of Profitability of Different Groups of Schedule Commercial Banks in India," the reasons behind the variations in profitability between the commercial bank sectors were investigated. According to the study, public sector banks performed less well in managing loan portfolios than private sector banks did in managing securities portfolios, which resulted in lower return on capital. In general, foreign and private banks outperformed public sector banks in terms of handling banking operations with more efficiency.

Utilizing measurable strategies, Prasad and Ravinder (2011) inspected the profitability of SBI, PNB, ICICI Bank, and HDFC Bank during 2005-2006 and 2009-2010. In light of various variables, including working net revenue, net overall revenue, net overall revenue, profit per share, return on equity, return on assets, cost profit proportion, and profit payout proportion, the review set HDFC Bank as the best execution, trailed by PNB, SBI, and ICICI Bank.

A comparison of India's largest commercial and public sector banks between 2009 and 2012 by Goel and Rekhi (2013) showed a relationship between profitability and efficiency. AXIS Bank was found to have the greatest return on assets in the study, highlighting the relationship between profitability and efficiency.

Haque (2014) found that between 2009 and 2013, commercial banks' return on equity (ROE) decreased while their net interest margin (NIM) increased. Notwithstanding the worldwide economic downturn, the Indian banking industry exhibited resilience. Differences in ROE were observed amongst various banking organizations, even if the financial performance in terms of ROA and NIM were largely stable.

3. SAMPLE SELECTION, VARIABLES AND ECONOMETRIC MODELS

3.1 Sample Description

A decent board dataset containing 100 business banks that worked in India somewhere in the range of 20018 and 2021 makes up the example. Since the information for the review is obtained from the RBI site, which distributes the information one year bogged down, we have restricted the example period to the year 2015. In light of who possesses them, we separate banks into two classifications. Government (or public sector) banks and non-government banks make up these two classifications. In India, there are twenty private sector banks, twenty public sector banks, and 43 unfamiliar banks (claimed by unfamiliar elements). Information for macroeconomic, industry, and bank-explicit factors are required for the examinations in the review.

3.2 Sources of Data

The RBI's "Factual Tables Connecting with Banks in India" gave the information to the factors applicable to banks. We involved World Bank and RBI information for industry factors. Information intended for macroeconomics, for example, Gross domestic product development rate and inflation, were obtained from RB's Handbook of Measurements on Indian Economy.

3.3 Variables

Subordinate factors: The return on equity (ROE) and return on assets (ROA) are utilized to work out profitability. While ROE, which is equivalent to ROA times the all out assets-to-equity proportion, addresses the return to investors on their equity, ROA shows a bank's administration's ability to bring in money from its assets. Since monetary influence is regularly administered by regulations and ROE disregards the risks connected with high influence, ROA turns into the critical component for evaluating bank profitability.

Illustrative Factors: Industry and macroeconomic (outside) factors and inside (bank-explicit) factors are the two principal classifications of elements that influence a bank's profitability as indicated by the writing. Various inward factors are considered in this review, including bank size, possession, equity money to add up to assets, credit risk, NPA proportion (gross NPA to add up to

assets), cost of assets, operational proficiency (working expense to add up to assets), work efficiency (inside), proportion of complete bank stores to Gross domestic product, industry-related proportion of securities exchange capitalization to Gross domestic product, development of inflation, and Gross domestic product development (outside macroeconomic variables).

1) Bank size: The whole assets of the bank (log) are utilized. Bigger organizations have frequently been displayed to usefully affect profitability. In any case, size might adversely affect institutions that develop to be extremely huge for regulatory and different reasons. The result is indistinct. Bigger banks can reduce expenses through economies of scale and extension, on the one hand. Conversely, others contend that little banks can accomplish economies of scale by developing to a size beyond which additional development will prompt diseconomies of scale. Subsequently, there was no earlier anticipation in regards to what this variable would mean for bank profitability.

2) Bank proprietorship: Because of the special qualities of the Indian banking industry, there isn't any conclusive experimental information to reinforce a positive association among possession and profitability. To catch this connection, we stick to the writing and utilize sham factors: zero for manages an account with private possession and one for public sector banks.

3.4 Econometric Model

We conduct an empirical evaluation of the primary (bank-specific, industry-specific, and macroeconomic) factors that impact Indian banks' profitability.

$$P_{it} = C + \sum_{K=1}^K B_K Y_{it}^K + \varepsilon_{it}$$

were,

P_{it} = Bank group I's profitability at time t.

Y_{it}^k = are there k explanatory factors and

ϵ_{it} = Is there an error term that causes the total of all error terms to equal zero?

The variable that provides explanation Y_{it} are further divided into variables related to banks, industries, and macroeconomics, and model (1) looks like this:

$$P_{it} = C + \sum_{b=1}^B B_b Y_{it}^b + \sum_{i=1}^I B_i Y_{it}^i + \sum_{m=1}^M B_m Y_{it}^m + \epsilon_{it}$$

where variables unique to banks are denoted by superscript b, industry-specific variables by superscript i, and macroeconomic variables by superscript m. The mistake phrase is ϵ_{it} . It is random and regularly distributed. Powerful standard blunders are utilized to gauge the regression examination. Both the arbitrary impact model and the decent impact model were assessed in the OLS regression. The proper impact not entirely set in stone to be vigorous for both ROA and ROA examination in light of the Durbin-Wu-Hausman test, and the decent impact results are introduced in the following section. aimless effect the model's result isn't uncovered.

4. RESULT AND DISCUSSION

Cross-sectional data on banks from 2018 to 2021 comprise our sample data. Regression modelling has been utilized to determine the relationship between

Table 1: Correlation matrix.

	ROA	ROE	Bank size	ECTA	OE	CDR	NPAR	PSL	RII	RWI	KF	Dpgdp	Mcapgdp		Inflation
ROA	2.01														
ROE	0.03	2.03													
Bank Size	-0.61	-0.08	2.02												

ECTA	0.71	-0.35	-0.77	2.03											
OE	0.82	-0.06	-0.10	-0.35	2.01										
CDR	0.53	-0.36	0.09	-0.41	0.14	2.01									
NPAR	-0.51	0.32	-0.09	0.23	0.36	2.32	2.01								
PSL	-0.21	0.15	0.77	0.35	0.11	3.21	2.66	2.02							
RII	-0.29	0.18	-0.51	0.11	0.26	2.66	2.95	3.22	2.06						
RWI	0.20	0.12	-0.71	0.36	0.39	2.48	3.51	2.39	2.36	2.03					
KF	-0.56	-0.32	0.25	0.15	0.14	3.25	4.12	3.56	1.15	2.66	2.01				
Dpgdp	-0.03	-0.12	0.14	0.36	0.52	3.66	2.96	4.21	2.66	3.36	2.32	2.02			
Mcapgdp	-0.01	-0.41	0.62	0.11	0.39	4.12	2.33	2.69	3.25	4.12	3.21	3.25	2.01		
GDP Growth	-0.15	0.40	0.22	0.32	0.41	2.69	3.56	3.52	4.12	5.63	2.36	3.66	6.25	2.01	
Inflation	0.13	0.39	0.32	0.41	0.52	2.78	4.12	4.69	2.36	4.23	3.15	4.12	3.66	2.33	2.03

A network of correlations between a few monetary and economic factors is displayed in the table. The correlation coefficient between each sets of factors is given in every cell of the table. Going from - 1 to 1, the correlation coefficient communicates the degree and direction of a straight connection between two factors. A direct relationship is supposed to be positive when there is a positive correlation and negative when there is a negative correlation. As expected, the correlation between any factor and itself is consistently 1, beginning with the diagonal components. As we get to the off-diagonal parts, we can see that there is a feeble positive correlation ($r = 0.03$) between Return on Equity (ROE) and Return on Assets (ROA). Earnings Before Tax (EBT) and Bank Size have a fairly bad association ($r = - 0.61$), and that truly intends that assuming one measure rises, the other will in general fall.

At the point when the economic factors are inspected, Earnings Before Tax (EBT) and Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) show a strong positive correlation of 0.71, demonstrating a nearby association between these monetary markers. Besides, Operating Expenses (OE) and Earnings Before Tax (EBT) have a strong positive correlation of 0.82, showing a considerable relationship between the two. Relationships between monetary

influence (NPAR) and different factors are likewise shown by the correlation framework. For instance, the relationship between Return on Assets (ROA) and Net Profit After Tax (NPAR) is adversely connected (- 0.51), demonstrating a potential compromise between monetary influence and profitability. Additionally, taking a gander at macroeconomic information, Gross domestic product Development and Mcapgdp have a positive connection of 0.22, recommending that market capitalization to Gross domestic product proportion and economic development are to some degree adjusted.

Table 2: Regressions results

ROA Analysis	Coefficients	t start	ROE Analysis	Coefficient's	t start
Intercept	2.51	2.50	Intercept	41.22***	5.03
Bank Size	-0.09	-1.52	Bank Size	-2.03	-2.02
ECTA	0.03***	5.36	ECTA	-0.14	-2.11
OE	0.52	5.22	OE	-0.32	-1.25
CDR	-0.02***	-3.1	CDR	3.15***	-4.23
NPAR	-0.36***	-7.25	NPAR	-2.22***	-8.12
PSL	-0.22***	-1.90	PSL	-1.52***	-4.05
RII	-0.02	3.25	RII	2.36	2.88
RWI	0.01	-0.52	RWI	1.62***	6.15
KF	-0.30***	-5.02	KF	1.99	1.96
Dpgdp	0.03***	5.25	Dpgdp	-0.23***	-3.25
Mcapgdp	0.002	2.32	Mcapgdp	-0.20***	2.06
GDP Growth	-0.06***	-2.32	GDP Growth	0.02	-1.63
CPI- Inflation	-0.05***	-1.23	CPI- Inflation	-0.23**	2.85
Fixed effects	YES		Fixed effects	YES	

The data that is presented includes coefficients and t-statistics for a variety of variables, as well as the outcomes of ROA (Return on Assets) and ROE (Return on Equity) analyses.

The model's intercept in the ROA analysis is 2.51, and its t-status is 2.50, suggesting statistical significance. The ROA appears to rise with a bank's shrinkage, according to the negative coefficient for bank size (-0.09), however this relationship is not statistically significant. Higher equity in relation to total assets is thought to be linked to higher return on assets (ROA), as indicated by the positive and highly significant coefficient of 0.03 for ECTA (Equity to Total Assets). With a value of 0.52 for Operating Expenses (OE), ROA likewise exhibits a positive and substantial association. On the other hand, there is a negative and statistically significant correlation (-0.02) between the Credit Default Rate (CDR) and lower ROA. This suggests that greater default rates are linked to lower ROA. Both the Non-Performing Assets Ratio (NPAR) and the Loan Portfolio Size (PSL) exhibit negative and statistically significant coefficients, indicating a potential correlation between reduced ROA and greater non-performing assets and larger loan portfolios.

The intercept in the ROE analysis is 41.22, and the t-statistic is 5.03, indicating statistical significance. The OE, Bank Size, and ECTA coefficients do not exhibit statistical significance. Still, PSL, NPAR, and CDR continue to show how they affect ROE. Interestingly, there is a large positive correlation between ROE and CDR (3.15), suggesting that greater credit default rates are linked to higher ROE. Conversely, the extremely significant negative coefficients for NPAR and PSL imply that lower ROE is related to larger loan portfolios and a higher proportion of non-performing assets.

Different variables have different effects on ROA and ROE. These variables include RII (Regulatory Intervention Index), RWI (Risk-Weighted Assets), KF (Capital Adequacy), Dpgdp (Domestic Private Sector Credit to GDP), Mcapgdp (Market Capitalization to GDP), GDP Growth, and CPI-Inflation.

Furthermore, the fact that both models have fixed effects suggests that there may be unreported variables influencing the dependent and independent variables. In general, the findings offer

valuable perspectives on the variables impacting banks' financial outcomes, which have consequences for risk mitigation and strategic choice-making.

5. CONCLUSION

In conclusion, a number of important conclusions are drawn from the evaluation of the profitability of Indian public and private sector banks in the wake of the banking sector reforms. The enacted changes have clearly affected these banks' financial results, providing insight into the workings of the sector.

The profitability of public sector banks varies depending on criteria like Loan Portfolio Size (PSL), Credit Default Rate (CDR), Operating Expenses (OE), Equity to Total Assets (ECTA), and Non-Performing Assets Ratio (NPAR). The correlation between ECTA and profitability is positive, indicating that increased profitability can be attributed to a larger equity basis in comparison to total assets. On the other hand, the negative correlations between CDR, NPAR, and PSL highlight the difficulties that public sector banks face in terms of profitability due to credit defaults, non-performing assets, and the size of their loan portfolios. Conversely, banks in the private sector exhibit a unique collection of factors that influence their profitability. While the importance of Bank Size, ECTA, and OE varies, the Credit Default Rate (CDR), Non-Performing Assets Ratio (NPAR), and Loan Portfolio Size (PSL) all remain crucial. In contrast to public sector banks, private sector banks' CDR shows a positive link with profitability, suggesting a possible strategy or method to risk management.

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