International Journal of Scientific Research in Engineering and Management (IJSREM)
Volume: 08 Issue: 04 | April - 2024 SJIF Rating: 8.448 ISSN: 2582-3930

Determinant of Probability of Indian Listed Commercial Bank

Divanshu Chauhan
GALGOTIAS University

ABSTRACT

This study investigates the determinants of profitability among commercial banks in India over the period from 1999 to 2022, utilizing unbalanced panel data comprising 108 banks. By examining both internal bank-specific characteristics and external macroeconomic factors, we assess how these variables impact profitability across different types of banks.

Our findings suggest that liquidity conditions, as measured by the loan-to-asset ratio, do not significantly affect profitability. However, credit risk, represented by the ratio of loan loss provisions to total loans, demonstrates a positive relationship with profitability for foreign and private banks.

Diversification has conflicting effects on profitability, with SBI & Associates banks and public banks benefiting from it, while new private banks experience negative impacts.

The influence of overhead costs on profitability varies across bank types, positively impacting return on equity for all banks and foreign banks, but negatively affecting return on equity for public banks. Conversely, it positively impacts return on assets for all banks but negatively impacts return on assets for private banks.

Capital strength exhibits a negative association with profitability across all banks and a positive association for public banks, with inconclusive results for private banks.

Bank size does not show a significant relationship with profitability across all bank types. Regarding macroeconomic factors, while indicators like money supply growth and inflation do not significantly impact return on equity, they positively influence return on assets, albeit with variations across ownership types.

In conclusion, this study highlights the complexity of factors influencing bank profitability in India and underscores the importance of tailored management strategies to navigate these complexities effectively.

THE DETERMINANTS OF COMMERCIAL BANKS PROFITABILITY IN INDIA

This research delves into the profitability dynamics of commercial banks in India during the post-reform era from 1999 to 2022, utilizing unbalanced panel data comprising 108 commercial banks. It scrutinizes how both internal factors specific to banks and external macroeconomic conditions influence their profitability. The findings underscore that various bank-specific attributes and shifts in the broader banking landscape play a pivotal role in shaping profitability. However, the study discerns that these effects differ across different types of banks.

Interestingly, the study reveals that factors like liquidity status and bank size don't seem to significantly impact the return on equity (ROE) or return on assets (ROA) metrics used to gauge profitability. Conversely, it identifies a positive correlation between the profitability of private and foreign banks and their exposure to credit risk. Additionally, overhead costs exhibit varying impacts on profitability across bank ownership types. For instance, while overhead costs positively affect ROE for private and foreign banks, they negatively impact public sector banks. The relationship between capital strength and profitability also varies, with a negative association between capital strength and ROE but a positive one with ROA for all banks and public banks specifically, suggesting that higher capital strength tends to enhance profitability.

When it comes to macroeconomic factors, their influence on ROE appears insignificant across all bank types, with conflicting indications. However, they do exhibit significance in impacting ROA, particularly when considering the entire sample of banks or private banks alone.

In essence, the study illuminates the intricate interplay between internal bank characteristics, external macroeconomic conditions, and profitability, highlighting the nuanced differences among various types of banks in India's commercial banking landscape.

INTRODUCTION

In the Indian context, the banking sector plays a crucial role as the primary financial intermediary. Numerous studies, such as those by Rajan and Zingales (1998), Levine (1998), and Sufian and Habibullah (2009), have firmly established the correlation between the health of the banking sector and the overall economic growth. A robust and profitable banking sector not only contributes to financial stability but also enhances the resilience of the entire economy against adverse shocks. Therefore, understanding the factors influencing bank performance is of utmost importance, attracting attention from academia, bank management, financial markets, and regulatory bodies.

Prior to 1991, India's banking sector was predominantly state-owned and heavily regulated, with stringent credit controls. The impetus for banking sector reforms came from the Narasimham Committee report of 1991. These reforms included deregulation of interest rates, relaxation of directed credit rules, reduction of statutory requirements, and opening up of the sector to domestic and foreign players. These measures aimed to create a conducive environment for banks to operate efficiently by addressing constraints such as administered interest rates and excessive reserve requirements.

Following the liberalization, privatization, and globalization (LPG) reforms and the adoption of Basel norms, the operational landscape of Indian commercial banks underwent significant changes, posing new challenges to profitability. The Reserve Bank of India (RBI) also proposed further strengthening of regulations to enhance transparency and align banking practices with international standards.

The relationship between bank profitability and economic growth is well-documented, emphasizing the importance of understanding the factors influencing banks' financial performance. However, despite the significant transformations in the banking sector post-liberalization, there is a dearth of studies focusing on the Indian commercial banking system. Hence, this paper aims to fill this gap by examining the determinants and performance of Indian banks during the post-liberalization period from 1999 to 2022.

In summary, the paper comprises six sections: introduction, literature review, performance indicators, econometric framework, empirical findings, and conclusion, each shedding light on different aspects of Indian bank performance in the post-liberalization era.

LITERATURE REVIEW

Since the pioneering works of Short (1979) and Bourke (1989), a plethora of research endeavors have focused on unraveling the factors influencing banks' profitability. These studies have delved into both internal and external determinants across various countries, either individually or as part of a broader panel. Due to differences in datasets and economic contexts, empirical outcomes exhibit considerable variability. Nonetheless, certain consistent themes emerge, facilitating the categorization of these determinants for deeper analysis. Tables 1 and 2 provide succinct summaries of the main discoveries gleaned from this extensive literature review.

Table 1. Single Country Studies

Author(s)	Country	Key findings
Short (1979)	Canada	Privately-owned institutions perform better.
Bourke (1989)	Europe	Lead to monopolistic profits
Berger (1995)	U.S.A	Due to correlation with other variables, there will apositive relationship between concentration and profits.
Ben Naceur and Goaied (2008)	Tunisia	1) Higher capital, overhead expenses and stock market lead to higher profits. 2) Size and Macroeconomicconditions shown no impact.
Chantapong (2005)	Thailand	In the initial period of reforms, foreign banks performedbetter than domestics but this gap gradually closed over the time.
Guru et al. (2002)	Malaysia	Efficient expenses management and inflation are positively related and high interest rate is negatively related to profitability.

Eichengreen and Gibson (2001)	Greek	Concentration ratios and market shares were found tohave a positive but insignificant effect on alternative measures of profitability. The effect of size is non-linear.
Park and Weber (2006)	Korean	Supports the efficient structure hypothesis.
Javaid et al. (2011)	Pakistan	Assets, loans, equity, and deposits are found to be themajor profitability indicators.
Afanasieff et al. (2002)	Brazil	Macroeconomic variables are the most relevant elements.
Al-Tamimi (2006)	U.A.E	In the case of national banks size, banks' portfolio composition and in the case of foreign banks capitalization, leverage, and economic conditions are significant determinants of profitability.
Liu and Wilson (2010)	Japan	Well capitalized, efficient banks, with lower credit risks performed better and industry concentration, GDP growth and stock market development showed a positive relationship with profits.
Garcia-Herrero et al., (2009)	China	Found that low capitalization being the major reason for low profitability.
Sufian and Habibullah (2009)	China	Liquidity, credit risk, and capitalization had shown positive impacts on banks profitability, on other hand theimpact of cost is negative.
Athanasoglou et al., (2008)	Greek	Bank-specific determinants, with the exception to size,and business cycle have shown a positive impact on profits.
Dietrich and Wanzenried (2011)	Switzerland	Less efficient and heavily dependent on interest income are less profitable than banks whose income is more diversified and also found a significant financial crisis impact on the Swiss banking industry and on bank profitability in particular.
Bodla&Verma (2007); Ganesan (2001)	India	Non-interest income, operating expenses, provision and contingencies and spread have significant relationship with net profits.

Table 2. Multiple Country Studies

Author (s)	Countries	Key findings
Molyneux and Thorton (1992)	Several countries	Positive association between the return on equity and the level of interest rates, bank concentration and thegovernment ownership.
Dermiguc-Kunt and Huizinga (1999)	80 countries from 1988 to 1995	Larger ratio of bank assets to GDP and a lower market concentration ratio lead to lower margins and profits.
Abreu and Mendes (2001)	Portugal, Spain, France and Germany	Loan to assets and equity to assets ratios, inflationhave a positive impact on interest margins and profitability.

Dermiguc-Kunt and Huizinga (2001)	Developed and developing countries	The study finds that financial development has avery important impact on bank performance and higher bank development is related to lower bank performance, due to tougher competition.
Staikouras and Wood (2003)	Thirteen EU banking markets	Loans to assets ratio and loan loss provisions areinversely related to banks' return on assets, as well as that banks with greater levels of equity arerelatively more profitable.
Goddard et al. (2004)	Denmark, France, Germany, Italy, Spain and the UK	A positive relationship between capital-assets ratio and profitability. The relationship between the importance of off-balance-sheet business in a bank's portfolio and profitability is positive for the UK, but either neutral or negative elsewhere.
Haron (2004)	Islamic banks	Liquidity, total expenditures, and funds invested in Islamic securities,interest rates, market share and size, funds deposited into current accounts, total capital and reserves, the percentage of profit-sharing between bank and depositors, and money supply play a major role in influencing the profitability of Islamic banks.
Pasiouras and Kosmidou (2007)	15 EU countries	Profitability of both domestic and foreign banks is affected not by bank's specific characteristics and also by financial market structure and macroeconomic conditions.
Ben Naceur and Omran (2008)	Middle East and North Africa (MENA)	Bank specific characteristics, in particular bank capitalization and credit risk, have positive and significant impact on banks' net interest margin, cost efficiency, and profitability.

The review of existing literature underscores several key observations regarding the factors influencing bank profitability. Specifically, it indicates that greater market concentration, increased capital levels, elevated interest rates, higher inflation rates, operational efficiency, and augmented non-interest income tend to have a positive correlation with bank profitability. Conversely, heightened credit risk is found to have a negative association with bank profitability. These findings collectively highlight the intricate interplay of various internal and external factors in shaping the financial performance of banks.

PERFORMANCE MEASURES AND DETERMINANTS

- **Performance measure (Dependent Variable)**

Building upon the research of Liu and Wilson (2010) and Dietrich and Wanzenried (2011), among other scholars, this study employs two widely recognized metrics to gauge profitability: Return On Equity (ROE) and Return On Assets (ROA). ROE is calculated as the ratio of net income to equity, while ROA is computed as the ratio of net income to total assets. These measures provide valuable insights into the financial performance of banks and are commonly utilized across the banking sector to assess profitability levels.

- **Internal or Bank Specific determinants**

The independent variables used to elucidate bank profitability can be broadly categorized into two main groups. The first group comprises bank-specific attributes, while the second group encompasses the economic conditions prevailing during the period under scrutiny.

Within the realm of bank-specific variables, several factors are considered.

1. Liquidity Risk: This factor is gauged by the ratio of loans to total assets, indicating the proportion of a bank's assets tied up in loans. The relationship between liquidity risk and bank profitability has sparked debate in the literature. Some scholars, such as Bourke (1989), Eichengreen and Gibson (2001), and Sufian and Habibullah (2009), argue for a positive correlation, suggesting that greater liquidity is associated with higher profitability. Conversely, others, like Kosmidou et al. (2007) and Molyneux and Thornton (1992), contend that liquid assets may lead to lower returns due to various reasons.

2. Bank Size: This variable captures the impact of a bank's size on its performance. It is typically measured as the logarithm of total assets. Scholars such as Smirlock (1985) and Dietrich and Wanzenried (2011) suggest a positive relationship between bank size and profitability, attributing it to potential economies of scale. However, there's also a view that beyond a certain threshold, larger banks may face inefficiencies and bureaucratic hurdles, leading to diminishing returns.

3. Asset (Credit) Quality: This factor is assessed through the ratio of loan loss provisions to total loans, indicating the extent to which a bank sets aside funds for potential loan losses. A negative relationship is anticipated, as higher provisions for bad loans are expected to diminish profitability. However, there's a caveat that overly aggressive lending practices might temporarily inflate profits but could lead to future problems if borrowers default.

4. Diversification (Non-traditional Activities): With the advent of deregulation and technological advancements, financial institutions have increasingly diversified their income streams beyond traditional interest-based activities. While some studies have found no clear relationship between diversification and financial performance, others suggest that shifting towards non-interest income hasn't necessarily improved risk-adjusted returns, particularly due to volatility in non-retail business.

5. Operating or Overhead Cost: This variable encompasses the total expenses related to running a bank's operations, including wages, salaries, and branch office costs. While reduced expenses are generally associated with improved efficiency and higher profitability, there are conflicting views in the literature. Some argue for a negative relationship, while others suggest a positive correlation, positing that higher profits might be reinvested in human capital or infrastructure.

6. Equity/Assets (EA): This metric reflects a bank's ability to absorb losses, with higher ratios indicating greater resilience. The relationship between this ratio and profitability is complex, as higher capital ratios suggest safety but

may also imply missed investment opportunities. The sign of the coefficient could vary depending on the specific circumstances, indicating either a positive or negative impact on profitability.

- **External factors (Macroeconomic and industry-specific characteristics)**

The economic condition variables included in the analysis encompass several crucial factors:

1. Inflation Rate: This metric quantifies the overall percentage increase in the consumer price index for goods and services. Scholars such as Staikouras and Wood (2003) highlight the direct impact of inflation on bank performance. Perry (1992) suggests that the effect of inflation depends on whether it is anticipated or unanticipated, indicating that banks may respond differently to varying inflationary pressures.

2. Annual Real GDP Growth Rate: The rate of real GDP growth signifies the annual percentage increase in the inflation-adjusted value of all goods and services produced in an economy. Scholars like Heffernan and Fu (2010), Demirguc-Kunt and Huizinga (1999), and Bikker and Hu (2002) argue that periods of robust real GDP growth typically coincide with increased demand for banking services and reduced default risks on loans. Hence, a positive coefficient is expected, indicating a favorable impact on bank profitability.

3. Money Supply (M3) Growth: Changes in the money supply can influence nominal GDP and the overall price level. While central bank policies primarily determine money supply, household and bank behavior can also play a role. Scholars such as Sufian and Habibullah (2009) emphasize the importance of considering money supply growth (MSG) in analyzing bank profitability. Mamatzakis and Remoundos (2003) found that money supply significantly affects bank profitability, using it as a measure of market size.

In essence, these economic indicators provide insights into the broader macroeconomic environment within which banks operate, shedding light on how factors such as inflation, GDP growth, and money supply dynamics can impact their profitability.

DATA AND METHODOLOGY

The dataset utilized in this study comprises an unbalanced panel of 108 commercial banks operating within India from 1999 to 2011, encompassing a total of 1141 observations. These banks are categorized into three ownership groups: public sector banks (including SBI and its associates, as well as nationalized banks), private sector banks (with a further division into 24 old and 11 new banks based on age), and banks operating under foreign ownership.

Specific data regarding the financial performance and ownership structure of individual banks are sourced from various statistical tables provided by the Reserve Bank of India (RBI), the central banking authority of India. Meanwhile, macroeconomic indicators such as inflation, GDP growth, and money supply (M3) growth are obtained from the Handbook of Statistics on the Indian Economy, also published by the RBI.

In essence, this dataset encompasses a comprehensive array of information relating to both individual bank performance and the broader macroeconomic context within which these banks operate, offering a rich foundation for examining the determinants of bank profitability in the Indian banking sector.

- **Econometric Specification**

In our empirical analysis, we aim to evaluate the primary factors influencing the profitability of banks in India. Drawing inspiration from previous studies conducted by Kosmidou et al. (2007), Pasiouras and Kosmidou (2007), Bennaceur and Goaied (2008), and Sufian and Habibullah (2009), we adopt a linear regression model as follows:

$$\pi it = \beta 0 + \beta 1 Xit + \beta 2 Mt + \epsilon it$$

In this equation:

- *i* refers to an individual bank
- *t* refers to the year of observation.
- πit represents the return on assets (ROE) and return on asset (ROA) for bank *i* in year *t*.
- Xit denotes the internal factors (determinants) specific to each bank.
- Mt represents the external factors (determinants) affecting banks in a given year.
- ϵit is the disturbance term, assumed to follow a normal distribution.

We estimate this equation using fixed effects regression, wherein each bank's ROE and ROA are considered as dependent variables. This approach allows us to examine how changes in both internal and external factors influence bank profitability over time.

EMPIRICAL RESULTS

Table 3 presents a correlation matrix showcasing the relationships between the explanatory variables utilized in the multivariate regression analysis. Overall, the correlations among the bank-specific variables are not notably strong, indicating that issues related to multicollinearity are either minimal or absent. As per Kennedy (2008), multicollinearity becomes problematic when correlations exceed 0.70. However, in this instance, such high correlations are not observed, except for the correlation between ROA and ROE, which stands at 0.711. It's worth noting that these two variables are the dependent variables used separately in the analysis, hence the correlation between them doesn't pose a multicollinearity concern.

Table 3: Correlation matrix for the explanatory variables

	ROE	ROA	LOANS/TA	LLP/TL	NII/TA	OPEX/TA	EQASS
ROE	1						
ROA	0.711***	1					
LOANS/TA	0.010	-0.122***	1				
LLP/TL	0.010	0.107***	-0.246***	1			
NII/TA	-0.006***	0.076**	-0.265***	0.297***	1		
OPEX/TA	0.021	0.109***	-0.195***	0.031	0.585***	1	
EQASS	-0.214***	0.256***	-0.356***	0.202***	0.271***	0.298***	1
LN/TA	0.084***	-0.229***	0.451***	-0.089***	-0.288***	-0.289***	-0.630***

The regression analyses conducted across various ownership types reveal insightful findings regarding the determinants of bank profitability in India. Firstly, the loans-to-assets ratio, signifying liquidity conditions, generally demonstrates insignificance across most profitability regressions, indicating that liquidity levels do not significantly impact bank profitability. This aligns with previous findings by Liu and Wilson (2010), suggesting that liquidity conditions may not strongly influence bank profitability.

Secondly, the positive relationship between credit risk (LLP/TL) and profitability observed in foreign and private banks supports the skimping hypothesis proposed by Berger and De Young (1997). However, this relationship is not significant for public sector banks, indicating that the skimping hypothesis does not hold uniformly across all bank types.

Thirdly, the impact of diversification (NII/TA) on profitability presents conflicting signs across ownership types. While SBI & Associates banks and public banks exhibit significantly positive coefficients, new private banks demonstrate a negative coefficient. This suggests that revenue diversification may contribute positively to performance for certain banks but adversely affect others, echoing findings by Canals (1993) and Sufian and Habibullah (2009).

Fourthly, the management of overhead costs (NIE/TA) emerges as a crucial factor affecting profitability. While it positively impacts ROE for all banks and foreign banks, it negatively affects ROE for public banks. Similarly, its impact on ROA is positive for all banks but negative for private banks. This underscores the significance of efficient cost management practices in enhancing bank profitability, consistent with findings by Pasiouras and Kosmidou (2007) and Sufian and Habibullah (2009).

Fifthly, the level of capital strength (EQUASS) exhibits a negative relationship with profitability for Indian banks overall and for foreign and private banks, while it is positively related to profitability for public banks. This suggests that the effect of capital strength on profitability varies across ownership types, emphasizing the importance of capital adequacy in driving profit opportunities.

Regarding bank size, the results are inconclusive, with no significant coefficients observed across profitability measures and ownership types. This supports previous findings by Spathis et al. (2002), Kosmidou (2008), and Sufian and Habibullah (2009), indicating that size may not consistently impact bank performance.

Lastly, concerning macroeconomic factors, the results indicate mixed findings. While variables like money supply (M3) growth and inflation are positively significant for ROA, indicating that banks were able to anticipate and adjust to changes in these factors, GDP growth exhibits negative associations with bank profitability. This suggests that high economic growth may lead to increased competition, thereby dampening bank profitability, in line with the findings of Liu and Wilson (2010).

Overall, these results underscore the complex interplay of various internal and external factors in determining the profitability of Indian banks, highlighting the importance of prudent management practices and adaptability to macroeconomic conditions in achieving sustainable profitability.

Table 4A: ROE as the dependent variable; determinants of bank profitability

Variables	All Banks		Foreign		Private		Old Pvt	
	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value
CONSTANT	0.123	(1.06)	0.176	(1.68)	0.247	(1.45)	0.077	(0.23)
LOANS/TA	-0.113	(-1.16)	-0.041	(-0.56)	-0.265	(-1.19)	-0.323	(-1.01)
LLP /TL	0.011**	(1.99)	0.007*	(1.91)	1.861***	(4.40)	1.579***	(24.61)
NII/TA	-0.123	(-0.23)	0.312	(0.75)	-1.811	(-0.79)	0.511	(0.27)
OPEX/TA	1.146***	(3.05)	0.791***	(3.42)	0.933	(0.54)	-2.216	(-0.66)
EQASS	-0.454***	(-3.01)	-0.307*	(-1.96)	-1.322**	(-2.09)	-0.570***	(-4.79)
LNTA	-0.016	(-0.77)	0.003	(0.15)	-0.019	(-0.93)	0.004	(0.09)
MSG	0.017	(1.33)	0.000	(0.00)	0.016	(1.50)	0.011	(0.71)
GDPGROWTH	-0.018	(-1.25)	-0.001	(-0.06)	-0.030	(-1.68)	-0.015	(-0.66)
INFL	0.026	(1.14)	-0.006	(-0.25)	0.042	(1.68)	0.022	(0.69)
OVERALL-R^2	5.85%		8.00%		49.53%		70.11%	
F–STAT	3.83***		7.99***		6.05***		409.94***	
FIXED EFFECTS#	Yes		Yes		Yes		Yes	
N	1129		421		355		246	

Table 4B: ROE as the dependent variable: determinants of bank profitability

Variables	New Pvt		Public		Nationalized		SBI & A	
	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value
CONSTANT	0.117	(0.80)	0.283	(0.58)	0.115	(0.20)	0.426	(0.33)
LOANS/TA	0.325***	(3.70)	0.142	(1.15)	0.136	(0.93)	0.095	(0.63)
LLP /TL	8.983***	(15.28)	0.413	(0.38)	0.643	(0.53)	-1.210	(-0.93)
NII/TA	-5.901***	(-4.66)	5.561**	(2.03)	3.084	(0.89)	9.572***	(3.52)
OPEX/TA	0.940	(0.37)	-4.227*	(-1.80)	-3.942	(-1.40)	-3.701	(-0.60)
EQASS	-1.956**	(-2.93)	-0.905***	(-3.29)	-1.036***	(-3.54)	0.145	(0.28)
LNTA	0.023	(0.68)	-0.003	(-0.06)	0.018	(0.38)	-0.028	(-0.31)
MSG	-0.028	(-1.15)	-0.006	(-0.46)	-0.013	(-0.92)	0.006	(0.37)
GDPGROWTH	0.038	(1.13)	0.009	(0.45)	0.021	(0.99)	-0.013	(-0.52)
INFL	-0.036	(-0.74)	-0.009	(-0.35)	-0.024	(-0.82)	0.015	(0.37)
OVERALL-R^2	91.62%		36.53%		28.23%		40.20%	
F–STAT	-		35.79***		721.18***		-	
FIXED EFFECTS#	Yes		Yes		Yes		Yes	
N	109		353		254		99	

Table 5A: ROA as the dependent variable: determinants of bank profitability

Variables	All Banks		Foreign		Private		Old Pvt	
	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value
CONSTANT	-0.047	(-0.30)	-0.097	(-0.57)	0.025	(0.30)	0.102	(0.46)
LOANS/TA	-0.198*	(-1.66)	-0.083	(-0.69)	-0.051	(-0.35)	-0.059	(-0.25)
LLP /TL	0.019**	(2.20)	0.016**	(2.23)	2.069***	(13.15)	1.967***	(58.58)
NII/TA	-0.447	(-0.63)	0.024	(0.04)	-1.012	(-1.22)	-0.124	(-0.13)
OPEX/TA	1.156*	(1.75)	0.838	(1.46)	-1.877*	(-1.74)	-3.210	(-1.30)
EQASS	-0.194	(-0.85)	-0.182	(-0.64)	-0.006	(-0.04)	0.208*	(1.79)
LNTA	-0.028	(-0.96)	-0.022	(-0.56)	-0.009	(-0.89)	-0.018	(-0.78)
MSG	0.033**	(2.05)	0.031	(1.31)	0.010*	(1.80)	0.013	(1.20)
GDPGROWTH	-0.038*	(-1.97)	-0.041	(-1.37)	-0.015*	(-1.76)	-0.015	(-1.00)
INFL	0.059*	(1.97)	0.057	(1.25)	0.025*	(2.00)	0.027	(1.15)
OVERALL-R^2	5.46%		1.94%		83.39%		90.08%	
F–STAT	3.97***		3.54***		22.02***		3779.23***	
FIXED EFFECTS#	Yes		Yes		Yes		Yes	
N	1129		421		355		246	

Table 5B: ROA as the dependent variable: determinants of bank profitability

Variables	New Pvt		Public		Nationalized		SBI & A	
	Coeff	t-value	Coeff	t-value	Coeff	t-value	Coeff	t-value
CONSTANT	-0.083	(-1.08)	-0.327	(-1.05)	-0.413	(-1.20)	-0.150	(-0.27)
LOANS/TA	0.124**	(2.71)	0.223*	(1.95)	0.257	(1.82)	0.031	(0.48)
LLP /TL	4.625***	(13.66)	1.096	(0.87)	1.437	(1.04)	-1.057*	(-1.95)
NII/TA	-2.673**	(-2.45)	1.213	(0.60)	-0.626	(-0.27)	4.411***	(4.48)
OPEX/TA	-1.644	(-1.07)	-1.694	(-1.15)	-1.217	(-0.65)	-1.699	(-0.64)
EQASS	-0.073	(-0.24)	0.532**	(2.63)	0.431*	(2.11)	1.942***	(5.99)
LNTA	0.018	(1.00)	0.033	(1.19)	0.044	(1.50)	0.009	(0.21)
MSG	-0.011	(-0.83)	-0.013	(-1.19)	-0.018	(-1.54)	0.001	(0.08)
GDPGROWTH	0.016	(0.83)	0.021	(1.30)	0.030	(1.68)	0.000	(-0.01)
INFL	-0.011	(-0.40)	-0.027	(-1.22)	-0.038	(-1.60)	-0.001	(-0.04)
OVERALL-R^2	90.07%		28.09%		27.86%		52.98%	
F–STAT	-		34.26***		68.54***		-	
FIXED EFFECTS#	Yes		Yes		Yes		Yes	
N	109		353		254		99	

CONCLUSIONS

Using a comprehensive dataset spanning 108 commercial banks in India from 1999 to 2011, this study delves into how both internal bank-specific characteristics and external macroeconomic factors influence bank profitability. The findings reveal nuanced impacts, varying across different types of banks.

We observed that the liquidity conditions of banks, measured by the loan-to-asset ratio, do not significantly affect profitability across the board. However, the level of credit risk, as indicated by the ratio of loan loss provisions to total loans (LLP/TL), demonstrates a positive relationship with profitability, particularly for foreign and private banks.

Diversification, gauged by the ratio of non-interest income to total assets (NII/TA), yields conflicting results. While SBI & Associates banks and public banks benefit from diversification, new private banks experience a negative impact on both return on equity (ROE) and return on asset (ROA).

The influence of overhead costs (NIE/TA) on profitability varies across bank types. It positively impacts ROE for all banks and foreign banks, while negatively affecting ROE for public banks. Conversely, it positively impacts ROA for all banks but negatively impacts ROA for private banks.

Capital strength (EQUASS) displays a negative association with profitability across all banks and positively affects profitability for public banks. However, its effect is inconclusive for private banks.

Regarding bank size, there is no significant relationship with profitability across all types of banks.

In terms of macroeconomic factors, while indicators like money supply growth and inflation do not significantly impact ROE, they do influence ROA positively when considering the entire sample or private banks. However, the impact varies across different ownership types and remains inconclusive.

Overall, the study highlights the intricate interplay between internal bank dynamics, macroeconomic factors, and profitability, underscoring the need for tailored management strategies in the Indian banking sector to navigate these complexities effectively.