Profitability and Capital Adequacy Strategy for Assessing the Impact of Financial Instability on Indian Banks

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Abstract:

The banking system that is based on technology is the next cutting edge that brings both risks and opportunities. Accounting-based indicators show that commercial banks are doing well financially, given that their overall health is getting better. The study looks at the financial performance of some of India's commercial banks from 2018-21. The four commercial banks of India that are involved are the top two from both the public and private sectors, based on their market capitalization and total asset value. It is expected that the cost and revenue mix will have a big impact on how much banks are hurt by the global financial crisis. So, banks always change the way their balance sheets are set up based on what they know about financial and non-financial risks. The global financial crisis has a big effect on the balance sheets of banks and other financial institutions that are not banks. So, it's important to look at the most important indicators viz. profitability and capital adequacy strategy for assessing the impact of the financial instability on Indian Banks. This includes the net profit margin, capital adequacy ratio, total income/capital employed, and earning retention ratios of public and private selected banks except for the earnings retention ratio. The outcomes of independent t-test signify a substantial difference between the ratios of the public (SBI and PNB) and private banks (HDFC and ICICI).

***Keywords**: Capital Adequacy, Net Profit, Risk, Liquidity, Net Interest Margin.*

1. Introduction

The pace of global development slowed down in 2020 and is now spread out all over the world (Dadhich, Manish, Shalendra Singh Rao, Renu Sharma, 2021). Reforms have been made to try to make banks' balance sheets stronger, but strange factors are hurting cost-effectiveness, nonperforming assets, and other measures of banks' efficiency in emerging economies (Vallabh et al., 2016). Assets and profits are still not as good as they could be, and ongoing trade tensions could pose risks to banks' global outlook. But the global recovery, which started in 2018 and grew in both 2019 and 2020, lost steam in 2018. On the back of a strong US dollar, most of the year saw a loss of resources, a rise in NPA, and a drop in the value of currencies. On the other hand, market volatility and the global financial crisis brought down most of the emerging economies. In recent years, the Indian economy has grown even faster than China's. When the whole world was facing a huge crisis. The banking sector in India is an important part of the country's financial system, which has shown how strong it is. In the past ten years, Indian banks have made important changes to their economies, seen big changes, and gotten a big share of the country's banking business. Changes have also been made to get global financial freedom and integration. This is because technology has gotten better, tools have gotten more complicated, and there are more businesses in more places (M. Dadhich et al., 2018; Vinod Ramchandra et al., 2022). The Basel III standards are being met by banking systems all over the world, but at different speeds and from different starting points. The banking sector's key performance indicators look at profitability, asset quality, and capital adequacy, which, when taken together, help us figure out how strong and stable it is. Banks have strengthened their balance sheets against the law by adding more assets and cash. In this way, there was a difference between an emerging economy like India and a country like Brazil. India was growing slowly, but Brazil was showing signs of slowing down because of problems with its assets. Most of the time, banks are

middlemen that collect money from the public surplus and lend it to the whole business and trade community (Ullah et al., 2022). One of the main reasons people put money in banks is to make sure they get a certain rate of return. On the other hand, banks want to keep their cost of capital as low as possible. Investors also tend to stay away from different kinds of financial and market risks. So, the new issue for every bank is how to reduce risk and adopt good risk management practices in the chaotic and volatile world we live in now. During a financial crisis, the biggest threat to all banks is to stay profitable and keep their market value. This can be done in different ways, such as by setting aside extra money for risk (called "adequate capital") and keeping an eye on risk management. Relative profitability shows that riskprone banks are not as sensitive to volatility as risk-averse banks, and that volatility hurts riskprone banks' profits much more than it does risk-averse banks. When there is a lot of financial chaos and volatility, investors and banks tend to invest the least they can. Even banks that are used to taking risks move in the opposite direction to reduce their vulnerability to default and market risk (Bose et al., 2018).

The study is built around an analysis of how the prime ratios on the balance sheets of the top four banks have changed over time. This analysis is based on the patterns of change in profitability, and capital adequacy ratio. In the following section First, an overview of the Indian banking sector is given, and then a description of the data used in the analysis is given in the form of a statistic. Second, the most important performance indicators, such as net profit margin, total income / capital employed, CAR and earning retention ratio of both public and private banks are carefully studied (Moudud-Ul-Huq et al., 2020).

2. Literature Review

Several studies have been done to figure out how well banks have done over a long time. These studies looked at a wide range of factors, such as operating costs, net income, return on equity and net worth, non-performing assets, etc. (Sharma et al., 2022) looked at the macroeconomic environment and the stage of financial development after financial reforms were put in place. The main goal of the reforms was to make the credit market more efficient, so they used a stochastic cost limit and two different competitive models. They also concluded that entry restrictions make private and global banks work better, but not regional banks. Because of this, any new reforms must be built on stronger macroeconomic foundations and institutional efforts to make credit easier to get. (Majeed et al., 2021; Sharma et al., 2022) looked at different business performance factors by measuring the return on capital of insurance companies listed on the African Stock Exchange between 2019 and 2020. They found that equity, leverage, and management skills all made a big difference in ROA in a good way. It is, however, hurt by the size of the business and the way the asset is made up. There has been a lot of work on financial performance, and from the point of view of economic factors and firm-specific resources, there has been a lot of progress

(Manish Dadhich & Kant, 2022; Nair & Choudhary, 2016) thought about a way to use proportion analysis to measure how well a business is doing. It also talks about how important it is to look at both internal and external financial reports during ratio analysis to find key connections and results that can be used to measure financial performance. The work said that there is a strong link between proportion analysis and organizational displays and that budgetary proportions show how important it is for an organization to be managed well. (Dadhich, Manish, Shalendra Singh Rao, Renu Sharma, 2021; Parsad et al., 2020; Zhang et al., 2014) proposed forecast models of monetaryeconomic analysis, which, in turn, can predict what will happen in the future and whether or not a company will go bankrupt. The paper focused on the ratio dials of activity, prosperity, liquidity, and debt in the business subject.

(Jenčová et al., 2019) looked into some American companies' annual reports. The Spearman relationship between monetary values and phonetic points. For an all-around evaluation, the original word records are planned out in detail for each type of budgetary review. The goal is to find out how much information can be found in the annual report. The proposed subject term reference can be especially helpful when using cash flows and ratios. (Hamzah et al., 2016) (Manish Dadhich et al., 2021)

did a thorough study of twenty-seven European banks and looked at the different parts of their balance sheets. They explained the basic structure of a bank's balance sheet and how it can be changed. They looked at the link between the different ways banks behaved and the financial crisis. The investigation is made more thorough by adding different ratios (Manish Dadhich et al., 2022). (Gupta, P., 2020) showed that the market crash has made it harder for banks to lend money. The drop in the prime rate put banks in full contact with and control over their financial deposits and management. (Brotsis et al., 2021)seemed at the RBI's policy and how it affected liquidity and solvency as well as off-balance-sheet analysis (OBSA). They found that the RBI kept a close eye on the banks and that the RBI regulated the banks' fund requirements as much as possible. (Nair & Choudhary, 2016) looked at OBS exposure, what caused it, and how it affected the financial performance of banks in India and Jordan. They found that OBSA helps banks bring in more money.

3. Objectives of the study

- To investigate the net profit margin of the chosen top public and private banks in India.
- To analyze the trends of capital adequacy ratio between selected public and private banks in India.
- To measure total income/capital employed between public and private banks in India.
- To examine earning retention ratio of selected top public and private banks in India.

4. Research Methodology

The method looks at trends and panel data analysis of certain bank statistics from 2018 to 2021. For this purpose, an analysis of different tables shows how trends in banks' balance sheet structures are made by using raw data from annual reports and money control to find out where the top public and private sector banks stand in terms of capital employed, leverage, assets, and profitability (Manish et al., 2022).

- **Collection of data:** Secondary information gathered from publicly available, trustworthy bank records, yearly reports of the RBI, websites, and economic survey reports. To determine whether there is a substantial difference between the two groups, an independent test was used.
- **Sample unit:** SBI and PNB banks were chosen for the public sector; ICICI Bank and HDFC Bank were chosen for the private sector. The data was compiled from March 2018-21.
- **Hypothesis** H_{01}: There is no discernible difference in profitability and capital adequacy ratios between public and private sector banks.

5. Data Analysis and Interpretation

The banks are chosen based on two things: their market capitalization and their total assets. The study looked at banks with a capitalization corpus of more than 10,000 crores and total assets of more than 50,000 crores. The public sector's top 10 banks make up about 82.62% of market capitalization and 89.35% of total assets, while the private sector's top 10 banks make up about 92.05% of market capitalization and 86.45% of total assets.

Table 1: Market Cap. & Total Assets of Private Banks (up to July 2022)

In crore

Bank Name	Total Assets	Market Cap.
HDFCBank	833,854.18	2,068,535.05
ICICIBank	627,871.17	1,411,297.74
AxisBank	382,434.58	1,175,178.11
KotakMahindra	241,097.58	429,428.40
IndusIndBank	88,135.34	401,974.58
YesBank	47,269.46	318,220.23
IDBIBank	46,988.00	301,419.36
FederalBank	43,846.22	220,946.31
IDFCFirstBank	43,421.71	190,181.61
BandhanBank	31,412.42	138,866.55
JKBank	25,183.71	130,602.41

Source: www.moneycontrol.com

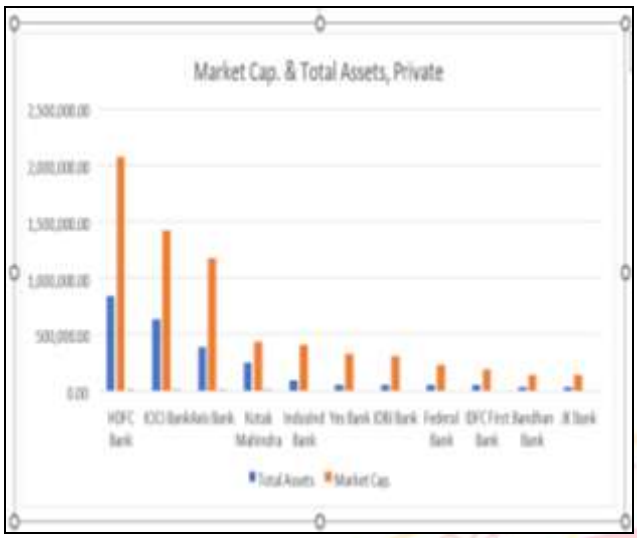
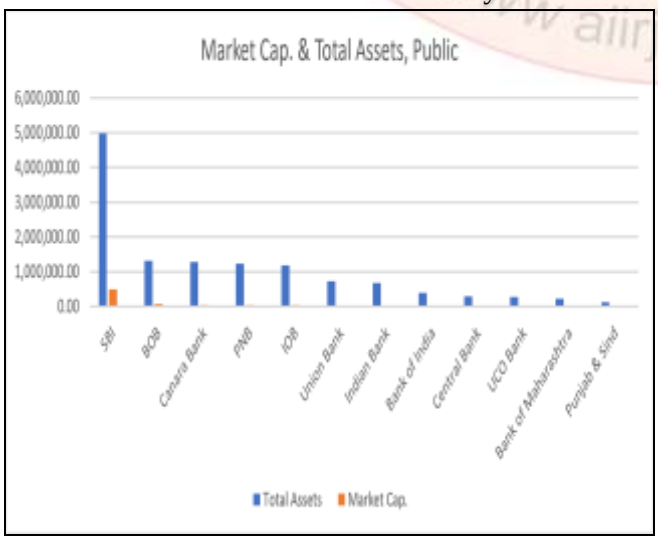


Table 2: Market Cap. & Total Assets of Public Banks (up to July 2022) In crore

Bank Name	Total Assets	Market Cap.
SBI	4,987,597.32	493,932.64
BOB	1,314,805.02	71,364.80
CanaraBank	1,277,999.83	44,174.07
PNB	1,226,979.67	42,942.96
IOB	1,187,591.06	35,442.02
UnionBank	734,614.01	29,765.33
IndianBank	671,668.06	25,369.64
BankofIndia	386,565.59	21,338.54
CentralBank	299,377.17	17,752.52
UCOBank	267,784.02	14,801.48
BankofMaharashtra	230,611.37	12,586.03
Punjab&Sind	121,067.55	10,810.57

Source: www.moneycontrol.com



Analysis of Profitability

The percentage of sales to real profit is displayed by NPM. This is considered after operational expenses and taxes. Ordinarily, a 10% net profit margin is regarded as typical, a 20% margin as high, and a margin of less than 5% as low. A financial institution that has a high net profit margin can convert revenues into profits. According to Table 3, most public sector banks have an utterly negative net profit margin and are unable to turn a profit on their sales. The expansion and the current global financial crisis could be one of the causes. The net profit margins of SBI and PNB have drastically decreased or become negative. This could be attributed to the financial crisis and the steady increase in non-performing assets. Further, HDFC and ICICI banks somehow managed their NPM and dominated the Indian banking scenario.

Table 3: Net Profit Margin

Banks Name	March 2018	March 2019	March 2020	March 2021
Public Banks				
SBI	-2.96	0.35	5.63	7.69
PNB	-25.59	-19.44	0.62	2.50
Private Banks				
HDFC	21.79	21.29	22.86	25.74
ICICI	12.33	5.30	10.60	20.46

Source: Compiled from various annual reports of RBI (2018-21)

Analysis of CAR

The CAR measures a bank's capital in relation to its current liabilities and risk-weighted assets. Central banks and bank regulators decide to stop commercial banks from using excessive leverage and going bankrupt as a result. A capital to risk-weighted asset ratio of 8% was required under Basel III regulations. According to RBI regulations, Indian public sector banks are urged to maintain a CAR of 12% whereas Indian scheduled commercial banks are expected to maintain a CAR of 9%. SBI and PNB have delineated the upward trends whereas HDFC and ICICI seem better than the public banks (see table 4).

Table 4: Capital Adequacy Ratio

Banks Name	March 2018	March 2019	March 2020	March 2021
Public Banks				
SBI	12.60	12.72	13.13	13.74
PNB	9.2	9.73	14.14	14.32
Private Banks				
HDFC	14.82	17.11	18.52	18.79
ICICI	18.42	16.89	16.11	19.12

Source: Compiled from various annual reports of RBI (2018-21)

Analysis of total income

Stakeholders and investors frequently utilize the income earned on capital employed, one of the best profitability ratios, to assess the financial health of banks. Table 5 shows that the average range of this ratio for the public banks is between 7.32 to 9.0. It is quite concerning that, the public banks somehow failed to manage the best pace whereas private banks outlined the augmented trend from 8.45 to 10.10.

Table 5: Total Income / Capital Employed

Banks Name	March 2018	March 2019	March 2020	March 2021
Public Banks				
SBI	8.69	7.89	7.98	7.32
PNB	7.69	7.65	7.90	9.00
Private Banks				
HDFC	9.90	10.10	9.95	8.91
ICICI	8.80	8.48	8.87	8.45

Source: Compiled from various annual reports of RBI (2018-21)

Analysis of earning

An indicator of a company's ability to invest in growth over time is the retention ratio, which is a financial measure. When well-established businesses turn a profit, they frequently distribute a portion of those profits to shareholders in the form of dividends. Retained earnings are those funds that remain after expenses. The earnings retention ratio commonly referred to as the plow back ratio is the portion of net income that a corporation keeps after paying dividends. The public bank managed to earn a retention ratio above 82.51 whereas private banks outlined a manageable figure range from 71.31 to 100.00 (see table 6).

Table 6: Earning Retention Ratio

Banks Name	March 2018	March 2019	March 2020	March 2021
Public Banks				
SBI	100.00	100.00	100.00	82.51
PNB	100.00	100.00	100.00	100.00
Private Banks				
HDFC	100.00	80.78	75.10	100.00
ICICI	78.50	71.31	100.00	100.00

Source: Compiled from various annual reports of RBI (2018-21)

Table 7: Independent Samples Test

There is a significant difference in net profit margin, capital adequacy ratio, and total income/ capital employed of public and private selected banks except for the earnings retention ratio. Independent t-test was used to analyze the differences between and within the economic ratios of the chosen public and private sector banks, and the findings are shown in table 7. The results of Fstatistics and p-value for the

financial ratios of chosen public and private banks show a significant difference. Therefore, except for the ERR (p-value .073) and the similar results reported by (Muthumeenakshi, 2016). The null hypothesis of no mean differences for the corresponding variable/financial ratios of the banks is rejected. Even though the global financial crisis has affected all the parameters used to evaluate the performance and strength of the Indian banking industry, private banks have managed to perform despite RBI regulations, whereas the meager performance of public banks throughout the study has alarming implications for all of them.

6. Limitations

For a little time, the outcomes are built on subpar data foundations. Indicators of profitability, CAR, total income/capital employed, and earning retention ratios particular to two public and private banks are the only ones included in the analysis; external factors like GDP, stock market capitalization, money supply, exchange rate, non-performing assets, leverage, etc. are not considered. With other macro and micro components added to the model, there may be room for further research in the banking community. Additionally, non-banking financial businesses are not included in the study. Thus, it could be another limitation of the work and future work can explore more ratios by adding more public and private banks in order to get more precise results

7. Suggestions

It is imperative to bring certain reforms in the Indian banking structure because despite maintaining adequate CAR all public sector banks witnessed huge NPA. In the present chaotic scenario, loans are severely affecting banks' liquidity positions and even the banks themselves have been asked to be cautious when it comes to lending, which ultimately influences the economy's growth, which has been sluggish over the past few quarters. The RBI and the Ministry of Finance made the recommendation to combine the banks in order to keep fewer but healthier institutions in response to the rising level of inefficiencies in the country's banking system. In this context, the current study tried to assess the efficiency levels of the few public and private banks in India as well as to pinpoint productivity variations among various ratios like net profit margin, CAR, net profit/capital employed, and earning retention ratio. The study recommends the proper management of asset quality, maintaining liquidity, and retaining the earnings of both public and private banks. India is an emerging market, hence due to its less developed market structure, there is a widespread imbalance of information there. Additionally, the banking industry is thought to be very opaque and complex, which exacerbates the agency problem by creating knowledge asymmetries. As a result, in situations of significant information asymmetry, the study has looked at the board version of different ratios for a given period, involvement as well as their impact on company performance and asset quality.

8. Conclusion

The main objective of the article is to analyze panel data from the major public and private sector banks in India, which attests to their capacity to manage during even and odd stages of the trade cycle, in order to examine the performance of Indian banks. Studying consistent performance that may guarantee enduring sustenance and assist in resolving financial issues is important. Consistency and sustainability over the long and short terms are crucial in the volatile world we live in today. Performance consistency is crucial because it shields banks from external dangers like financial crises and volatility. The paper's findings provide insight into the commercial banks' performance based on a few chosen indicators. Consistency in banks' performance is crucial for stakeholders, the government, consumers, regulators, and the economy in the current chaotic, volatile climate. Sustainable development in every sector is urgently needed. Determining the optimal amount of deposit mobilization and maintaining a crucial balance between total cost and total revenue are hence essential for banks. Like this, it is assumed by the methods that banks operate that they can afford to pay interest to depositors and lenders, plan to pay a dividend to their shareholders, incur a minimal cost of capital, use efficient budgeting, and establish a fair market value for their stock. Consistency in total income/capital employed was again of considerable concern for public banks, however, private leading players demonstrated reasonable results and consistency for the period 2018-21. Income earned on capital employed is considered one of the best

profitability ratios. The study also shows that the results of F-statistics and p-value for the chosen comprehensive financial ratios of the top public and private banks differ significantly from one another. Despite RBI regulations, private sector banks managed to maintain performance, but given that all public sector banks saw a subpar performance in every chunk throughout the study, the situation is troubling. The study aids in comprehending the mechanisms influencing changes in profitability and CAR ratios, which in turn may assist regulators in calibrating and adjusting the design of upcoming policy needs.

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