Determinants of Stock Price Volatility of Select Public Sector Banks: A Panel Analysis

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Abstract

Non-performing Assets (NPAs) are like a storm cloud hovering over the banking sector, casting shadows on profitability and diverting precious resources from potentially lucrative investments. When NPAs rise, they not only crunch the numbers but also send ripples of doubt through the investor community, suggesting flaws in risk management. This uncertainty often leads to wild fluctuations in stock prices, creating a rollercoaster of volatility. In this ever-shifting financial landscape, the ability to manage NPAs effectively is not just important—it's absolutely vital for safeguarding profitability, ensuring market stability, and nurturing investor trust. With this in mind, our current research dives into how NPAs influence the stock price volatility of select public sector banks listed on the NSE, all chosen for their market capitalization. To delve deeper, we've pulled in various bank-related, macroeconomic and industry-specific indicators. These range from size and net npa ratio to return on assets, return on equity, capital adequacy ratio, cost to income ratio, credit quality, inflation, and the Repo rate. We employed a robust multiple regression analysis using a Panel Data Methodology to scrutinize the data. Our study spans from the fiscal year 2011-12 to 2021-22, during which we collected quarterly bank-related metrics from the ProwwssIQ database, while macroeconomic data came from the RBI and the World Bank. The findings reveal a compelling narrative: profitability and size have a notably positive impact on stock price stability, while poor asset quality casts a long, negative shadow. Interestingly, while both sets of macroeconomic indicators significantly affect stock price volatility, they do so in opposing directions. A decline in asset quality heightens the market's perception of risk, leading to an increase in stock price volatility. In essence, as asset quality deteriorates, the storm clouds of uncertainty gather, creating a tempest in the stock market.

Keywords: *Inflation, Macroeconomic Metrics, Non-Performing Assets, Public Sector Banks, Panel Data Methodology, Stock Price Volatility.*

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Introduction

The banking industry is crucial to any economy, as it gathers savings and directs them toward productive investments, such as those in the stock market. However, the sector's success largely depends on how well banks can manage their assets. The significance of NPAs in the banking sector cannot be overstated. It has become a significant issue in the banking sector globally, especially in emerging markets such as India. NPAs reflect loans that are not generating income for banks due to borrower default, leading to significant financial losses and instability within the banking system. It has long been recognized as a crucial issue that presents considerable challenges to the health and stability of banks. The accumulation of NPAs can adversely affect several aspects of the banking sector, including liquidity, profitability, capital adequacy, and overall credit quality. As a result, effectively managing and resolving NPAs has become essential for ensuring the sustainable growth and stability of the banking sector. Several banking crises worldwide have highlighted the devastating consequences of an elevated extent of NPA on the entire financial system. NPAs erode banks' profitability and solvency, undermine depositor confidence, restrict credit flow to productive sectors, and impede economic growth.

Numerous elements impact the fluctuations in stock prices of Indian public sector banks, highlighting the intricate interaction between internal factors, sector-specific variables, and the wider economic landscape. Firstly, individual banks' performance and financial health, including profitability, asset quality, and capital adequacy, significantly impact stock price volatility. Non-performing assets (NPAs) represent a key determinant, with higher levels of NPAs often correlating with increased volatility due to concerns over asset quality and potential financial losses. Furthermore, macroeconomic variables that impact lending practices, borrowing prices, and general market mood, such as interest rate, rate of inflation, and growth rates of GDP, have a noteworthy bearing on stock price volatility. The regulatory changes and government policies, including those related to banking regulations, taxation, and fiscal stimulus measures, can also induce fluctuations in stock prices by altering market expectations and risk perceptions. Moreover, geopolitical events, global economic conditions, and investor sentiment play crucial roles in shaping the volatility of stock prices, as they introduce uncertainty and volatility in financial markets. Overall, an assortment of internal bank-specific

factors, macroeconomic indices, regulatory policies, and external market dynamics collectively determine the volatility of stock prices.

Our research investigates how non-performing assets (NPAs) influence stock price volatility by considering select public sector banks listed on the National Stock Exchange. This study attempts to shed some light on the cascading effect that these NPAs have led, towards stock price volatility and ensuing investor disparities in relation with overall market dynamics.

Such insights are crucial for formulating effective risk management strategies, enhancing market efficiency, and fostering sustainable economic development. Therefore, the study holds significant ramifications for investors, bank management, policymakers, and other players in the Indian financial ecosystem.

Review of the Literature

The review of the empirical research on the banking sector around the world done in the last few decades strongly established the interconnectedness among the asset quality, profitability, and volatility of their stock prices. High levels of NPAs indicate poor asset quality, which directly impacts a bank's profitability by lowering interest income and raising provisioning needs. This erosion of profitability weakens investor confidence, often resulting in heightened stock price volatility. Conversely, banks with strong asset quality tend to have better financial performance, leading to consistent profitability and more stable stock prices. Against this backdrop, our literature review has been divided into two arenas – the influence of NPA on profitability and its effect on the volatility of stock prices.

NPAs and Profitability

Extensive research in recent decades has explored the fundamental association between the profitability and non-performing assets of the banking sector. Globally, various factors have influenced the banking industry's profitability, which can be categorized into external or macroeconomic variables and internal or bank-specific factors. Studies by (Bapat, 2018; Bepari & Sarkar, 2020; Bougatef, 2017; Lutf & Omarkhil, 2018; Rashid & Jabeen, 2016) have examined a single nation’s banking industry to ascertain the factors influencing performance. (Demirguc-Kunt & Huizinga, 1999; Kassem & Sakr, 2018; Le & Ngo, 2020; Tan, 2016) had taken into account the banking sector of different countries.

NPAs and Volatility of Stock Price

NPAs pose substantial financial risks to banking institutions and have ripple effects on the broader economy, affecting investor confidence, credit availability, and market stability. In this context, the intricate connection between NPAs and stock price volatility is paramount, as it offers insights into the underlying mechanisms driving market dynamics and investor behavior.

The body of research examining the factors affecting stock price volatility in the banking sector employs various methodologies and explores a wide range of variables, leading to notable findings. Studies using multiple regression analysis, such as those by Rawlin & Shanmugam (2014) and Dubey & Kumari (2015), found that productivity metrics (business per employee, profit per employee) and advances significantly impacted share prices and market capitalization, respectively. Meanwhile, Ghauri (2014) and Hossain (2020), using panel regression, identified a significant positive impact of banks' size on share prices, with other variables like dividend yield and return on assets showing mixed effects across studies. Research by Arshad et al. (2015) revealed that EPS drives share prices upward, while interest rates and the book-to-market ratio had a negative effect, a finding echoed in the studies by Chhipa & Nabi (2016) and Chadi & Rasha (2022). Non-performing assets (NPAs) and capital adequacy ratios (CAR) also emerged as critical factors in stock price movement, as seen in studies by Tayal et al. (2019) and Djamaluddin et al. (2019), though their impact varied between public and public banks. Lastly, external macroeconomic factors like GDP and money supply were highlighted by Pradhan & Dahal (2016) as influential, especially in international markets. Overall, while profitability and risk factors were consistently examined, their significance varied over the regional and bank-specific contexts.

Objectives of the Study

This review synthesizes existing literature on the subject, drawing from a diverse range of scholarly research, empirical studies, and theoretical frameworks. By critically analyzing prior research endeavors, this review aims to elucidate the mechanisms through which NPAs impact stock price volatility and the factors contributing to the variability in this relationship. Furthermore, it seeks to identify gaps in the current understanding of NPAs and stock price volatility within the context of Indian public banks, thereby guiding future research directions in this domain.

Research Model

We have created a pool of explanatory variables to arrest their influence on the stock price fluctuations of selected public sector banks. The fluctuation

in stock prices of the banks studied is affected by a combination of macroeconomic, sector-specific, and bank-specific, indicators. Thus, the model of the study is presented below

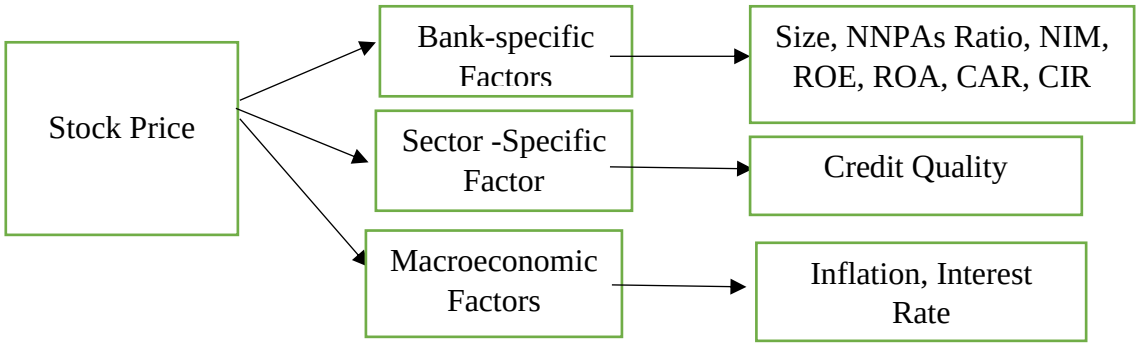

Fig. 1 Model of the study

Description of variables

Dependent Variable:

Stock Price: Banks' stock price indicates the current market valuation of the bank's equity, reflecting investors' perceptions of its financial health, performance, growth prospects, and overall market conditions. Following the studies of (Chhipa & Nabi, 2016a; Hossain, 2020; Madhvi et al., 2017; Rawlin & Shanmugam, 2015) we have selected the stock price in our study.

Independent Factors:

Bank-specific Factors

Size: banks' size can be measured with a variety of financial metrics such as total assets, total deposits, total outstanding loans, market capitalization, number of employees, and so on. The natural logarithmic value of total assets have been used as a proxy for the size of the selected bank in our study (Ghauri, 2014; Rawlin & Shanmugam, 2014) Banks with higher asset values are better able to diversify their operations and make money. This diversification may result in increased stability and possibly higher profits, luring investors and raising share values.

Assets quality: The NNPAs ratio measures the percentage of defaulted loans about the net advances of a bank. High NNPA ratios indicate more credit risk and instability, which usually undermines investor confidence and share prices. On the other hand, low NNPA ratios signal good asset quality and financial stability, which generally supports share prices. As per the previous studies of (Borse, 2016; Dubey & Kumari, 2015; Madhvi et al., 2017) the net

NPA ratio has been considered one of the principal explanatory variables in our study.

Net interest margin (NIM): It is the difference between the interest income banks receive and the interest they pay out (Dietrich & Wanzenried, 2011). The higher the NIM, the greater the banks' efficacy in generating profit.(Sarkar & Rakshit, 2023). NIM directly impacts a bank's earnings, and consequently, its share price. A bank with a higher NIM is regarded as very efficient and highly profitable, attracting investors' interest and leading to higher share prices. Monetary policy set by the central bank plays a vital role in this regard. (Aswal & Sharma, 2020; Djamaluddin et al., 2019; Nureny, 2019) have considered NIM as an independent variable in their studies.

Return on equity (ROE): It is a financial ratio used to measure a company's profitability with the equity invested by its shareholders.(Sarkar & Rakshit, 2021) ROE significantly affects the share price of banks. Investors often view higher ROE positively, as it suggests that the bank is effectively utilizing its capital to generate profits. The bank's stock price could go up as a result of increased investor confidence brought forth by this profitability notion. ROE is considered one of the determining factors of share price following the studies of (Chadi & Rasha, 2022; Safri et al., 2020).

Return on assets (ROA): (Chhipa & Nabi, 2016; Ghauri, 2014; Pradhan & Dahal, 2016; Safri et al., 2020) have considered return on assets as one of the factors that drive bank share prices. ROA indicates a firm's efficiency in utilizing its assets to generate profit (Gaur & Mohapatra, 2020) It helps maintain a more robust solvency ratio amid a fluctuating fiscal environment (Doyran, 2013). Banks with steady and sustainable return on assets can gain investors' reliance leading to increased demand for the bank's shares and thus higher share prices. Thus, ROA is taken as another predictor variable in our study.

Capital adequacy ratio (CAR): It evaluates a bank's ability to absorb potential losses, safeguard depositors, and ensure financial stability. It guarantees that banks possess enough capital to accommodate different kinds of risks, such as market, operational, and credit risks. A robust CAR strengthens a bank's capacity to expand and turn a profit, encourages adherence to legal requirements, and increases investor confidence. Understanding its importance and following the studies of (Hossain, 2020; Nureny, 2019; Rawlin & Shanmugam, 2015) CAR is also used as an independent variable in our study.

Cost efficiency: The cost-to-income ratio (CIR), also known as the operating cost-to-operating income ratio, is a crucial performance indicator that shows the efficiency of a bank in managing its expenses and generating profits. A low CIR indicates that the bank is effectively controlling costs and maximizing revenue, while a high CIR suggests the opposite. Investors and stakeholders are usually more attracted to banks with lower CIRs as they are seen as more efficient, profitable, and stable. In line with the studies of (Endri, 2018; Nureny, 2019; Rjoub et al., 2017; Safri et al., 2020) CIR is also used as an independent variable in our study.

Sector-Specific Indices

Credit Quality: The GNPA ratio of the priority sector directly indicates the performance of loans in mandated sectors such as agriculture, MSMEs, education, and low-income housing. The Reserve Bank of India mandates that banks allocate 40% of their loans to priority sectors, which necessitates careful monitoring of GNPAs to ensure compliance and financial stability (Kumar et al., 2020; Selvi, 2014). A rising GNPAs ratio indicates deteriorating credit quality, particularly in priority sectors like agriculture and small enterprises, which are often more vulnerable to economic fluctuations (Kumar et al., 2020; Reddy & Reddy, 2023). The GNPA ratio of the priority sector is an essential measure of credit quality for public banks in India, reflecting their ability to manage risk in critical lending areas. Its relevance to profitability, regulatory compliance, financial stability, and market perception makes it a robust metric for evaluating operational efficiency and understanding its broader impact on the bank's performance and stock price volatility.

Macroeconomic Indices

Inflation: It is the rate at which the general level of prices for goods and services rises, eroding purchasing power. The previous studies exhibited both significantly positive, significantly negative, and even insignificant impacts on the variances in the stock prices of several nations' banking industries. The studies of (Laichena & Obwogi, 2015; Victor & Kuwornu, 2011) exhibited a substantial positive impact on the stock price. On the other hand, (Al-Abadi & Al-Sabbagh, 2006) exhibited a notable adverse impact of inflation, and the studies of (Khan et al., 2015; Kirui et al., 2014) explored the insignificant effects of inflation on stock price volatility. Our study used the quarterly CPI as a measure of inflation.

Monetary policy interest rate (Repo rate): Following the studies of (Alam et al., 2009; Mugambi & Okech, 2016; Okechukwu et al., 2019) monetary policy interest rate has been considered another macroeconomic determinant of the

volatility of share prices in our study. In general, a higher repo rate would lead to higher borrowing costs for companies, eating into profitability and eventually hurting investor sentiment, thus lowering share prices. A lower repo rate, on the other hand, would reduce borrowing costs for the company and could lift corporate earnings, therefore tending to increase investment and share prices.

Table 2 represents a brief account of the selected variables and their likely impact on the volatility of stock price

Table 2: Selected Variables and their Expected Impact

Variables	Abbreviation	Measurement	Variable Type	Expected Impact
Stock Price	SP	Quarterly average stock Price	Dependent	-
Size of banks	Size	Ln of Total assets	Independent	Positive
Assets Quality	NNPAs Ratio	$\frac{(GrossNPAs - Provisions)}{Total\ advances} \times 100$	Independent	Negative
Net Interest Margin	NIM	Interest Income - Interest expanded	Independent	Positive
Return on Assets	ROA	Net Income/ Total assets	Independent	Positive
Return on Equity	ROE	Net Income/ Shareholders' equity	Independent	Positive
Capital Adequacy Ratio	CAR	Total capital/ Rise weighted assets	Independent	Positive/Negative
Cost Efficiency	CIR	Operating cost/ Operating income	Independent	Positive
Credit Quality	CRQ	GNPAs ratio to Priority sector	Independent	Negative
Inflation	INF	Quarterly average inflation in India (CPI)	Independent	Positive/Negative
Monetary policy interest rate	INT	Repo rate of the RBI	Independent	Negative

Source: Authors' Compilation

Data and Research Methodology

Data Source and Sample Selection

This study focuses on the top 5 public sector banks listed on the National Stock Exchange (NSE) based on their market capitalization as of March 2021: State Bank of India, Punjab National Bank, Bank of Baroda, Canara Bank, and Union Bank of India. As of that day, the total share in overall stock market capitalization at NSE by the sample banks is 82.71 (State Bank of India (57.87%), Punjab National Bank (8.04 %), Bank of Baroda (7.23%), Canara Bank (5.00%), Union Bank of India (4.57%) (*https://www.nseindia.com/* assessed on 31.03.2021). The outcome variable in our study is the quarterly average stock price of these selected banks. A range of bank-specific and macroeconomic metrics, as outlined in Section III, serve as the regressors in our model.

The analysis covers the period from 2011-12 to 2022-23. Quarterly data on bank-specific factors and sector-specific factors were sourced from the ProwwssIQ database and from the RBI respectively. Data on inflation and the monetary policy interest rate (Repo rate) were obtained from the World Bank publications and the Reserve Bank of India (RBI) respectively (https://data.rbi.org.in).

Methodology

The study is quantitative in nature. A panel regression approach is used to ascertain the impacts of bank-related, sector specific, and macroeconomic variables on the volatility of stock prices of selected public sector commercial banks listed at NSE. Panel data regression analysis offers a more comprehensive understanding of social, financial, and economic phenomena by incorporating both cross-sectional and time-series data.

Panel data regression can control for unobserved heterogeneity by accounting for individual-specific effects, thereby reducing omitted variable bias. Three commonly used models in panel regression are pooled OLS, RE model, and FE model. The pooled OLS model assumes that the cross-section units are homogeneous. The estimate observed from the pooled model may be biased because of unobserved heterogeneity. This bias may be reduced or avoided by including cross-sectional or time-specific errors in it. It is a fixed-effect model when this error component is non-random and a random-effect model when it is random (Das, 2019). Fixed-effects model examines the association between explanatory variables and explained variables within an entity by eliminating the impact of the time-invariant unobserved features. As a result, in a fixed-effects model, we can estimate the net effect of the explanatory variables on the explained variable. In a random-effects model, the

distribution of intercepts captures the random effects of the unnoticed heterogeneity. In the random-effects model, degrees of freedom are more and it is more suitable in the case of micro-panel or short panel. Hausman test is used to choose between FE and random-effect models. If the null hypothesis that the individual effects are uncorrelated with other regressors is rejected, a fixed-effects model is chosen (Das, 2019) We use the guidelines provided by (Park, 2011) to determine which of these three models is the best fit.
The functional form of the model that is to be estimated in this analysis can be written as follows.

$$Stock\ Price = f(Size, NNPAs\ ratio, NIM, ROE, ROA, CAR, Cost\ efficiency, Credit\ Quality, Inflation, Monetary\ Policy\ Interest\ Rate \quad (1)$$

The regression equation following form 1 can be as under:

$$SP = \alpha_i + \beta_1 size + \beta_2 NNPR + \beta_3 NIM + \beta_4 ROE + \beta_5 ROA + \beta_6 CAR + +\beta_7 CIR + \beta_8 CRQ + \beta_9 INF + \beta_{10} INT + u_i t \quad (2)$$

In equation (2) β_1 to β_{10} are the coefficients of independent variables, i refers to individual banks, t refers to time and u is the error term.

Data Analysis and Interpretations

Descriptive Statistics

Table 3: Descriptive Statistics

Variables	Obs.	Mean	Std. Dev.	Min	Max
Size	240	12.81869	.8858221	10.77582	14.51901
NNPR	240	.9659612	.8340091	.094723	4.435878
NIM	240	4.181379	.5228154	2.846463	5.001067
ROE	240	13.30267	3.750542	2.731661	20.021326
ROA	240	1.572743	.3928099	.294941	2.111899
CAR	240	2.326605	1.585647	.406178	6.279249
CIR	240	44.563	5.180894	29.50082	68.13776
CRQ	240	1.954995	.7002222	.74575	4.451288
INF	240	4.430227	4.302318	-4.55	14.33
INT	240	6.430436	1.415632	4	8.5

Source: Authors' Calculation

Table 3 depicts the descriptive statistics of the variables concerned. The size of these banks is found to have an average value of 12.81869 with a lowest value of 10.77582, and a maximum value of 14.51901 with a variability of 0.8858. The NNPA ratio ranges from 0.09472 to 4.4358 having a mean value of 0.9659612 with a standard deviation of less than unity. NIM also has a standard deviation of less than unity (0.52281) with a mean value of 4.18 ranging between 3.00 and 5.00. ROE has a mean value of 13.30 and varies between 2.73 and 20.02 with a variability of 3.75. With an average of 1.572743, the variability of ROA is less than one, ranging from 0.294 to 2.11. The sample banks' capital adequacy ratio (CAR) has an average value of 2.32, with a least value of 0.41 and a maximum value of 6.28 with a variability of 1.585647. Table 3 also exhibits that the average CIR is 44.56 with most ratios within 5.18 of the mean. The lowest CIR is 29.50, and the highest is 68.14. The credit quality to the priority sector (GNPAs ratio) is found to have a standard deviation of less than unity (0.77222), ranging from 0.74575 to 4.451288 with a mean value of 1.954995, it is also observed from the table (Table: 3) that the two macroeconomic indicators inflation and Repo rate have 4.43 and 6.43 with a variability of 4.302318 and 1.4156 respectively.

Relationship Matrix and Diagnostic of Multicollinearity

Table 4: Relationship Matrix

	Stock price	Size	NNPR	NIM	ROE	ROA	CAR	CIR	CRQ	INF	INT
Stock price	1.000										
Size	0.1322	1.0000									
NNPR	-0.4088	0.2453	1.0000								
NIM	0.3237	-0.0882	-0.4347	1.0000							
ROE	0.2410	-0.2616	-0.6070	0.5193	1.0000						
ROA	0.3425	-0.2051	-0.4175	0.5486	0.6975	1.0000					

CAR	-0.2733	0.1686	0.1512	-0.3664	-0.0509	-0.1764	1.0000				
CIR	-0.0286	-0.6537	-0.1381	-0.0122	-0.0061	-0.1421	-0.0241	1.0000			
CRQ	-0.0044	0.5624	0.4692	-0.3492	-0.5752	-0.3775	0.2682	-0.3758	1.000		
INF	0.1074	-0.0499	-0.1414	-0.0764	0.0634	0.0314	0.1329	0.0903	0.1881	1.0000	
INT	-0.1755	-0.5751	-0.1188	-0.0660	0.3590	0.2194	0.4905	0.4778	-0.0770	-0.0770	1.0000

Source: Authors' Calculation

Table 5: VIF Value

Variables	VIF
INT	6.36
ROE	5.40
ROA	4.58
Size	3.35
CAR	3.24
CIR	2.49
CRQ	2.61
NIM	1.88
NNPR	1.86
INF	1.32
Mean VIF	3.31

Source: Authors' Calculation

If the correlation coefficient between two independent variables lies between ±0.80, multicollinearity may be a problem (Rahaman & Sur, 2021; Williams, 2015). Table 4 demonstrates that every correlation coefficient among the selected variables in the study remains in the given range. To achieve a more consistent outcome VIF value (Table 5) of the explanatory variables have been calculated. The highest VIF value is 6.36 which indicates the absence of multicollinearity among independent variables used in the study.

Equation (2) has been estimated using panel regression analysis to shed light on the importance of a collection of macroeconomic, sector-specific, and bank-specific indicators in general and non-performing assets in particular

concerning the volatility of the stock prices of selected public sector banks. Among the three commonly used models (Pooled OLS, RE, and FE) we have used both Re and pooled OLS models. The most suitable model between these two has been selected by using the value of Breusch and Pagan Lagrangian multiplier. The findings of the test favour the pooled OLS model as the $prob. > \chi^2 = 1.0000$. The Hausman specification test has been used to choose between FE and RE. The FE model is more appropriate than the RE model as the $prob. > \chi^2 = 0.0000$ (value of test statistic 76.34). By comparing polled OLS and FE, the later model is the most appropriate as Prob > F = 0.0000 (value of test statistic 19.75). The result of fixed effect estimation has been produced in Table 6

Table 6: Fixed Effect Regression Result

Stock Price	Coefficient	P value
Size	904.8318	0.000***
NNPR	-188.2738	0.000***
NIM	-114.7599	0.109
ROE	42.86617	0.025**
ROA	679.675	0.000***
CAR	5.319127	0.863
CIR	4.029237	0.639
CRQ	145.5543	0.410
INF	20.97038	0.001***
INT	-240.8698	0.000***
R-sq: overall = 0.624		Prob > F = 0.0000
Value of F Statistic = 19.75 Prob > F = 0.0000		

Source: Authors' Calculation

Note: *** indicate significant at 10%; ** indicate significant at 5%; * indicate significant at 1%

Panel Regression Results

Table 6 explores the panel regression result of the best-fit model. It has been observed that risk-weighted assets ratio (CAR), NIM, and cost efficiency (CIR) have no impact on the volatility of stock prices of sample banks. This finding supports the previous study of (Aswal & Sharma, 2020; Hossain, 2020) In line with the studies of (Alaagam, 2019; Endri, 2018; Ghauri, 2014)

ROA and Size of the banks have impacted the volatility of their stock price in a highly significant positive way whereas ROE and operational efficiency impacted the same in a moderately significant way. It is also revealed that the net non-performing assets ratio has a significant adverse impact on the volatility of stock prices of the banks under study. This finding of our study is as per to the studies of (Bhatia & Mulenga, 2019; Rjoub et al., 2017; Safri

et al., 2020) etc. It is also evident that credit quality (GNPAs ratio of priority sector lending) has no statistically significant impact on the volatility of stock prices of the banks under investigation

Out of the two macroeconomic determinants, inflation has a noteworthy positive effect but the REPO rate exhibits a noteworthy adverse impact on the response variable. The findings of our investigation align with the results of (Abdullahi, 2020; Amata et al., 2016; Amatya, 2016; Siagian, 2023)

Conclusion

The substantial positive impact of Return on Assets (ROA) and Return on Equity (ROE) on the volatility of share prices in the banking sector underscores the critical importance of these financial metrics in evaluating banking performance and investor confidence. Our analysis demonstrates that banks with higher ROA and ROE tend to experience reduced volatility in their share prices, indicating stronger financial health and operational efficiency. This correlation highlights the value for investors in closely monitoring these metrics as key indicators of stability and profitability in the banking sector. The research of (Dietrich & Wanzenried, 2011) underscores how ROA impacts profitability and stability in Swiss banks. Further evidence from (Demirguc-Kunt & Huizinga, 1999) supports the notion that robust financial ratios contribute to lower risk and volatility in global banking.

The significant positive impact of banks' size on stock price volatility underscores the intricate dynamics between a bank's scale and market behavior. Larger banks, due to their extensive operations and broader market influence, tend to exhibit higher volatility in their share prices

Maintaining high-quality assets is essential for sustaining financial stability and building investor trust, as evidenced by the significant negative impact of the quality of assets on stock price change in the banking sector. The deterioration of asset quality leads to increased market perception of risk, thereby amplifying stock price volatility.

The statistically insignificant relationship between credit quality concerning priority sector lending and the volatility of stock prices of the selected public sector banks may explore different phenomena. These include a well-diversified loan portfolio, maintaining a strong capital adequacy ratio (Reddy & Reddy, 2023), investors' inclination to financial metrics (Rane & Gupta, 2022), dilution of risk perception associated with priority sector lending (Kanyan & Singh, 2024), adopting stronger risk management practices, and so forth.

The dual impact of inflation rates and the Repo rate on the volatility of share prices in the banking sector reveals the complex interplay between macroeconomic policies and market stability. Higher inflation rates contribute to increased volatility in bank share prices by fostering uncertainty and risk.

Conversely, the Repo rate—a tool used by the RBI to control monetary policy—has a statistically significant negative impact on share price volatility. This indicates that higher Repo rates, which typically signal tightening monetary policy, can stabilize bank share prices by curbing inflationary pressures and reducing speculative activities.

The research is limited to public sector banks based on their market capitalization. One may choose to include all public sector banks or do a comparative analysis of public and public sector banks. Apart from inflation and monetary policy interest rate other external factors like GDP, exchange rate, and the effect of Covid 19 and subsequent lockdown may also be considered. The study focuses primarily on quantitative analysis and does not explore the behavioral aspects of investors that might amplify or dampen the effects of NPAs on stock prices Future studies may be conducted by incorporating all these lacunas to have a more comprehensive understanding.

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