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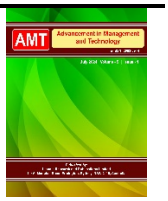

Original Article

Measuring Financial Performance of Non-Banking Financial Companies (NBFCs): Evidence from Select BSE-Listed NBFCs In India

Priyata Chaudhury*, Ashish Kumar Sana

Department of Commerce, University of Calcutta, Kolkata-700073, West Bengal, India

**Correspondence E-mail: priyatamother@gmail.com*

Abstract

The present study examines the effects of reserves on the proportion of loans disbursed, cost incurred in ratio to income, total assets and total equity on the financial performance, that is, profitability of Indian Non-Banking Financial Companies **(**NBFCs). The study applies Fixed Effects Panel Regression model to BSE-listed, eleven NBFCs selected on basis of market capitalisation for the period from financial year 2001 to 2023. It was found that excess of reserves in proportion to loans disbursed significantly and negatively affected profitability. In order to maintain liquidity for liability obligations, Indian NBFCs cut short on credit disbursals, which affected profit, as interest income is the main source of revenue for Indian NBFCs. Another important finding in the case of Indian NBFCs was that with an increase in the size of total assets, profitability was negatively affected. It implies that the loans disbursed or investments that were being made by Indian NBFCs were either of poor asset quality or had low-income or profit-generating capacity. The Indian NBFCs invested in or disbursed loans mainly to the risky and unbanked housing and infrastructure sectors and non-creditworthy retail customers, which adversely affected their profitability.

Keywords: *Financial Performance; Indian Non-Banking Financial Companies; Return on Assets; Return on Equity*

Introduction

In general, around the world, Non-Banking Financial institutions (NBFIs) have developed, supplementing the role of banks. Banks have been the providers of commercial credit in India traditionally because of the underdeveloped market credit. The loan disbursal process of banks is stringent, time-consuming, collateral-dependent and demands fairly high financial soundness measures. The banks around the globe were financially distraught after the global financial crisis. The banking sector formed the pillar of the Indian Economy in terms of disbursal of loans and capital formation. However, the Non-Banking Financial Companies established as per Study III of Reserve Bank of India (RBI) Regulatory Act 1934, started to play a complementary role to Indian banks for a developing economy like India. The functioning of Non-Banking Financial Companies (NBFCs) is complex in a capitalist market structure. In developing nations like India, they simply intermediate between borrowers and lenders and deal in the disbursement of loans in various sectors, aiding especially in financial inclusion.

The Indian NBFCs are not granted permission by RBI to access the cheapest source of funding that banks can, that is, household savings. In terms of the balance sheet composition of Indian NBFCs, 75% of their borrowings are from the market, mutual funds, and banks, which contribute to their huge interconnectedness with the Indian Financial System (ETBFSI, 2023). Indian NBFCs can give loans

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against shares and also loans to commercial vehicles that operate on a cash-based system, which banks cannot, due to RBI restrictions.

Starting from the financial year 2015, India's Credit-to-Gross Domestic Product (GDP) ratio was at 97% versus 447% in UK, 244% in USA and 165% in China (Aditya Birla Finance Limited, 2016). This presented the fact that India had avenues of credit growth that had to be filled in by bank-like institutions. From the financial year 2015 to 2018, gross Non-Performing Assets (NPAs) reached about 11.5% of total advances in Indian banking sector (ET Online, 2023). This was used to the advantage of Indian NBFCs. They started disbursing credits to unbanked customers and niche segments.

The demonetisation of the financial year 2016 led to rise in bank deposits, which were then invested in debt funds of mutual funds. Thus, the borrowings of NBFCs became cheaper with a rise in supply of credit to them. According to Sengupta, Song and Vardhan (2021), the NBFCs grew at a Compound Annual Growth Rate (CAGR) of 22% from financial year 2017 to 2019 and its loans and advances grew at 23.4% during the same time period, and the growth in infrastructure credit disbursal of NBFCs during the period, was more than that of banks. With the launch of the Unified Payment Interface and Bharat Bill Payments System, NBFCs ensured growth in the long run. Wider niche segments of customers, such as retail customers and Micro, Small and Medium Enterprises (MSMEs) (which remained unbanked due to a lack of proper collaterals, pricing and product positioning), were catered by NBFCs with the help of the internal and front-end digitalised support operations. Indian NBFCs leveraged the benefits of a largely increasing digitally literate population in India.

According to Kalra (2016), the share of NBFCs' assets in GDP at the current market price had increased from 8.4% in financial year 2006 to 12.5% for the financial year 2013. According to Tadi (2022), after the financial crisis in 2008, NBFCs have gained prominence internationally both in the case of strong as well as emerging economies; and it has been playing an important role in wealth generation, substitution funding, and capital generation. Kumar and Bird (2020) corroborated the fact that NBFCs transform small retail sources of the public into a sizeable credit, thus aiding the flow of credit in an economy. The rising importance of Indian NBFCs in financial services surpassed that of traditional Indian banks as far as capital formation and economic progress are concerned. Kumar and Hosmani (2019) opined that Indian NBFCs contributed 24.3% to Indian GDP as compared to that of banks at 21.4% as on the financial year 2019.

As on 31st March 2023, 9443 NBFCs were registered with Reserve Bank of India. Abhyuday *et al.* (2023) opined that Indian banks recorded 5.6% of sanctioning of loans compared to Indian NBFCs' 60% of sanctioning of loans through digital channels. The Indian NBFCs grew an intertwined connectedness with the other players of Indian Financial System. The RBI thus introduced Scale-based regulations for Indian NBFCs so that Indian NBFCs are brought under proper control, based on their size, activity and perceived risks. The customization offered in financial products by Indian NBFCs to the varied levels of their customer base, expanded the sector's presence in the country.

The significance of the present study lies in the fact that factors affecting the financial performance or profitability of Indian NBFCs (which has grown to be another economic strong pillar like Indian banks) have been analysed. The importance of NBFCs in Indian economy lies next to Indian banks. They are inter-connected to various other players in Indian financial system through money market instruments, stocks and shares. The recent liquidity crisis in NBFC sector in the financial year 2018-2019 makes the analysis of financial performance of Indian NBFCs even more important to detect the loopholes affecting their profitability. Any adverse financial performance of Indian NBFCs can affect the Indian financial system as a whole. They have a pivotal role to play in financial inclusion by providing credit to unbanked sectors and customers, unorganised sectors and small retail borrowers. Judging the financial performance of Indian NBFCs in the light of volume of loans disbursed, cost incurred, asset creation and capital adequacy, thus becomes increasingly important, as NBFCs are drivers of financial innovation, employment generation, wealth creation and infrastructure and logistics development in India. All these factors are essential for progress of a developing economy like India.

Review of Literature

Ally (2013) analysed commercial banks in Tanzania over a period ranging from financial year 2006 to 2012. The profitability indicators Return on Assets and Return on Equity were taken into consideration. Banks of large size were found to be more profitable than small and medium-sized banks.

San and Heng (2013) investigated bank-specific and macroeconomic factors that impacted the performance of Malaysian commercial banks from 2003 to 2009. The analysis was carried out through the regression technique and it showed that return on assets was the best measure of financial performance. It also corroborated the fact that bank-specific aspects like cost, liquidity and asset quality significantly impacted the financial performance of Malaysian commercial banks; on the other hand, the macroeconomic factors did not.

Thilakam and Saravanan (2014) focused on the financial products catered by Indian NBFCs to the various sectors in the economy. They were of the opinion that such risky credit disbursals by Indian NBFCs were the main reason behind their growth in India compared to banks.

Nagarkar (2015) conducted his study based on top five banks from the public, private and foreign banks category for the period comprising the financial year 2003 to 2013. Principal component analysis revealed that credit appraisal was an important process that was conducted by banks to decrease bad loans. It was also concluded that banks had to depend more on low-cost deposit money rather than borrowings for saving costs.

Eliona and Valbona (2016) conducted research and concluded that liquidity risk played a pivotal role in influencing the financial performance of Non-Banking Financial Institutions in Albania. They gave out risky loans instead of retaining adequate funds for payment obligations.

Kaur (2016) examined the performance of two leading Indian NBFCs namely Mannapuram Finance and Muthoot Finance from the financial year 2009 to 2014. The author evaluated the capital adequacy ratios, asset quality ratios, liquidity ratios and profitability ratios.

Bala and Chandra (2017) compared the performance and growth of NBFCs vis-a-vis banks of India for the period from financial year 2006 to 2013. The results showed that the growth of credit in NBFCs surpassed that of banks in India due to the regulatory benefits. It enjoyed a wider spread or range of activities compared to the Indian banks.

Samy and Nandhini (2018) studied the financial performance of Indian NBFCs and inferred that the growth of NBFCs was higher than that of banks in customer segments, which involved high risks. The study also revealed that the growth of Indian NBFCs increased over the years.

Malini and Meharaj Banu (2019) analysed the financial performance of Indian Tobacco Corporation for a period of five financial years from 2013 to 2017 and concluded that the company's liquidity position was strong enough to meet short-term liabilities. The debt is less compared to equity in the company for the years of analysis, meaning they were incurring higher costs, which is substantiated by high total Expenses-to-Sales ratio of about 50%. However, the company managed to maintain increasing profits. Also, the Total Assets Turnover ratio being over 1 indicates that the total assets were being used efficiently to generate more sales in the market and reap higher profit.

A comparative study was undertaken by Tamilarasu and Srinivasan (2022). The authors were of the opinion that despite the fact that private sector banks enjoyed greater profitability than public sector banks and that the Union Government offered stability to public sector banks in terms of Deposit Insurance. The public sector banks also have to bear higher employee-related expenses due to their larger workforce compared to private sector banks. The public gave preference to savings accounts and fixed deposits of public sector banks because of the stability given by the government. But savings accounts entail higher expenses compared to current accounts on which the private banks

thrive. The merger of public sector banks helped to improve their financial performances due to cutting down on costs.

Suresh and Pradhan (2023) undertook financial performance analysis of Indian Public Sector Undertaking and Private Sector banks with the help of CAMEL model. The findings of the study corroborated the fact that although the private sector banks held adequate capital, the debt they held in comparison to equity was higher. Hence, they were highly leveraged and thus had a higher volume of borrowing. Despite the fact that private sector banks had taken more borrowings, their Non-Performing Assets were low compared to the public sector undertaking banks. Non-Performing ratios have a negative or inverse relationship with profitability. In terms of deposits, the liquid assets held by private banks were also higher than those held by public sector undertaking banks.

Prekazi, Bajrami and Hoxha *(*2023) measured the impact of capital structure on the financial performance of 42 corporate firms using panel data spanning over the financial years 2014-2019. For financial performance, Return on Assets and Return on Equity were used as the variables for measurements. The Random Effects model testified to the fact that total equity negatively and significantly impacted return on assets. Total Assets positively and significantly impacted Return on Assets. The Fixed Effects model showed that increase in assets positively and significantly increased Return on Equity, while total equity had significant negative relationship with Return on Equity.

Mishra, Yadav and Singh (2024) analysed the financial performance of Small Industries Development Bank of India (SIDBI) from financial years ended 2016 to 2020, to gain an insight into the services delivered by SIDBI to the small businesses and also the financial performance of the bank in terms of income, capital, reserves and funds and dividend payments. It was found that the operational efficiency and capital adequacy of SIDBI remained high during the entire period of study. The expansion of SIDBI's direct credit disbursals was concluded to be imperative to other industries or sectors with growth potential. The fact that there was growth in reserves and funds indicates financial stability, but proper utilization of these resources to generate high returns or strategic initiatives shall help in increasing the profitability of the bank.

Al Habali and Durrani (2024) analysed the financial performance metrics of Islamic banks in Oman in terms of liquidity, concentration of non-performing assets, profit-earning capacity and capital adequacy. It was found that in terms of stability and promotion of financial inclusion, the banks fared well, but improvements needed to be made to increase profitability and asset quality.

The researchers observed that in the existing studies reviewed, various factors affecting the profitability of financial institutions especially that of banks were studied in detail. The performance of NBFCs and associated credit growth have also been studied. The risk associated with and types of credit disbursed by the NBFCs were stressed upon. Comparisons were drawn between the risky credit disbursals of NBFCs and reluctance on part of banks to supply the same credit. Ratios associated with performance of NBFCs were also analysed. However, important factors affecting the financial performance or profitability of the NBFCs were not elaborated on or critically analysed in detail. This study has thus been designed to fulfil the afore-mentioned research gap.

Objectives of the Study

The study is based on the following research objectives:

To examine whether the proportion of reserves kept in relation to loans disbursed, impacts the profitability of Indian NBFCs.
To analyse whether the cost incurred in relation to income earned, impacts the profitability of Indian NBFCs.
To assess whether the size and capital adequacy of Indian NBFCs have any impact on profitability.

Research Questions

The study purports to answer the following research questions to address the research objectives:

Does reserves set aside in proportion to the loans disbursed by Indian NBFCs, have an impact on profitability of Indian NBFCs?

Does the proportion of cost expended with respect to income earned have any impact on profitability of Indian NBFCs?

Do the size and capital adequacy of Indian NBFCs impact their profitability?

Research Hypotheses

The research questions shall be answered based on the following research hypotheses:

HYPOTHESIS 1

Ho (Null Hypothesis): The proportion of reserves to loans disbursed has no significant impact on the profitability of Indian NBFCs.

HYPOTHESIS 2

Ho (Null Hypothesis): The cost incurred in proportion to income earned has no significant impact on the profitability of Indian NBFCs.

HYPOTHESIS 3

Ho (Null Hypothesis): The size of Indian NBFCs has no significant impact on its profitability.

HYPOTHESIS 4

Ho (Null Hypothesis): The capital adequacy of Indian NBFCs has no significant impact on its profitability.

Methodology

The present study is based on a large volume of data covering a period of 23 years from financial year 2001 to financial year 2023, the period for which consistent data for analysis was available. A sample of top 50 Indian NBFCs (based on market capitalisation as on 6th of June, 2024) listed with Bombay Stock Exchange was taken into consideration. However consistent data required for analysis were obtained for 11 NBFCs the names of which are mentioned in Table 1.

Table 1: List of Select Indian Non-Banking Financial Companies (NBFCs)

Sl. No.	Name of the Non-Banking Financial Companies (NBFCs)
1	Bajaj Finance Limited
2	Cholamandalam Investment & Finance Company Limited
3	Mannapuram Finance Limited
4	Muthoot Finance Limited
5	Mahindra & Mahindra Financial Services Limited
6	Poonawalla Fincorp Limited
7	L&T Finance Limited
8	Piramal Enterprises Limited
9	Tata Investment Corporation Limited
10	Indian Railway Finance Corporation Limited
11	PNB Gilts Limited

Source: Researchers' Own Preparation

The variables selected based on the literature reviewed are given as below in Table 2.

Table 2: Variables Selection Criteria

Variables	Explanation	Associated Literature Review
Dependent Variables		
Return On Assets (ROA)	Financial Performance or Profitability.	Keerthi and Eshwari (2020), Panigrahi and Vachhani (2021), and Hamad (2024)
Return On Equity (ROE)	Financial Performance or Profitability.	
Independent Variables		
Reserves-to-Loans ratio	Reserves-to-Loans ratio is calculated as reserves divided by loans disbursed. The relevant	Toby (2007) and Corporate Finance Institute (2024)

	literatures showed that a negative relation existed between the Reserves-to-Loans ratio and profitability.	
Cost-to-Income ratio	The Cost-to-Income ratio is a measure of efficiency. It implies a higher Cost-to-Income ratio shall negatively affect profitability.	Athanasoglou, Brissimis and Delis (2008), Al-Sharkas and Al-Sharkas (2022)
Log of Total Assets (L_Total Assets)	Total assets measure the size of a company and it is positively related to profitability according to literature review. Log of total assets (L_Total Assets) has been taken for the purpose of stationarity of the variable.	Pasiouras and Kosmidou (2007), Chalise (2019), and Mengstie, Mosisa and Mosisa *(*2024).
Log of Total Equity (L_Total Equity)	Total equity has a positive effect on profitability according to literature review. Log of total equity (L_Total Equity) has been taken for the purpose of stationarity of the variable.	Kosmidou (2008), Dietrich and Wanzenried (2011), Ngo, Bui and Le *(*2021), Nurjanah and Prasetyo (2024)

Source: Researcher's Own Preparation

The analysis of the study was conducted using the statistical tool E-Views. Initially, descriptive statistics for all variables were examined to understand the dataset's characteristics.

To test the stationarity of the variables, the Levin, Lin, and Chu (2002) unit root test was applied. This test is particularly suitable for panel data of moderate size, where the number of cross-sectional units (N) ranges from 10 to 250. The Levin, Lin, and Chu test accounts for heterogeneity in individual deterministic effects and allows for heterogeneous serial correlation of the error terms. It employs a pooled t-statistic to test the null hypothesis that each individual time series contains unit roots (Ho: $\rho i=\rho=0$) against the alternative hypothesis that each time series is stationary (Ha: $\rho i=\rho<0$ for all i).

For panel data analysis, the main linear regression models considered are the Pooled OLS model, Fixed Effects Model, and Random Effects Model. A panel dataset includes observations on the same units or individuals over time, with cross-sectional units denoted by N and time periods by T. The total number of observations is NxT.

To determine whether the Fixed Effects (FE) model or Random Effects (RE) model is more appropriate, the Hausman Test is applied. The null hypothesis of the Hausman Test suggests that both Fixed Effects model and Random Effects model are consistent, though Fixed Effects model is less efficient. The alternative hypothesis suggests that Fixed Effects model is both consistent and efficient, while Random Effects model is inconsistent.

In this study, Panel Regression models were used for analysis, given the data's cross-sectional and time-series components. The dataset consists of 253 observations (23 years x 11 Non-Banking Financial Companies (NBFCs)). Data were collected from the annual reports of the selected Indian NBFCs.

The Hausman Test indicated that the Fixed Effects model was the most suitable regression technique among the panel regression models. Previous studies, such as those by Vatavu (2015), Kamat, Ramesh, and Dhume (2016), and Batchimeg (2017), have also utilized the Fixed Effects Panel Regression model for financial performance analysis.

The Fixed Effects Panel Regression model equations, with dependent variables considered one at a time, are as follows:

Model 1:

$ROA_{it} = \alpha + \beta_1(\text{Reserves-to-Loans ratio})_{it} + \beta_2(\text{Cost-to-Income ratio})_{it} + \beta_3 L\_Total\ Assets + \beta_4 L\_Total\ Equity + u_{it}$

Model 2:

$ROE_{it} = \alpha + \beta_1(\text{Reserves-to-Loans ratio})_{it} + \beta_2(\text{Cost-to-Income ratio})_{it} + \beta_3 L\_Total\ Assets + \beta_4 L\_Total\ Equity + u_{it}$

Here i denotes the NBFCs and time is denoted by t. α is the intercept term, $\beta_1, \beta_2, \beta_3$ and β_4 are the co-efficients and u_{it} is the traditional error term. Here the variable on the left hand-side of the equation denotes the dependent variable and the variables on right hand-side of the equation denote the independent variables.

Results

The descriptive statistics of the variables are presented as below in Table 3:

Table 3: Descriptive Statistics

Indicators	ROA	ROE	Reserves-to-Loans ratio	Cost-to-Income ratio	L_Total Assets	L_Total Equity
Mean	0.039547	0.127023	9309.002	0.753345	24.76884	23.28333
Median	0.022889	0.130706	0.402361	0.762513	25.10350	23.41827
Maximum	0.981089	1.102440	147726	7.025320	29.22259	26.96730
Minimum	-0.196023	-1.214559	0.000189	0.010314	14.89317	14.77017
Std.dev.	0.082762	0.155779	103587.4	0.508753	2.129866	2.048928
Skewness	6.533035	-1.687072	12.61694	8.056544	-0.608170	-0.740730
Kurtosis	70.15145	30.38036	169.5757	96.83549	3.917591	3.837057
Jarque-Bera	49335.41	8022.937	299217.00	95557.38	24.47201	30.52219
Probability	0.000000	0.000000	0.000000	0.000000	0.000000	0.000005
Observations	253	253	253	253	253	253

Source: Researchers' Own Computation

The notable observations are that, the ratio of reserves to loans has the highest standard deviation of 103587.4, showing highest variability from mean among all the variables; and the skewness, kurtosis as well as probability values (at 5% and 1% levels of significance) of Jarque-Bera indicate that the data is non-normal.

The Levin, Lin and Chu (2002) Panel Unit root test substantiates the fact that the variables are stationary at level, as given in Table 4.

Table 4: Levin, Lin and Chu-Panel Unit Root Test

Variables	t-statistic (Adjusted)	p-value	Remarks
ROA	-3.6233	0.0001	Stationary at level
ROE	-2.6428	0.0041	Stationary at level
Reserves-to-Loans ratio	-3.5223	0.0002	Stationary at level
Cost-to-Income ratio	-4.1178	0.0000	Stationary at level
L_Total Assets	-0.4221	0.0397	Stationary at level
L_Total Equity	-1.8957	0.0291	Stationary at level

Source: Researchers' Own Computation

Total Assets and Total Equity were log-transformed to make the variables stationary. It was further observed that the variables ROA, ROE, Reserves-to-Loans ratio, Cost-to-Income ratio are stationary at 5% as well as 1% level of significance, and Log of Total Assets, Log of Total Equity are stationary at 5% level of significance.

In terms of Model 1, when ROA is the dependent variable, it can be observed from Table 5 given below, that the p- value is significant at at 5% level of significance, which leads to rejection of null hypothesis and acceptance of the alternative hypothesis that coefficients of fixed effects model is efficient. Hence fixed effects regression model is the appropriate model to be applied in this case.

Table 5: Correlated Random Effects-Hausman Test when ROA is Dependent Variable

Test Summary	Chi-Square statistic	Chi-Square df	p-value
Cross-section random	12.014715	4	0.0172

Source: Researchers' Own Computation

The empirical results of Fixed Effects Panel Regression model taking ROA as the dependent variable, are given in Tables 6 and 7 respectively, as below:

Table 6: Fixed Effects Panel Regression model when ROA is Dependent Variable

Variables	Coefficients	Standard Error	t-statistic	P value
C	0.161548	0.061247	2.637644	0.0089
Reserves-to-Loans ratio	-0.0000000911	-0.0000000449	-2.028635	0.0436
Cost-to-Income ratio	-0.038260	0.009996	-3.827737	0.0002
L_Total Assets	-0.025380	0.011711	-2.167189	0.0312
L_Total Equity	0.023034	0.011854	1.943904	0.0532

Source: Researchers' Own Computation

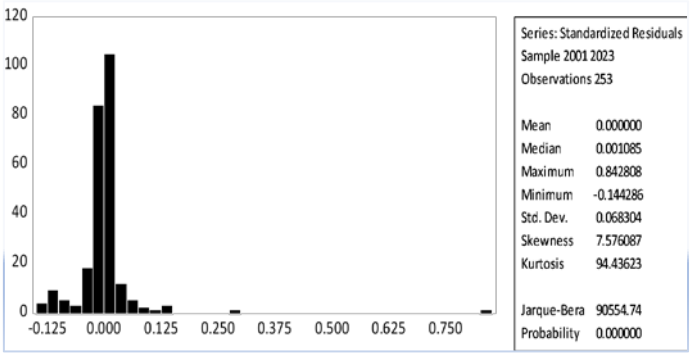
Table 7: Effects Specification when ROA is Dependent Variable

Particulars	Value	Particulars	Value
R-Squared	0.318864	Mean Dependent Variable	0.039547
Adjusted R-Squared	0.278797	S.D. Dependent Variable	0.082762
S.E. of Regression	0.070284	Akaike Info Criterion	-2.415083
Sum Squared Residual	1.175687	Schwarz Criterion	-2.205594
Log Likelihood	320.5080	Hannan-Quinn Criterion	-2.330798
F-statistic	7.958293	Durbin Watson statistic	1.653342
Prob.(F-statistic)	0.000000		

Source: Researchers' Own Computation

As per, the model summary in Table 7 the model turns out to be moderately significant, as the p-value of overall F-statistic is 0.000000 (significant at 5% and 1% level of significance) and the Adjusted R-Squared is 0.278797. The Durbin-Watson statistic value (1.653342 being near to value 2) also shows no significant issue relating to autocorrelation. It can be inferred from Table 6, that the ratio of reserves to loans significantly and negatively impacts the profitability variable ROA at the 5% level of significance. It means with the increase in funds kept as reserves; in comparison to loans disbursed, the profitability of Indian NBFCs is negatively affected. The findings are consistent with the results found in the case of Nigerian banks, according to Toby (2007). Log of total assets significantly and negatively impact the profitability variable ROA at 5% level of significance. This happens when there is no proper utilization of assets or no judicious investment of assets into avenues, that generate income and profit. Cost-to-Income ratio significantly and negatively impacts ROA at 5% and 1% levels of significance. This is because of the fact that, excess of expenses or cost over income impairs profitability. With a unit change in Reserves-to-Loans ratio and Cost-to-Income ratio, the profitability, or ROA, decreases by -0.0000000911 and -0.038260 respectively. Also, with a 1% change in the size variable (which is total assets in this study), the profitability decreases by -0.025380%.

The skewness, kurtosis, as well as a significant probability value of the Jarque-Bera statistic at 5% and 1% levels of significance denote non-normality of the residuals in figure 1.



Source: Researchers' Own Representation

Figure 1: Standardized Residuals Plot when ROA is Dependent Variable

In terms of Model 2, where ROE is the dependent variable, it can be observed from Table 8 below that the p-value of 0.0001 is significant at 5% and 1% levels of significance, which leads to rejection of null

hypothesis, that states that the coefficients of fixed effects and random effects models are consistent, but coefficients of fixed effects model are inefficient. Hence, the fixed effects regression model is the appropriate model to be applied in this case.

Table 8: Correlated Random Effects-Hausman Test when ROE is Dependent Variable

Test Summary	Chi-Square statistic	Chi-Square df	p-value
Cross-section random	23.510533	4	0.0001

Source: Researchers' Own Computation

The empirical results of Fixed Effects Panel Regression model taking ROE as the dependent variable, are as given in Tables 9 and 10 respectively, as given below:

Table 9: Empirical Results of the Fixed Effects Panel Regression model when ROE is Dependent Variable

Variables	Coefficients	Standard Error	t- statistic	p-value
C	0.265960	0.116513	2.282657	0.0233
Reserves-to-Loans ratio	-0.101126	0.019015	-5.318241	0.0000
Cost-to-Income ratio	-0.0000000931	0.0000000854	-1.089685	0.2770
L_Total Assets	0.032709	0.022279	1.468156	0.1434
L_Total Equity	-0.037454	0.022551	-1.660838	0.0981

Source: Researchers' Own Computation

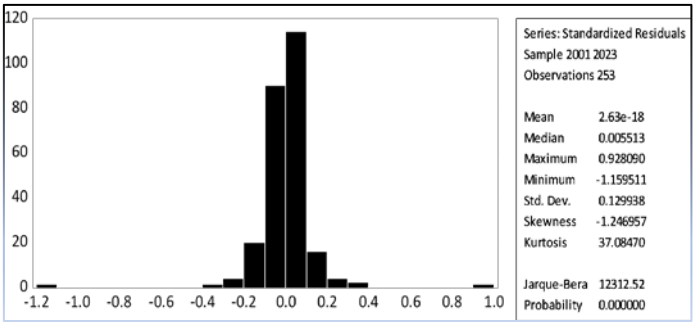
Table 10: Effects Specification when ROE is Dependent Variable

Particulars	Value	Particulars	Value
R-Squared	0.304249	Mean Dependent Variable	0.127023
Adjusted R-Squared	0.263322	S.D. Dependent Variable	0.155779
S.E. of Regression	0.133705	Akaike Info Criterion	-1.128907
Sum Squared Residual	4.254716	Schwarz Criterion	-0.919418
Log Likelihood	157.8068	Hannan-Quinn Criterion	-1.044623
F- statistic	7.434021	Durbin Watson statistic	1.426204
Prob. (F- statistic)	0.000000		

Source: Researchers' Own Computation

According to the model summary in Table 10, the model turns out to be moderately significant, as the p-value of overall F-statistic is 0.000000 (significant at 5% and 1% level of significance) and the Adjusted R-Squared is 0.263322. The Durbin-Watson statistic value (1.426204 being near to value 2) also shows no significant issue relating to autocorrelation. From Table 9, it can be observed that the ratio of reserves to loans negatively impacts the profitability variable ROE at 5% and 1% levels of significance. With a unit change in Reserves-to-Loans ratio, the profitability, or ROE decreases by -0.101126.

The skewness, kurtosis, as well as a significant probability value of Jarque-Bera statistic at 5% and 1% levels of significance denote non-normality of the residuals in figure 2.



Source: Researchers' Own Representation

Figure 2: Standardized Residuals Plot when ROE is Dependent Variable

Discussion

The ratio of reserves to loans disbursed significantly and negatively impacts the profitability variables in both models. It thus rejects the null hypothesis and accepts the alternative hypothesis that the proportion of reserves to loans disbursed has a significant impact on the profitability of Indian NBFCs. Mishra, Yadav and Singh (2024) concluded that, there is always a trade-off between liquidity and profitability. It is seen in the results that, to lower the risk of non-payment of liability obligations, reserves are being kept, which lowers the funds at disposal, to be used to give out credit or loans. Hence interest income from loans, which forms the main source of profit for financial institutions like NBFCs, has to be sacrificed. But the risk-return tradeoff has to be properly articulated so that liquidity is maintained and profit is also substantially earned. In the first model, it is seen that with a unit increase in Cost-to-Income ratio, the profitability decreases. The first model thus rejects the null hypothesis and accepts the alternative hypothesis that, the cost incurred in proportion to income earned has a significant impact on the profitability of Indian NBFCs. It thus corroborates the findings of Nagarkar (2015) and Ayinuola and Gumel (2023). The functioning of NBFCs entails a cost disadvantage as they have to borrow from banks and mutual funds and are engaged in borrowings from market which are costlier compared to household savings. Indian NBFCs are barred by RBI to access public deposits. It is also observed in the first model that, with the increase in size or total assets, the profitability decreases. The first model thus rejects the null hypothesis and accepts the alternative hypothesis that, the size of Indian NBFCs has a significant impact on its profitability. Shanmuganandavadivel and Sasikala Devi (2018) and Awasthi and Shukla (2023), found that Indian NBFCs were disbursing loans to risky sectors with low probability of adequate return and profitability, and also investments were being made in assets of poor quality. The disbursement of loans entailing a high lock-in period and huge cost, compared to the uncertainty involved in amount of income or profit generation in long run, was one of the prime reasons for the liquidity crisis of Indian NBFC sector in financial year 2018-2019 (ETBFSI, 2022). This is because of the fact that by the time the loan matures, inflation rises, and percentage of profit reduces.

Conclusion

NBFCs rely heavily on banks and mutual funds for funding, resulting in a high-cost funding disadvantage. The dependence of NBFCs on wholesale credit market of India (which lacks depth and liquidity), causes liquidity challenges to NBFC sector of India. Policies must be brought in, whereby NBFCs can access loans from mutual funds at a lower cost, just like NBFC lending has been marked under priority sector lending for banks by RBI. Another policy recommendation is that, the liquidity and depth of the bond market must be improved by bringing in variation in types of bonds, breaking the bonds into smaller denominations and shortening their maturity periods to increase their circulation in market. If there is liquidity in borrowing markets, the need for keeping reserves as liquidity assurances reduces. The profits earned can then be given out as loans to generate more income and profit. Niche segment credit disbursals lead to concentration of risks for NBFCs and can create credit shortfalls for the niche segments if anything goes wrong with the NBFCs providing credit to a respective industry. Risk management committees must be formed, risk assessment procedures over smaller time-buckets must be carried out, and cash inflow against cash outflow must be measured at smaller time intervals in Indian NBFCs. The threshold for holding risky assets in balance sheets must be reduced. This study will act as a guide to the regulator, RBI, to lower the cost of sourcing funds for Indian NBFCs and increase liquidity for them in the bond market and through mutual funds. The study shall also guide Indian NBFCs in revising their policies to strengthen risk assessment procedures while building assets or disbursing loans.

The future scope of the study:

(i) Similar type of study can be done by taking into consideration macro-economic and socio-economic variables to observe their effects on financial performance of Indian NBFCs.

(ii) Several countries might also be considered to compare the financial performance of NBFCs in various types of countries (developed or developing) across the world.

Limitations of the Study

The limitations of the study are as follows:

(i)The study is based on small number of companies due to non-availability of consistent data for analysis, thus limiting the conduct of a robust study.

(ii)The impact of more variables such as, macroeconomic variables and ownership factors, leverage and age on financial performance could not be taken into consideration given the size of the dataset.

(iii) The forecasting techniques to predict the future changes in financial performance of the NBFCs also could not be applied due to the fact, that the econometric techniques required for such analyses apply to much larger datasets.

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Conflict of Interest

The authors declare that they have no conflict of interests.

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