Journal of Informatics Education and Research
ISSN: 1526-4726
Vol 4 Issue 3 (2024)

A Study on Determinants of Profitability in Indian Banks

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Abstract
Profitability is a crucial indicator of banks financial performance. By understanding, evaluating and analysis of factors that affect profitability, banks can improve their financial performance and maintain their long-term viability. Although, there are number of variables that affects the profitability of a bank but this paper examines the determinants of profitability (measured by Returns of Assets ROA) of selected banks by using correlation and multiple regression on dependent variable ROA with independent variable ROCE, CASA, NMP, OPM, ROE or Net-worth, NIM, OP/Total Assets, the study shows that NPM, ROCE, CASA, OPM and OP/ Total Assets are more significant and crucial for determining ROA. Although, ROE and NIM are not significant in determining ROA using multiple regressions, individually they are significant in determining ROA.

Keywords: Determinants of Profitability, ROA, CASA, ROCE, NMP, OPM, ROE, Net-worth, Net Interest Margin, Operating Profit/Total Assets.

I. Introduction

The ability of a bank to make money from its operations is referred to as profitability in banking. It is a crucial indicator of a bank's financial performance and shows how well it has used its resources to produce earnings and returns for its shareholders. For a bank to be sustainable, grow, and be able to meet its financial obligations, profitability is essential.

The elements or variables that have a large impact on a bank's profitability are referred to as its determinants. The ability of a bank to make profits and maintain its operations over the long term is a critical component of a bank's financial performance. Banks can improve their financial performance and maintain their long-term viability by making decisions based on an understanding of the factors that affect profitability.

Return on Assets (ROA): is taken as the dependent variable as it reflects as to how well a bank's management is using the banks real investment resources to generate profits.

It is calculated as: ROA= Net Income/Total Assets

Return on Capital Employed (ROCE): is a profitability statistic that assesses a bank's performance in relation to the total capital it has employed. It shows how well the bank makes use of its capital to produce profits. Better profitability is indicated by a larger ROCE since it shows a stronger return on the capital the bank has invested

Current Account Savings Account (CASA) (%): The CASA ratio shows what percentages of a bank's total deposits are held in current and savings accounts. Increased low-cost funding is indicated by a larger CASA ratio, which can lower a bank's cost of capital and boost profitability.

Net Profit Margin (NPM) is a profitability ratio that calculates the proportion of revenue that is left over as net profit after all costs, such as interest and taxes, have been subtracted. It displays the bank's capacity to manage expenses and make money from its primary activities. The profitability is better when the NPM is higher.

Operating Profit Margin (OPM) (%): OPM is a profitability ratio that measures the percentage of sales that remains as operating profit after deducting all operating expenses, excluding interest and taxes. It shows the profitability of the bank's core business. Higher OPM indicates better profitability.

Return on Equity (ROE) / Net Worth (%): ROE measures a bank's profitability relative to its equity or net worth. It shows the extent to which the bank generates profits for its shareholders. Higher ROE reflects better profitability and creates shareholder value. Net Interest Margin (NIM) (X): NIM is the ratio of the difference between a bank's interest income and interest expense divided by its interest earning assets. This reflects the bank's ability to generate income from

its interest-earning activities. The higher the NIM, the wider the spread between interest earned and interest paid, and the more profitable.

Operating Income/Total Assets (%): This indicator measures a bank's operating income as a percentage of its total assets. This demonstrates the bank's ability to generate profit from its asset base. A higher ratio of operating income to total assets indicates higher profitability.

Literature Review

(Bhatia, Mahajan, & Chander, 2012) Studied the determinants of profitability of private sector banks in India. The results show that Spread ratio, Provisions and contingencies, non-interest income, Operating expense ratio, Profit per employee, Investment/deposit ratio and non-performing assets are significant variables in affecting the profitability of banks in the private sector of Indian economy. It is also suggested that if banks concentrate on these variables, they would be able to generate better profitability in the present globalized era.

(Badola & Verma, Oct 2006) Their study about Determinants of Profitability of Banks In India: A Multivariate Analysis, which is based on step-wise multivariate regression model used on temporal data from 1991-92 to 2003-04. The study has brought out that the variables non-interest income, operating expenses, provision, and contingencies and spread have significant relationship with net profits.

(Gupta & Bhullar, 2017) Their study on determinants of profitability of banks: evidence from Indian public sector banks demonstrates non-uniform effects of selected financial characteristics on banks' profitability. The results also reveal that deposit ratios are the significant determinants of banks' profitability while Other Income to Total Income and Interest Income to Total Funds results a significant negative influence on bank performance. The results provide valuable insights to the banks that may assist in sustaining the financial stability in banking sector.

(MinHwan Lee, 2018) their study about Profitability Determinants of Commercial Banks: in the Context of Bangladesh shows that the random effect-GLS method indicate that total loan to total asset (TLTA), equity to total assets (EQTA), loan to deposit (LTDEP), and interest margin (INTMARGIN) exert a positive effect on both the performance measures (ROA and ROE), while logarithm of total assets (LNASSET), and GDP growth rate (GDPGR) affect the banks' performance negatively.

(Andhikatama, 2020) Their study about factors affecting profitability with the interest rate as moderating variables in Bank SUMUT. The study shows that the NPL and LDR ratios have a negative effect on ROA, while the BOPO, NIM, and CASA ratios have a positive effect on ROA. BI Rates cannot moderate the relationship between the ratio of NPL, LDR, BOPO, NIM, and CASA on ROA in PT.Bank SUMUT.

(Fadzlan Sufian, 2009) In their study for determinants of bank profitability in a developing economy: empirical evidence from Bangladesh they found that non-interest income exhibits negative relationship with bank profitability.

(Amuthan & Rama Chandran, 2011) In their study on Impact of casa deposit growth on the profitability of NSE listed nationalized banks and new generation banks in India - a comparative study they found that CASA deposits had not created any kind of positive impacts on all three criterion variables in the case of nationalized banks. So profitability is achieved because of other factors only. Whereas in the case of new generation banks, CASA had created all kinds of positive impacts on all variables namely Branch growth, Net Interest Margin and Operating Profits.

II. OBJECTIVES OF STUDY

1. To study about various determinants of profitability for banking company in general.
2. To evaluate which particular determinant has significant relationship with profitability of bank (ROA).
3. To analyze which determinants has significant impact in predicting values of dependent variable (ROA).

III. RESEARCH METHODOLOGY

This type of research used in this research is associative research - causal. Causal associative research aims to analyze the relationship between one variable with another variable or how an independent variable affects the dependent variable and identify / test the causal relationship between variables. In this research secondary data has been collected form 10 banks for the period of 5 Years from 2018 to 2022 name of bank which have been used for study are: Bank of India, State Bank of India, Bank of Maharashtra, Canara Bank, Central Bank of India, Indian Bank, Indian Overseas Bank, Punjab National Bank, UCO Bank, Union Bank of India, Bank of Baroda.

Variables- Dependent Variable: Return on Assets (ROA) and Independent Variables: Return on Capital Employed (ROCE)(%), Current Account Saving Account (CASA) (%), Net Profit Margin (NPM) (%), Operating Profit Margin (OPM)(%), Return on Equity (ROE) / Net-worth (%), Net Interest Margin (NIM) (X),Operating Profit/Total Assets (%) These variables have been taken for the study, for analyzing the data Pearson Correlation, and Regression model is used to check the significance.

IV. HYPOTHESIS

$H1_0$: There is no significant relationship between dependent variable ROA and various independent variables ROCE, CASA, Net Profit Margin, Operating Profit Margin, Return on Equity / Net-worth, Net Interest Margin, Operating Profit/Total Assets)

$H1_1$: There is a significant relationship between dependent variable ROA and various independent variables (ROCE, CASA, Net Profit Margin, Operating Profit Margin, Return on Equity / Net-worth, Net Interest Margin, Operating Profit/Total Assets)

$H2_0$: There is no significant impact of independent variable in prediction of dependent variable ROA.

$H2_1$: There is a significant impact of independent variable in prediction of dependent variable ROA.

V. ANALYSIS AND INTERPRETATION

Table 1. Correlations

		ROA (%)	ROE / (%)	NPM (%)	ROCE (%)	CASA (%)	OPM (%)	NIM (X)	OP/Total Assets (%)
ROA (%)	Pearson Correlation	1	.936**	.998**	.422**	.007	.952**	.536**	.962**
	Sig. (2-tailed)		.000	.000	.001	.961	.000	.000	.000
	N	55	55	55	55	55	55	55	55

Based on table 1 for correlation, it can be seen that ROE, NPM, OPM, and OP/ Total Asset have high degree of correlation with ROA and is significant i.e. less than 0.05 although it also shows that ROCE & NIM have low degree of correlation with dependent variable ROA but have significant impact over profitability where as CASA doesn't show any significant relationship with ROA.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	48.099	7	6.871	3920.275	.000[b]
	Residual	.082	47	.002		
	Total	48.182	54			

a. Dependent Variable: Return on Assets (%)

b. Predictors: (Constant), Operating Profit/Total Assets (%), CASA (%), ROCE (%), Net Interest Margin (X), Return on Equity / Net-worth (%), Net Profit Margin (%), Operating Profit Margin (%)

Coefficients[a]

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	.087	.075		1.174	.246	-.062	.237
ROE (%)	.001	.001	.024	1.304	.199	-.001	.003
NPM (%)	.054	.002	.832	26.283	.000	.050	.058

ROCE (%)	.060	.021	.026	2.808	.007	.017	.103
CASA (%)	-.002	.001	-.017	-2.484	.017	-.004	.000
OPM (%)	-.020	.005	-.290	-4.259	.000	-.029	-.010
NIM (X)	-.008	.033	-.002	-.252	.802	-.075	.058
OP/Total Assets (%)	.420	.070	.429	5.993	.000	.279	.562

Coefficients[a]							
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-.032	.048		-.672	.505	-.129	.064
ROE	.040	.002	.936	19.418	.000	.036	.045

Coefficients[a]							
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	-5.034	1.018		-4.946	.000	-7.075	-2.992
NIM (X)	2.121	.458	.536	4.627	.000	1.201	3.040

From the above table of coefficients it is found that NPM, ROCE, CASA, OPM and OP to Total Assets are significant in predicting the value of dependent variable ROA. Whereas; ROE and NIM are not significant in predicting dependent variable ROA. But the study of individual linear relationship between ROE and ROA, as well as NIM and ROA, it is revealed that, in case of one to one relationship, ROE and NIM both have significant correlation with ROA and also are significant in predicting ROA but when multiple variables are included in the study, their individual significance reduces in prediction of ROA.

VI. CONCLUSION

From the above findings it can be concluded that more or less all the independent variables are contributing in the prediction of ROA (measure of profit in bank and dependent variable in this study) for a banking company but NPM, ROCE, CASA, OPM and OP/ Total Assets are more significant and crucial for determining ROA. Although, ROE and NIM are not significant in determining ROA using multiple regressions, individually they are significant in determining ROA.

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