

# Profitability Determinants of Public Sector Banks: An Empirical Study

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## ARTICLE DETAILS

### Article History

Published Online: 25 May 2019

### Keywords

Bank, Profitability.

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## ABSTRACT

*Profitability is a technique to evaluate overall efficiency of an organization. Profitability of the banking sector is considered as the good parameter of performance, which ultimately contributes to the desired economic growth. Since the profitability of banks is one of the driving forces of capital. This paper is an attempt to identify the factor which contributes in the profitability of banks and to suggest the measures to improve Profitability of the public sector banks. The data employed in the study relates to the Public sector banks in India. The study covers the period of 32 years, from 1980- to 2012, various financial ratios has been calculated and regression analysis has been applied to seek the desirable results.*

## 1. Introduction

Banking system plays a significant role in the Indian economy. Liberalization in early nineties and bank reforms have not only rejuvenated the banking structure but also gave a multidimensional boost to the economy as a whole. Several policy decisions based on the report submitted by the Narsimham committee, set up on financial reforms, were introduced to bring efficiency in the banking operations. As a result of bank reforms, Banking sector in India underwent significant changes during the last two decades, ranging from interest rate deregulation to entry of private and foreign players in the market. An efficient banking system can effectively mobilize and allocate resources for accelerating economic growth.

Indian banks have many opportunities for their growth considering global and domestic developments. Liberalization and functional autonomy have made the banking market more competitive with operational flexibility and decontrolled interest rate and liberalized norms for foreign exchange business. Banks today have moved away from their traditional banking activities, they are offering more diversified services since they face increased competition within the banking sector as well as from non-banking companies and capital markets. In view of the increased competition, the margin for the banks is getting reduced as there are many banks which operate at low operational cost due to use of advanced technology. This poses serious challenges particularly to public sector banks where operational cost is comparatively higher. The income generation sources of banks have shifted from the traditional non fund based activities to more fees and fund based services and activities. These changes in the style of functioning of banks along with global slowdown have compelled us to continuously monitor banks profitability.

## 2. Review of literature

**Aggarawal (2005)** measured the relative productivity of Public sector banks and found that five out of eight bank from State Bank group and from the other nationalized nineteen banks eight banks are efficient. Cause of inefficiency of banks was due to excessive borrowing and due to less income from commission, and income from exchange

**Bodla B.S (2006)** did a multivariate regression analysis on determinants of Indian profitability and found a significant impact of operating expenses, non interest income on net profits.

**Kumar and, Malathy (2010)** in their study entitled "Productivity growth and efficiency change in Indian banking: Technology effect Vs catch-up effect", and found that that total factor productivity (TFP) growth over the period of study is due to technical changes and not due to efficiency change.

**Sharma and Bal (2010)** have analysed the changes in market concentration over the years and concluded that there has been a considerable increase in concentration ratios over the years which points out towards an increase in competition.

**Jain and Popli G.S (2012)** in their study concludes that after the reforms and implementation of new technology in banks has open up new markets, new products and efficient delivery channels for the banking industry. The study concluded that banking industry is shifting from mass banking to class banking with the introduction of value added and customized products. Effective use of technology has a multiplier effect on growth and development of the banking se

## 3. Need of the Study

The word profit and profitability are used in the similar sense but it is not so. The word profit denotes the net earnings of an organization after meeting all the related expenses from the total revenue. Profitability is a technique to evaluate overall efficiency of an organization. Profitability of the banking sector is considered as the good parameter of performance, which ultimately contributes to the desired economic growth. Since the profitability of banks is one of the driving forces of capital, it is desirable to identify the factor which contributes in it. Academicians and regulatory authorities have always been interested in bank profitability studies so that they can take necessary steps to assess and manage risk for ensuring stability in the financial system.

## 4. Objectives of the study

The following are the objectives of the study:

- To identify the factors that contributes towards the Profitability of the public sector banks.
- To suggest the measures to improve the Profitability of the public sector banks.

**5. Research Methodology**

Research methodology states sample size , sources of data collection, sample period, parameters and techniques of data analysis.

**Sample and period of study**

The data employed in the study relates to the Public sector banks in India. The study covers the period of 32 years, from 1980- to 2012.

**Sources of data collection**

The data relating to the Public sector banks has been taken from the various issues of Statistical tables relating to banks, Report on Trend and progress of banks in India, published by RBI, Mumbai , reports of IBA, and other financial Periodicals.

**Parameters of the study**

To find out the determinants of the profitability following ratios has been calculated for the purpose of the study

- Interest Earned As Percentage Of Total Assets.
- Interest Paid As Percentage Of Total Assets.
- Spread As Percentage Of Total Assets.
- Non-Interest Expenditure as Percentage Total Assets.
- Non-Interest Income as Percentage of Total Assets.
- Burden as Percentage of Total Assets.
- Net Profit as Percentage of Total Assets.

**Techniques of data analysis**

To analyse the factors that contributes towards the Profitability of the public sector banks multiple regression analysis has been used in the study . The regression analysis is concerned with the study of dependence of one variable, the dependent variable on one or more variables. To calculate all the statistical results, SPSS software package (version 16.0) has been used.

**6. Results and interpretation**

The findings of the study indicates the results of the regression analysis .

**Multiple Regression Analysis**

Relationship Model Between profitability and determinants of profitability in Public Sector Banks .

To test relationship between profitability and determinants of profitability in Public Sector Banks, variables has been selected as follows:

**Dependent variable**

- Net Profit as percentage of Total Assets (Y)

**Independent Variables: Determinants of profitability(X)**

- Interest Earned As Percentage Of Total Assets.
- Interest Paid As Percentage Of Total Assets.
- Spread as Percentage of Total Assets.
- Non-Interest Expenditure as Percentage Total Assets.
- Non-Interest Income as Percentage of Total Assets.
- Burden as Percentage of Total Assets.

**Table1:Regression Analysis of Net Profit as percentage of Total Assets on Non interest Expenditure as Percentage of Total Assets**

	Coefficients				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Non Interest Expenditure as percentage to Total Assets (X)	4.574	.822	6.682	5.562	.000**
Non Interest Expenditure as percentage Total Assets (X <sup>2</sup> )	-.716	.122	-7.025	-5.848	.000**
(Constant)	-6.512	1.314		-4.955	.000**

Model Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate	F-value	Sig.
.765	.585	.556	.352	20.421	.000**

Table 1 revealed that Quadratic regression equation for prediction of net profit as percentage of total assets from independent variable Non Inertest Expenditure as percentage Total Assets using enter method, the data fits well to the model and has been tested using the ANOVA test which indicates a good fit since its p-value is < 0.01. Quadratic regression equation, were obtained for the same (Table 4.26). The value of Y can be written as:

$$Y = -6.512 + 4.574X - .716X^2$$

Where, Y is the dependent variable (net profit as percentage of total assets), X is independent variables (Non Interest Expenditure as percentage Total Assets) and quadratic relationship has also been shown in scatter plot. (Figure 1).

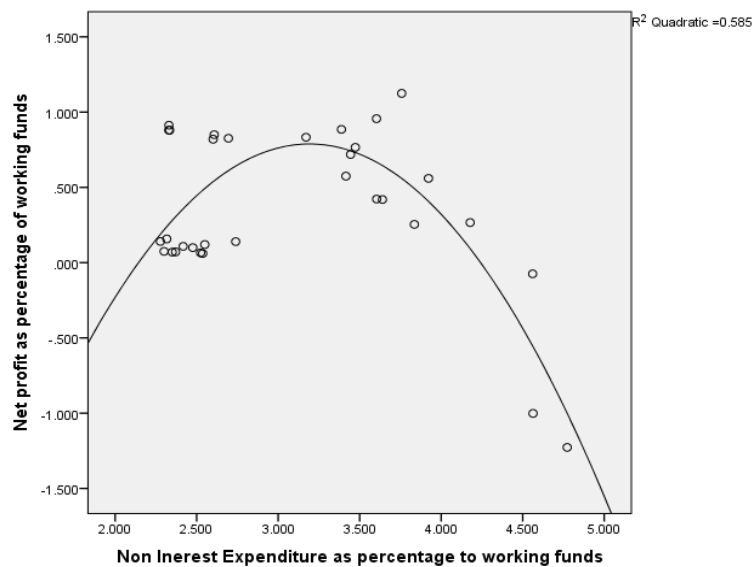


Figure 1

Table 2: Regression Analysis of Net Profit as percentage of Total Assets on Burden as percentage of Total Assets

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Burden as percentage of Total Assets (X)	1.910	.696	2.209	2.743	.010**
Burden as percentage of Total Assets (X <sup>2</sup> )	-.524	.151	-2.790	-3.464	.002**
(Constant)	-1.164	.754		-1.545	.133ns

Model Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate	F-value	Sig.
.708	.502	.468	.386	14.610	.000

Table 2 revealed that Quadratic regression equation for prediction of net profit as percentage of total assets from independent variable Burden as percentage of Total Assets using enter method, the data fits well to the model and has been tested using the Anova test which indicates a good fit since its p-value is < 0.01. Quadratic regression equation, were obtained for the same (Table 2).

The value of Y can be written as:

$$Y = -1.164 + 1.910X - 0.524X^2$$

Where, Y is the dependent variable (net profit as percentage of total assets), X is independent variables (Burden as percentage of Total Assets) and quadratic relationship has also been shown in scatter plot. (Figure 2).

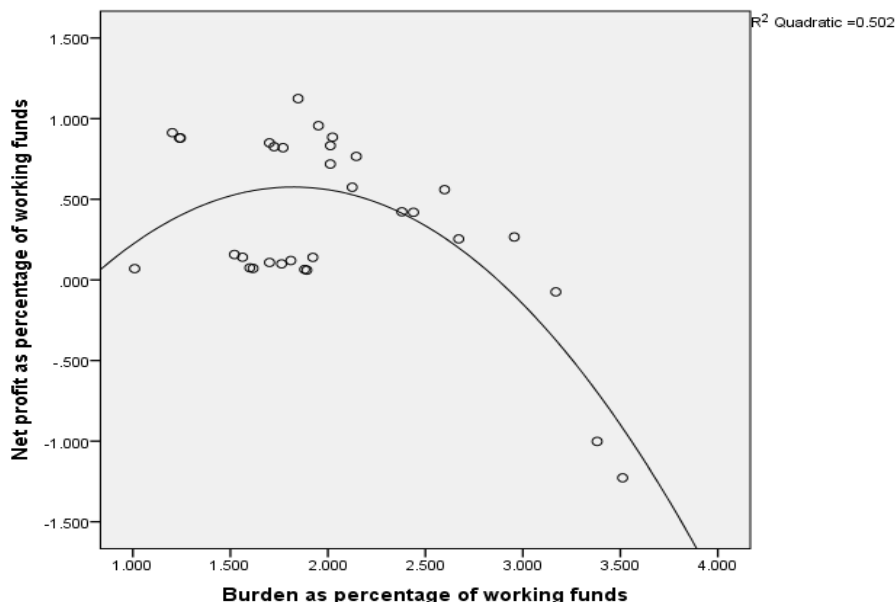


Figure 2

**Table 3:Regression Analysis of Net Profit as percentage of Total Assets on Net Profit as percentage to income**

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Net Profit as percentage to income	.091	.002	.991	39.464	.000**
(Constant)	-.019	.016		-1.175	.249ns

Model Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate	F-value	Sig.
.991	.981	.980	.074	1557.382	.000**

Table 3 revealed that linear regression equation for prediction of net profit as percentage of total assets from independent variable Net Profit as percentage to income using enter method, the data fits well to the model and has been tested using the Anova test which indicates a good fit since its p-value is < 0.01. Linear regression equation, were obtained for the same (Table 3). The value of Y can be written as:

$$Y = -.019 + .091X$$

Where, Y is the dependent variable (net profit as percentage of total assets), X is independent variables (Net Profit as percentage to income) and linear relationship has also been shown in scatter plot. (Figure 3).

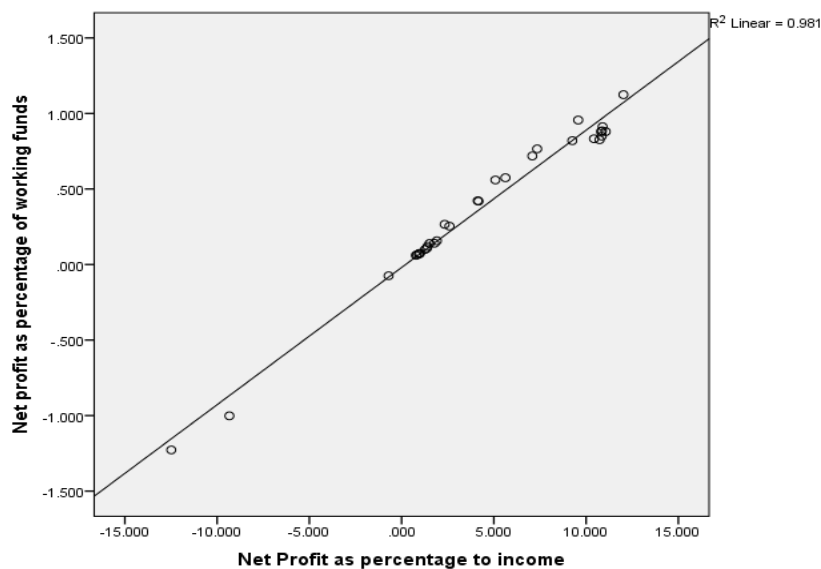


Figure 3

**Table 4:Regression Analysis of Net Profit as percentage of Total Assets on Net profit as percentage of Total deposits**

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Net profit as percentage of Total deposits	.816	.004	1.000	198.051	.000**
(Constant)	.001	.003		.273	.787ns

Model Summary					
R	R Square	Adjusted R Square	Std. Error of the Estimate	F-value	Sig.
1.000	.999	.999	.015	39224.094	.000**

The parameters including non interest income as percentage of total assets, interest income as percentage of total assets, interest expended as percentage of total assets

and spread as percentage of total assets have no significant impact of net profits of public sector banks(Figure 4).

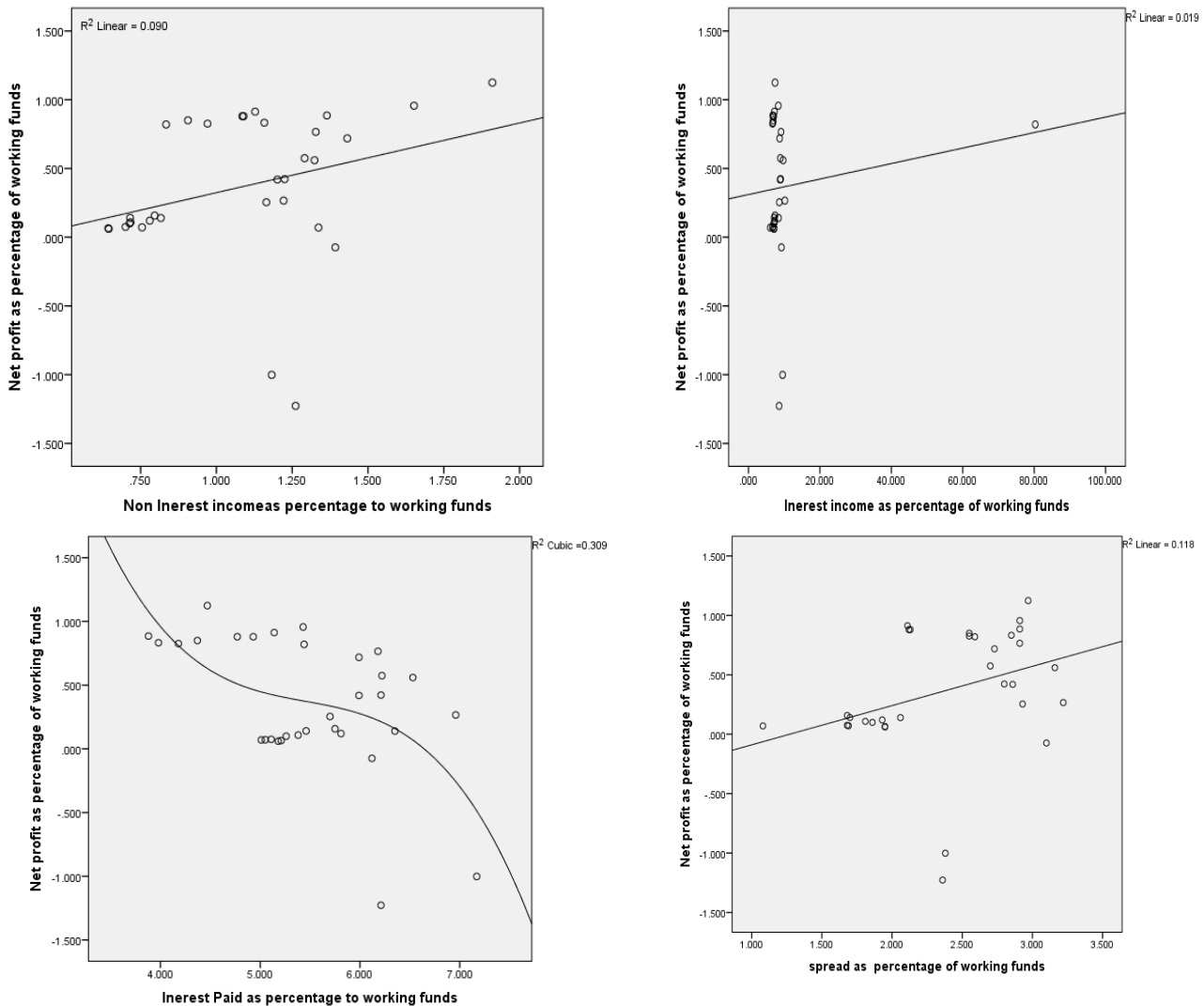


Figure 4

**7. Conclusion**

The Indian banking Industry has observed an unprecedented changes in its structure after the bank reforms. Thus, the restructuring of public sector banks and entry of new private sector banks and foreign banks have improved the professionalism in the banking sector.

The implication of the paper are that that non- interest expenditure, burden as percentage of total assets are significantly affecting the profitability of the public sector banks. Banks should adopt suitable strategies to improve their spread

margin, and to reduce the burden, Banks can improve their profitability by adopting suitable strategies with the help of technology to manage these factors efficiently in the future.

In the fast changing financial landscape, banks will need to rework their business strategies, innovate on products tailored to customers' needs, and improve efficiency in the delivery of customer-centric financial services to regain their role as principal financial intermediaries.

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