

# INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

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## IMPACT OF GLOBAL FINANCIAL CRISIS ON THE FINANCIAL PERFORMANCE OF SELECTED PUBLIC SECTOR BANKS IN INDIA

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### ABSTRACT

*Banks act as important players in the financial markets. They play a vital role in the economy of a country. The Recession that began in December 2007 impacted the revenues and profitability of businesses worldwide. We are in a globalised world and no more immune to the things happening outside our country. Built on strong financial fundamentals, strict vigil on risk appetite and firm monetary guidelines, Indian banks have proved among the most resilient and sound banking institutions in the world. But there has been considerable divergence in the performance of the various banking institutions in the country as also among the public, private and foreign banks operating in India. The Indian banking system is relatively insulated from the factors leading to the turmoil in the global banking industry. Going by the performance for the calendar year 2008, Indian public sector banks have not only been able to weather the storm of global recession but have been able to moderate its impact on the Indian economy as well, compared to its peers among the foreign and private banks. The banking sector faces profitability pressures due to higher funding costs, mark-to-market requirements on investment portfolios, and asset quality pressures due to a slowing economy. But Indian banks' global exposure is relatively small, with international assets at about 6 per cent of the total assets. The strong economic growth in the past, low defaulter ratio, absence of complex financial products, regular intervention by central bank, proactive adjustment of monetary policy and so called close banking culture has favored the banking industry in India in recent global financial turmoil.*

### KEYWORDS

global financial crisis, public sector banks, financial performance.

### INTRODUCTION

**B**anks act as important players in the financial markets. They play a vital role in the economy of a country. The Recession that began in December 2007 impacted the revenues and profitability of businesses worldwide. We are in a globalised world and no more immune to the things happening outside our country. Built on strong financial fundamentals, strict vigil on risk appetite and firm monetary guidelines, Indian banks have proved among the most resilient and sound banking institutions in the world. But there has been considerable divergence in the performance of the various banking institutions in the country as also among the public, private and foreign banks operating in India. The Indian banking system is relatively insulated from the factors leading to the turmoil in the global banking industry. Going by the performance for the calendar year 2008, Indian public sector banks have not only been able to weather the storm of global recession but have been able to moderate its impact on the Indian economy as well, compared to its peers among the foreign and private banks. The banking sector faces profitability pressures due to higher funding costs, mark-to-market requirements on investment portfolios, and asset quality pressures due to a slowing economy. But Indian banks' global exposure is relatively small, with international assets at about 6 per cent of the total assets. The strong economic growth in the past, low defaulter ratio, absence of complex financial products, regular intervention by central bank, proactive adjustment of monetary policy and so called close banking culture has favored the banking industry in India in recent global financial turmoil.

### STATEMENT OF THE PROBLEM

The mismatches between production and consumption and savings and investments are the root causes of any nation's economic crisis. Inadequate growth of consuming power – in line with rapid growth of productive forces – is the basis for the periodic recurrence of demand crisis resulting in economic disorders. In the age of globalization, no nation can keep itself aloof from the world economic volatility and India is no exception. The impact of the Great Recession on India can be divided into: financial and economic impact, and potential long-term geopolitical implications. The instantaneous financial and economic impact can be witnessed in reversal of portfolio equity flows and the associated influence on banking performance especially growth and profitability position. In this background an attempt has been made in this paper to assess the impact of financial crisis on the financial performance of selected public sector banks in India during pre and post recession period.

The purpose of this study, therefore, is to test the empirical relationship between Global Financial Crisis and financial performance of selected public sector banks in India. The study has been, thus, carried out using Indian data. Specifically, the following questions are sought to be answered:

1. Does the earning capacity decline with global financial crisis?

### OBJECTIVES OF THE STUDY

The major objective of the study is to analyze the financial performance of selected public sector banks in India during pre and post recession period. The following are the specific objectives of the study.

- To analysis the financial performance in terms of profitability during pre and post recession period
- To access the impact of global recession on the financial performance.
- To examine the determinants of profitability

### LITERATURE REVIEW

**Vidyakala and Madhuvanthi** (2009) explains that the prudential norms adopted by the Indian banking system and the better regulatory framework in the country have helped the banking system remain stronger even during the global meltdown. The banking industry is indirectly affected due to the decrease in exports and drying up of overseas financing. The Indian banking do not have big exposures to subprime market, thus the impact of recession on the Indian banking sector is very small.

**Santhosh Ranganath. N and Tulasi Rao.G** (2010) in their study "Global and Economic Recession: Impact on Banking Sector in India" found that few Indian banks had invested in the collateralized debt obligations and bonds which had a few underlying entities with sub-prime exposures, but no direct impact on account of direct exposure to the sub-prime market.

**Rakhe** (2010) analyzed the financial performance of foreign banks in comparison with other bank groups in India during 2002-03 to 2008-09. They found that access to low cost funds, diversification of income and other income to fully finance the operating expenses are the important factors to the higher profitability of foreign banks vis-à-vis other bank groups in India.

**Puneet Verma and Sonali Adki** (2011) have studied the comparative performance of different bank groups from the era of global recession; they conclude that before the global recession foreign bank group was performing much better than other banking sectors. Private, nationalized and SBI bank group were keeping on performing almost same but certainly better than RRBs for all the period of study.

**Goel Shobhit and Bajpai Avinash** (2013) in their study 'An impact analysis of global recession on the Indian Banking Sector' hypothesized that the performance of Indian banking industry has not been adversely affected due to world recession. They found that there is no significant impact on the profitability of different group of banks and there is no significant difference between the groups of banks with regard to the expansion of loans to the customers.

## SCOPE OF THE STUDY

The study confines itself to issues relating to the financial performance of selected public sector banks in India. Any research study can explore only a limited field of knowledge. There are many aspects which need to be researched further. In the present case also, there is considerable scope for further research. The coverage of this study is limited to only five banks of public sector banks in India. This can be further being extended. This study has used financial facts of the selected banks from 2002 to 2013. The financial performance of sample banks during pre and post recession period is evaluated in terms of profitability.

## RESEARCH METHODOLOGY

The methodology adopted in the present study regarding period of study, sources of data, sampling design and data analysis have been presented below:

### PERIOD OF THE STUDY

This study covers a period of twelve years, six years prior to global recession (from 2001-02 to 2006-07) and six years post recession period (from 2007-08 to 2012-13)

### DATA SOURCES

The study is mainly based on secondary data. The data relating to the study was obtained from capitaline database. In addition, the annual reports of the sample banks were also scanned to collect relevant data. Various journals, magazines, newspapers, also have been used to collect the relevant information.

### SAMPLE DESIGN

There have been 27 public sector banks are working in India. Out of these the researcher select only in which bank were having continuous data. In this process, those banks which didn't have continuous data are excluded. Finally, the sample size was restricted to five public sector banks in India. The banks selected for the present study are:

1. Bank of Baroda Limited
2. Bank of India Limited
3. Corporation Bank Limited
4. Union Bank of India Limited
5. Vijaya Bank Limited

## DATA ANALYSIS

For analyzing data, in addition to important financial ratios, statistical tools like mean, standard deviation, co-efficient of variation, growth, t- test and regression have also been used in the present study.

**TABLE 1: TRENDS IN PROFITABILITY RATIO OF BANK OF BARODA DURING PRE AND POST RECESSION PERIOD**

Ratios	Period	Mean (%)	SD	CV (%)	Growth (%)	MD	t- Value
II/TF	Pre	7.62	0.81	10.62	-3.82	-0.51	1.6***
	Post	7.11	0.32	4.54	-0.55		
IE/TF	Pre	4.62	0.93	20.15	-5.84	0.01	0.03 <sup>ns</sup>
	Post	4.63	0.35	7.58	-0.34		
NII/TF	Pre	1.62	0.44	27.01	-5.77	-0.58	3.96*
	Post	1.04	0.26	24.89	-9.05		
OE/TF	Pre	2.25	0.14	6.26	-2.35	-0.74	6.75*
	Post	1.52	0.27	17.80	-7.29		
DPO	Pre	22.07	1.09	4.94	-3.27	-4.47	1.94***
	Post	17.60	2.98	16.95	0.55		
RONW	Pre	15.27	3.53	23.09	0.25	3.77	2.95**
	Post	19.04	3.63	19.08	-0.04		
ROA	Pre	0.85	0.18	21.79	-1.34	0.15	1.57***
	Post	0.99	0.16	16.25	0.41		

Note: \*1% level of significance, \*\* 5% level of significance, \*\*\* 10% level of significance

It can be observed from the above table that the operating performance of Bank of Baroda in terms of Interest Income, Non interest income, operating expenses and dividend payout ratio has declined significantly during post recession period, However, it is observed that the overall profitability of the bank have not affected by the global recession.



TABLE 2: TRENDS IN PROFITABILITY RATIO OF BANK OF INDIA DURING PRE AND POST RECESSION PERIOD

Ratios	Period	Mean (%)	SD	CV (%)	Growth (%)	MD	t- Value
II/TF	Pre	7.43	0.79	10.70	-3.41	0.15	0.57 <sup>ns</sup>
	Post	7.58	0.43	5.64	-0.22		
IE/TF	Pre	4.74	0.68	14.33	-4.86	0.40	1.31 <sup>ns</sup>
	Post	5.14	0.41	7.98	1.20		
NII/TF	Pre	2.68	0.14	5.13	-0.72	-0.24	2.72 <sup>**</sup>
	Post	2.44	0.23	9.40	-3.35		
OE/TF	Pre	2.18	0.12	5.71	-2.31	-0.69	19.17 <sup>*</sup>
	Post	1.49	0.15	10.19	-4.24		
DPO	Pre	20.54	5.76	28.03	-6.96	-3.77	0.99 <sup>ns</sup>
	Post	16.77	4.60	27.42	13.28		
RONW	Pre	20.19	7.64	37.85	-5.48	-0.83	0.23 <sup>ns</sup>
	Post	19.36	7.15	36.91	-6.61		
ROA	Pre	0.65	0.32	49.76	-0.63	0.08	0.6 <sup>ns</sup>
	Post	0.73	0.22	30.57	-3.36		

Note: \*1% level of significance, \*\* 5% level of significance, \*\*\* 10% level of significance

It is observed from the analysis that the profitability of Bank of India has kept on increasing during post recession period but which is not statistically significant. This could not be due to the global recession. The global recession does not have any impact on the financial performance of Bank of India. The overall profitability of BOI was more consistent during post recession than the pre recession period.

TABLE 3: TRENDS IN PROFITABILITY RATIO OF CORPORATION BANK DURING PRE AND POST RECESSION PERIOD

Ratios	Period	Mean (%)	SD	CV (%)	Growth (%)	MD	t- Value
II/TF	Pre	7.79	0.80	10.25	-1.30	0.00	0.01 <sup>ns</sup>
	Post	7.79	0.65	8.36	-0.24		
IE/TF	Pre	4.59	0.95	20.77	-2.23	1.07	1.98 <sup>***</sup>
	Post	5.65	0.75	13.29	-0.14		
NII/TF	Pre	1.75	0.27	15.26	-3.25	-0.58	9.25 <sup>*</sup>
	Post	1.16	0.26	22.11	-3.49		
OE/TF	Pre	1.97	0.21	10.84	0.71	-0.69	5.92 <sup>*</sup>
	Post	1.28	0.13	10.51	-0.98		
DPO	Pre	20.41	4.10	20.11	6.75	0.65	0.40 <sup>ns</sup>
	Post	21.07	0.35	1.65	-0.28		
RONW	Pre	16.55	2.63	15.89	-3.11	3.02	2.33 <sup>**</sup>
	Post	19.57	2.21	11.32	-2.21		
ROA	Pre	1.32	0.28	21.49	-4.12	-0.33	3.51 <sup>*</sup>
	Post	0.99	0.09	8.94	-4.02		

Note: \*1% level of significance, \*\* 5% level of significance, \*\*\* 10% level of significance

Table 3 shows that the interest income almost same in both pre and post recession period, it is observed that the Non-Interest Income, Operating Expenses and ROA has declined significantly during post recession period. It is found that there is no significant difference in the average Interest Income and Dividend Payout ratio of CBL during pre and post recession period.

TABLE 4: TRENDS IN PROFITABILITY OF UNION BANK DURING PRE AND POST RECESSION PERIOD

Ratios	Period	Mean (%)	SD	CV (%)	Growth (%)	MD	t- Value
II/TF	Pre	8.32	0.95	11.45	-1.53	-0.13	0.3 <sup>ns</sup>
	Post	8.18	0.49	5.98	-0.49		
IE/TF	Pre	5.20	0.86	16.52	-2.21	0.33	0.91 <sup>ns</sup>
	Post	5.53	0.49	8.81	-0.55		
NII/TF	Pre	2.12	0.14	6.77	-1.86	-0.54	5.03 <sup>*</sup>
	Post	1.57	0.15	9.83	1.80		
OE/TF	Pre	21.23	4.52	21.28	2.90	-2.31	1.44 <sup>ns</sup>
	Post	18.92	5.06	26.75	3.94		
DPO	Pre	24.14	5.26	21.80	-1.83	-2.34	1.5 <sup>***</sup>
	Post	21.80	5.84	26.78	-9.23		
RONW	Pre	0.93	0.20	21.48	-2.46	-0.02	0.22 <sup>ns</sup>
	Post	0.91	0.19	21.00	-2.48		
ROA	Pre	28.15	36.58	129.93	0.00	80.36	3.08 <sup>*</sup>
	Post	28.51	69.38	63.94	-23.32		

Note: \*1% level of significance, \*\* 5% level of significance, \*\*\* 10% level of significance

In the case of Union Bank Non-Interest Income and Dividend Payout has declined significantly during post recession period. From the analysis it is found that the global financial crisis does not have significant impact on the financial performance of the Union Bank.

TABLE 5: TRENDS IN PROFITABILITY RATIO OF VIJAYA BANK DURING PRE AND POST RECESSION PERIOD

Ratios	Period	Mean (%)	SD	CV (%)	Growth (%)	MD	t- Value
II/TF	Pre	7.43	0.79	10.70	-4.63	0.15	0.49 <sup>ns</sup>
	Post	7.58	0.43	5.64	1.71		
IE/TF	Pre	4.74	0.68	14.33	-6.17	0.40	2.33**
	Post	5.14	0.41	7.98	1.84		
NII/TF	Pre	2.42	0.56	23.11	-8.32	-0.88	3.77*
	Post	1.54	0.21	13.72	-1.44		
OE/TF	Pre	29.34	5.25	17.89	-1.89	-4.09	3.72*
	Post	25.25	4.54	17.97	1.79		
DPO	Pre	24.56	10.85	44.20	-3.29	-9.91	2.58**
	Post	14.65	3.21	21.88	-6.95		
RONW	Pre	1.00	0.46	45.72	-1.06	-0.41	2.35**
	Post	0.59	0.10	17.55	-2.84		
ROA	Pre	19.11	20.57	107.64	0.00	-3.07	0.22 <sup>ns</sup>
	Post	16.04	25.99	162.09	0.00		

Note: \*1% level of significance, \*\* 5% level of significance, \*\*\* 10% level of significance

It is observed from the analysis the Interest Income of Vijaya bank have increased during post recession period but not statistically significant, but the non-interest income of the bank have declined significantly. The return on net worth and dividend payout also declined significantly, however the overall return on assets have decline but not due to recession.

**REGRESSION ANALYSIS**

**REGRESSION MODEL**

After taking the broad review of literature, the following model is specified to estimate the impact of recent financial crisis on the performance of selected Indian public sector banks.

To estimate the relationship between Return on Assets and Spread, Burden, Contingency and Dummy variable of financial crises regress following regression model

$$Y_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mu_i$$

Where,

$Y_t$  = Return On Assets

$X_1$  = Spread

$X_2$  = Burden

$X_3$  = Provision Contingency and

$X_4$  = Global Recession (Dummy)

$\mu_i$  = Error term

**Measurement of Variables**

**Return on Assets (Y)** is the dependent variable. The earnings before interest and taxes (EBIT) are divided by Total Assets of the banks. In this study Total Working Funds of the Banks are considered as Total Assets.

**Interest Spread (X1)** represents the difference of Interest received and interest paid by the bank. Higher the spread more will be the profitability.

**Burden (X2)** represents the difference of Interest Income and Non-Interest Expenditure. More burdens will reduce the profit of the firm.

**Provision and Contingency (X3)** these represent a portion of profit kept for contingent situations and expenditure and thus have a direct bearing on the profitability.

**Global Recession (Dummy) (X4)** to achieve the objectives of this study, Global Recession DUMMY are included in the regression model. Global Recession is dummy variable for the event of global financial crisis. A dummy variable for a period after financial crisis (1) and others (0).

TABLE 6: REGRESSION RESULTS ( $Y_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mu_i$ )

Name of the Bank	Constant	Spread	Burden	Contingency	Recession (Dummy)	R	R <sup>2</sup>	Adj.R <sup>2</sup>	F value
BOB	-107.262 (0.381)	0.507* (5.591)	-9.904 (1.317)	-0.438* (3.274)	154.381 (0.492)	0.994	0.987	0.980	136.887*
BOI	-470.177 (0.874)	0.227 (1.006)	-0.040 (0.313)	-0.217 (0.919)	1041.08 (1.531)	0.946	0.895	0.834	14.865*
CB	-177.492 (1.170)	0.360*** (2.071)	-0.108 (1.003)	-0.220 (1.086)	295.773 (2.358)	0.987	0.974	0.959	65.712*
UBI	-15.818 (0.083)	0.456* (3.954)	-0.133*** (2.171)	-0.363** (2.170)	235.676 (0.984)	0.987	0.973	0.958	63.855*
VB	-88.804 (0.628)	0.229 (1.187)	-0.032 (0.272)	0.022 (0.068)	44.925 (0.454)	0.853	0.728	0.573	4.684*

Note: \* 1% level of significance, \*\* 5% level of significance, \*\*\* 10% level of Significance

Figures in parenthesis indicant 't' value

**EMPIRICAL RESULTS**

The multiple regression model with ROA as dependent variable has coefficient of determination BOB (98 %), BOI (83.4%), CBL (95.9%), UBI (95.8%) and VBL (57.3%). The regression was found to be significant as depicted from their respective F value. This indicates that all the independent variables viz., Spread, Burden, Provision and Contingency and Global Recession (Dummy) together have a significant influence on the profitability measure, the ROA.

**SPREAD**

A perusal of the regression results brings out the fact that, its co-efficient has the appropriate positive sign in all the five sample banks. However, its co-efficient is statistically significant in BOB, CB and UBI and improves marginally their respective explanatory power. But in the case of Bank of India and Vijaya Bank the interest spread does not have significant impact on the profitability.

**BURDEN**

From the regression results it is evident that the co-efficient of Burden has negatively associated with profitability in all the sample banks, however the relationship between profitability and burden is statistically significant only in the case of UBI. Hence, it can be concluded that Burden ratio were found to be important determinants of profitability only in the case of Union Bank of India.

**CONTINGENCY**

The co-efficient of Contingency has the appropriate negative sign in all the sample firms but the contingency expenditure has significant impact on the profitability in the case of BOB and UBI.

**GLOBAL RECESSION**

It is interesting to note that the global recession has negative sign in all the banks, the co-efficient of global recession are not statistically significant in any of the banks. It implies that the financial crisis does not have significant impact on the financial performance of selected public sector banks.

**CONCLUSIONS AND RECOMMENDATIONS**

Indian Banking industry remains resilient from the affects of the global recession. There is a trust among the people in the country about the strength of the banking system. There are no pitfalls in the reforms that took place in 1991 to improve the banking sector. The banks should retain their conservative approach towards business because its conservatism has made the Indian Banks a reliable bet for its customers. The Banks had best used the technology and have used the manpower in an effective manner. The results of the study shows that the banks are sufficiently equipped to absorb losses occurred due to global recession. The Indian banks have high liquidity which shows that the banks have effective cash management system. The Indian Banks are professionally managed and have made them to grow faster and stronger. The results have shown that the banks have high productivity efficient management performance and high liquidity talented employees. So to maintain the growth of India banking industry, the paper recommends that banks should start exploiting the new technologies to enable their employee to have more clientage in order to increase the business and profitability.

To remain competitive in this kind of environment, banks should try to retain the talented workforce with contributes most to the profitability goals of the banks. The management should further try to control the over the expenses and disbursement cost in order to increase the profits. The banks should focus on the risk management while expanding its business internationally. The banks should offer the products to the customers according to their taste. The banks should create a friendly customer environment to satisfy their customers and to retain them. Banks should have an ability to repeat and sustain such efforts in future, which would be critical in maintaining their profitability.

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