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Review Paper

Performance of the Indian Banking Sector During Financial Crisis

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Abstract

In India's financial system, banks are essential to its operation. By utilizing more than two-thirds of family savings, they offer more than 90% of the commercial loans in the nation. In addition to taking deposits and extending credit, banks also carry out a variety of additional tasks, including financial inclusion, agriculture, renewable energy, the issuance of bonds, foreign currency facilitation, priority sector lending to MSMEs, and numerous other tasks. Any deviation from the appropriate operation of banks, which play a crucial role in managing the financial system of an economy, results in an economic crisis. India was not an exception when it came to how the economic crisis affected economies and finances worldwide. It was a significant issue for the developed economies. The problem of the financial crisis originated in large-scale defaults in the U.S. Sub-prime mortgage market and associated market in August 2007, which badly affected the financial sector in the U.S. and then Europe which lasts an impact on the banking sector across the world, including India. The financial crisis of 2008 had an impact on the banking industry since it cost banks money due to mortgage defaults, stopped interbank lending, and dried up the consumer and commercial credit. In the present paper, the performance of the Indian banking sector has been evaluated with variables viz., liabilities to the banking system, borrowings, aggregate deposits, etc. The performance has been examined in pre-crisis, crisis, and post-crisis periods. T-test has been used for the purpose of analysis. Although various challenges were faced during the research, including a tough time gathering data, a lack of data, and a paucity of awareness as to how banks operate in their early stages. However, this work is intended to be useful to researchers and scholars because it discusses the effects of the financial crisis using data from a few chosen Indian banks to assess how well they fared during the crisis.

Keywords: Economic Crisis, Bank Credit, Foreign Bill Purchased, Indian Banking Sector.

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Introduction

It is well-perceived that the genesis of the current global financial crisis date back to the late 1990s. The tech bubble of those years brought about a recession in the United States, and the US Federal Reserve grappled with it by sharply cutting interest rates. Low-interest rates and indiscriminate lending, especially in the sub-prime housing market, sowed the seeds for the current crisis that began in the early 2000s.

With interest rates deteriorating, mortgage payments on housing loans turned inexpensive, and the demand for new houses increased in the US. At the same time, banks and financial institutions introduced innovative financial instruments, which involved slicing up and reselling mortgage-backed securities and hedging them against any risks. And the lending continued in the sub-prime even as the quality of mortgages suffered, and delinquency and default rates began to rise in 2006.

Indian financial sector was considered safe, sound, and “lazy” and not expected to have a large impact due to the crisis. The main effects (Aziz, Patnaik and Shah) were felt on:

- stock market, exchange rate, and liquidity conditions.
- withdrawal of deposits (particularly from private banks) or rather “deposit reallocation”

Starting in February 2008, there has been an exodus of foreign institutional investments (FIIs) from India. India was a highly attractive location among emerging economies for foreign institutional investors seeking higher returns.

The withdrawal of FII investments from India has caused other complications in its wake. The stock markets of India have witnessed a major collapse. Indian Rupee has been losing steadily against the US dollar since April 2008. Notably, the Indian Rupee was appreciating against the US dollar and other major currencies in 2007. The Rupee’s value fell from Rs.39-40 to the dollar in January – April 2008 to more than Rs.50 as per the current market rates)

As Golin (2001) indicates that ample earnings are required by banks in order to maintain solvency, survive, grow, and prosper in a competitive environment. High inflation also tends to create exchange rate instability, leading to overshooting or undershooting of the exchange rate if not carefully managed. These market volatilities can decapitalize firms rapidly, pushing them towards distressed borrowing, deterring long-term investments, and reducing domestic production which itself leads to higher inflation (Sheng and Cho, 1993). Bhattacharya (2002), studied how banks manage their NPA and stated that prevention of their occurrence is the surest way of containing NPAs. He offered suggestions on proper risk management, strong and effective credit monitoring, co-operative working relationship between banks and borrowers, etc. should be tenets of NPA management policy. Capital flight and a run against the domestic banks may precede a banking crisis (Goldfajn and Valves, 1995) Research Methodology

The present paper titled ‘Performance of Indian Banking Sector during Financial Crisis Period’ has the objective to study the performance of the banking sector of India during the financial crisis period i.e., July 2007 to December 2009. In pursuant to the prime objective following sub-objectives have been framed:

1. To study the performance of the overall banking system on selected indicators.
2. To study the performance of selected public and private banks during the crisis period.

For the present paper, the data on ten 10 banks have been collected. The banks include public and private banks. The data have been collected on six ratios presenting the profitability and solvency position of the banks. The details of the banks are given below:

Table 1. List of Banks whose Data have been collected on Six Ratios:

Sr. No.	Public Banks	Private Banks
1.	State Bank of India	ICICI Bank
2.	Punjab National Bank	KMB
3.	Oriental Bank of Commerce	Axis Bank
4.	Syndicate Bank	HDFC Bank
5.	Allahabad Bank	Yes Bank

On the above banks, data have been collected on six ratios over the year starting from 2000 to 2013. However, data for Yes Bank ranged from 2005 to 2013 due to the shortage of data. The list of ratios is stated below;

1. Interest Expended/ Total Fund Ratio+
2. Return on Net Worth
3. Financial Coverage Ratio
4. Loan Turnover Ratio
5. Net Interest Income
6. Earnings Per Share

Besides, banks' individual performance, the aggregate performance of the banking sector has been evaluated in the present study on the basis of indicators such as Liabilities to the Banking System, Borrowings from Banks, Aggregate Deposits, Investment in India, Bank Credit, and Foreign Bills Discounted. The data have been collected on the above indicators starting from 2000- 2013.

The data on public and private banks have been presented with the help of a bar diagram. The independent samples t-test has been applied for analysis purposes.

Empirical Findings

In the present study, the performance of public and private banks has been taken into account. For that purpose, the results of six ratios, as explained above, have been displayed in the bar diagram given below:

Financial Coverage Ratio of Public Sector Banks

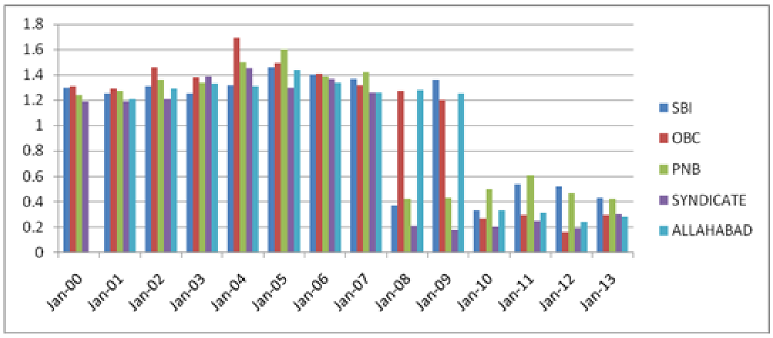

Figure 1, Financial Coverage Ratio of Public Sector Banks. Source: www.moneycontrol.com

Figure 1 represents the financial coverage ratio of public banks starting from 2000 to 2013. It shows that the financial coverage ratio of the selected public sector banks has remained above 1.2 percent up to 2007. After that period, there is a decline in the ratio of selected banks except for OBC and Allahabad bank. This period already has been recognized as a crisis period. It is evident from the results that the financial coverage ratio of these banks has declined during as well as after that period.

Financial Coverage Ratio of Private Sector Banks

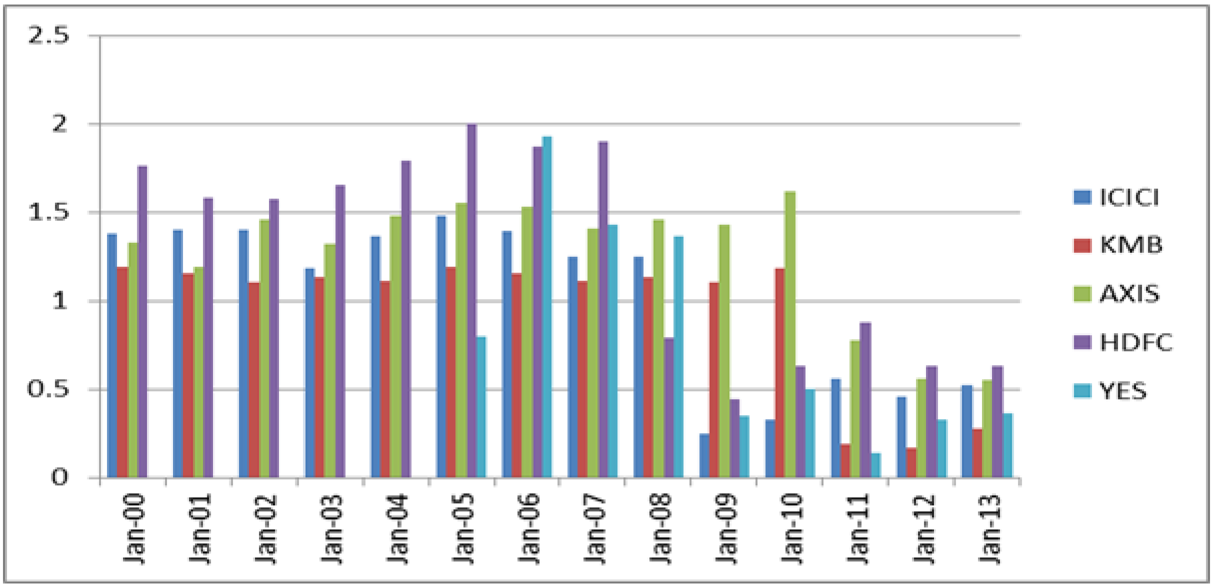

Figure 2, Financial Coverage Ratio of Private Sector Banks. Source: www.moneycontrol.com

Figure 2 shows the financial coverage ratio of private banks which also states a similar trend. There is also a decline in the ratio after the crisis period, but not during the crisis period.

Interest Expanded/ Total Fund of Selected Public Sector Banks

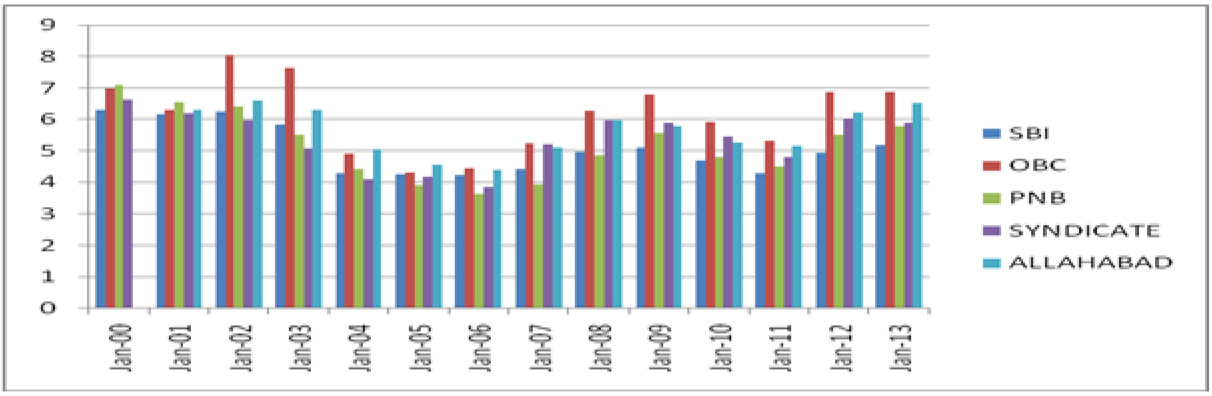

Figure 3, Interest Expanded /Total Fund of Public Sector Banks. Source: www.moneycontrol.com

Figure 3 shows the interest expanded/total funds of selected public sector banks. The figure shows a decline in the ratio during the 2004-2006 period. However, there is an increase in the ratio during the crisis period and remains the same after the crisis period.

Interest Expanded/ Total Funds of Selected Private Sector Banks

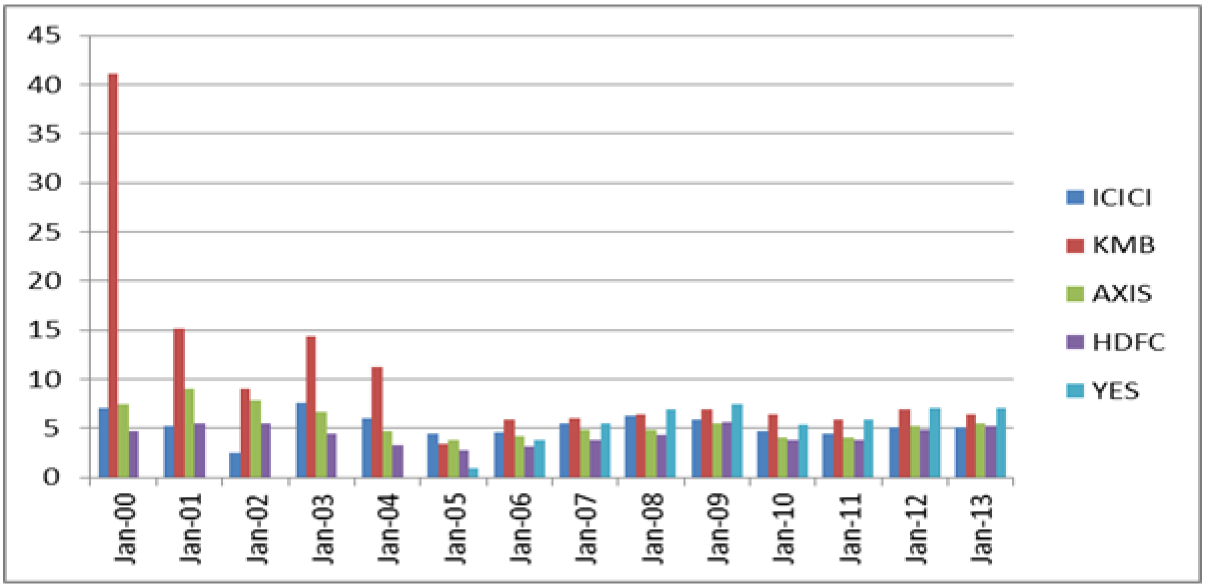

Figure 4, Interest Expanded/Total Fund of Private Sector Banks. Source: www.moneycontrol.com

Figure 4 shows the trend of interest expanded/ total funds of selected private banks has remained the same throughout the sample period except the year 2000 for KMB bank which has an exceptionally high interest expanded/ total fund ratio. But after this period the KMB bank has a similar trend to other banks.

Earnings Per Share (EPS) of Public Sector Banks

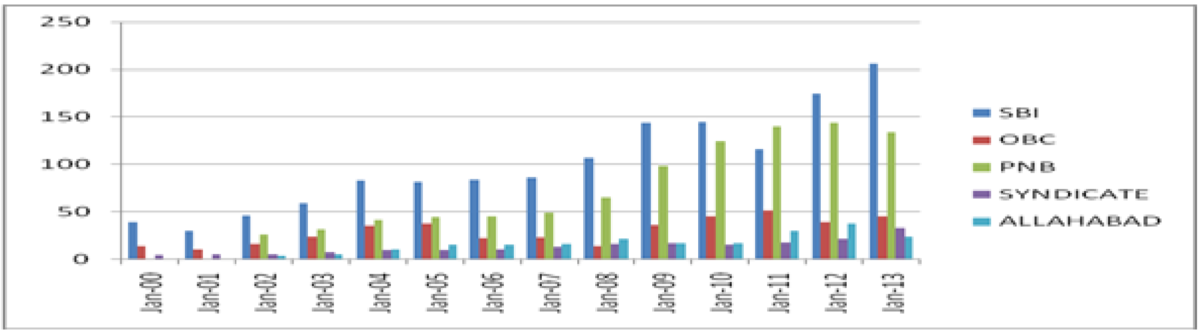

Figure 5, Earnings Per Share of Public Sector Banks. Source: www.moneycontrol.com

Figure 5 presents the constantly increasing trends in earnings per share of SBI and PNB banks. However, the trend of Syndicate, Allahabad, and OBC has less percentage of earnings per share as compared to SBI and PNB. However, no shortfall has been observed during the crisis period in all banks irrespective of relative trends among themselves.

Earnings Per Share (EPS) of Private Sector Banks

Figure 6, Earnings Per Share of Private Sector Banks. Source: www.moneycontrol.com

Figure 6 states that the EPS of ICICI bank has been a constantly increasing trend over the sample period. The trend of Axis bank has found a sharp increase after the year 2006 which is recognized as a crisis period. The same trend has been found for HDFC banks. However, a downfall of HDFC bank has been shown in the years 2012 and 2013 in the above figure. The EPS of the remaining banks reported similar trends over the sample period with a margin increase.

Return on Net Worth (RNW) of Public Sector Banks

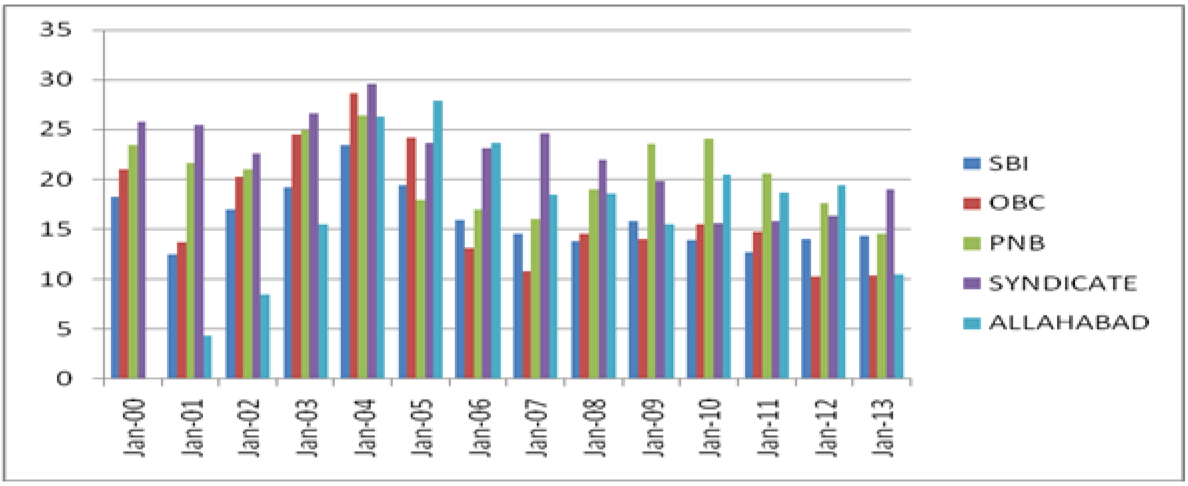

Figure 7, Return on Net Worth of Public Sector Banks. Source: www.moneycontrol.com

Figure 7 shows the mixed results on the trend of return on the net worth of public sector banks. The RNW of OBC has been declined during the crisis period, but after 2008 it started to increase. The RNW of the remaining banks follows a similar trend.

Return on Net Worth of Private Sector Banks

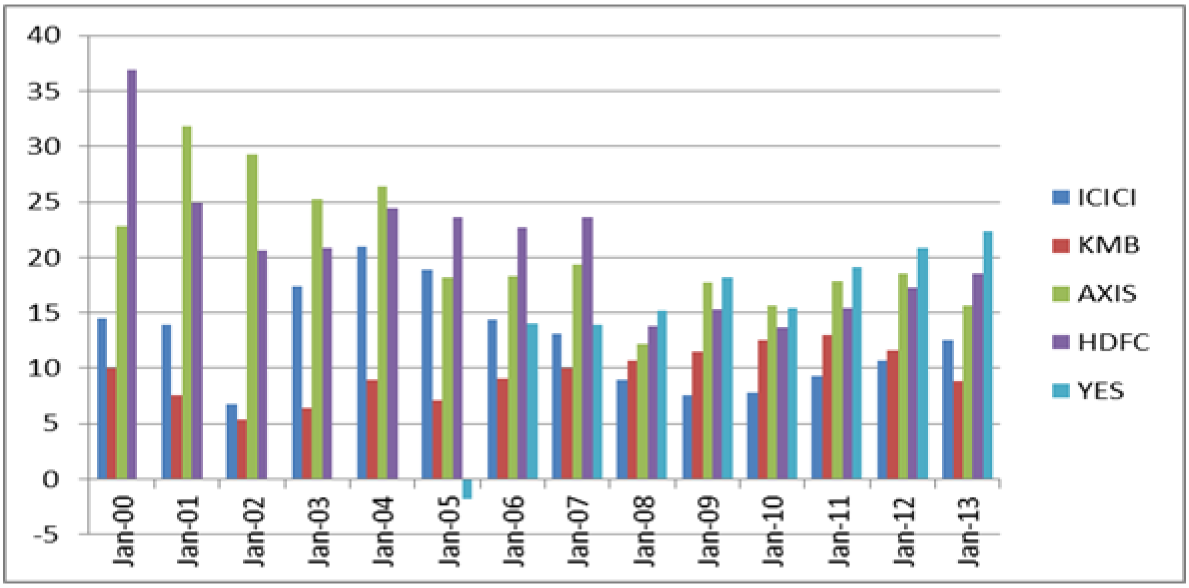

Figure 8, Return on net worth of private sector banks. Source: www.moneycontrol.com

A decline has been observed in the RNW of selected private-sector banks during the crisis period. However, there is an increasing trend in the RNW of KMB bank throughout the sample period. The performance of Yes bank on RNW has been shown from the year 2005 as the year of its inception of the bank.

Loan Turnover of Public Sector Banks

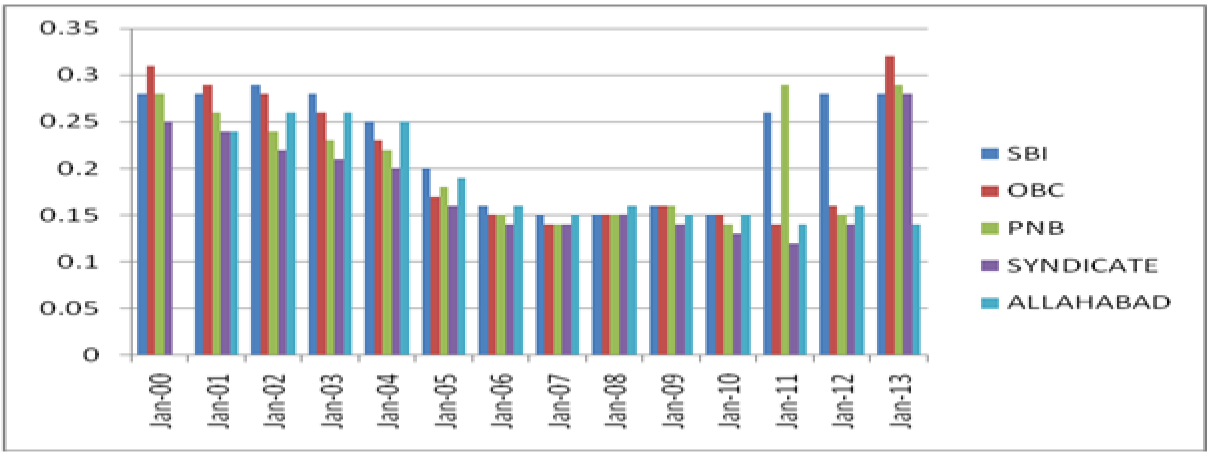

Figure 9. Loan Turnover of Public Sector Banks. Source: www.moneycontrol.com

The loan turnover of selected public sector banks has been declined during the crisis period as shown in figure 9. The trends of all selected banks SBI, OBC, PNB, Syndicate, and Allahabad follow the same trend. However, an increase has been found after the crisis period in the case of SBI, and PNB banks.

Loan Turnover of Private Sector Banks

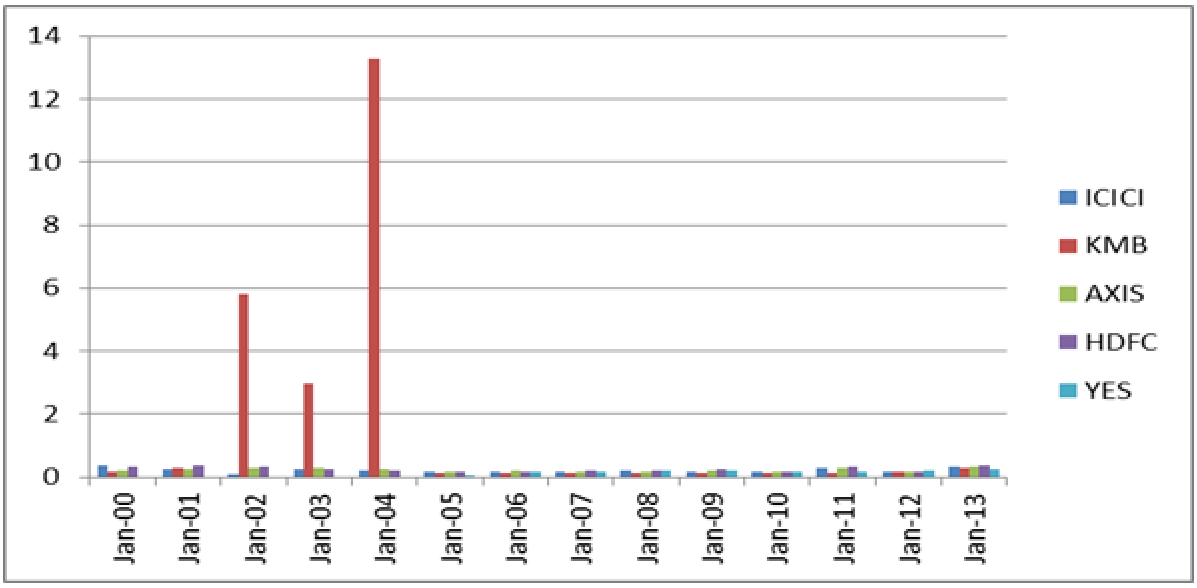

Figure 10, Loan Turnover of Private Sector Banks. Source: www.moneycontrol.com

Figure 10 shows the loan turnover of private-sector banks. The trends of loan turnover of all selected private sector banks are the same throughout the sample period except the KMB bank for the year 2002-2004.

Net Interest Income of Public Sector Banks

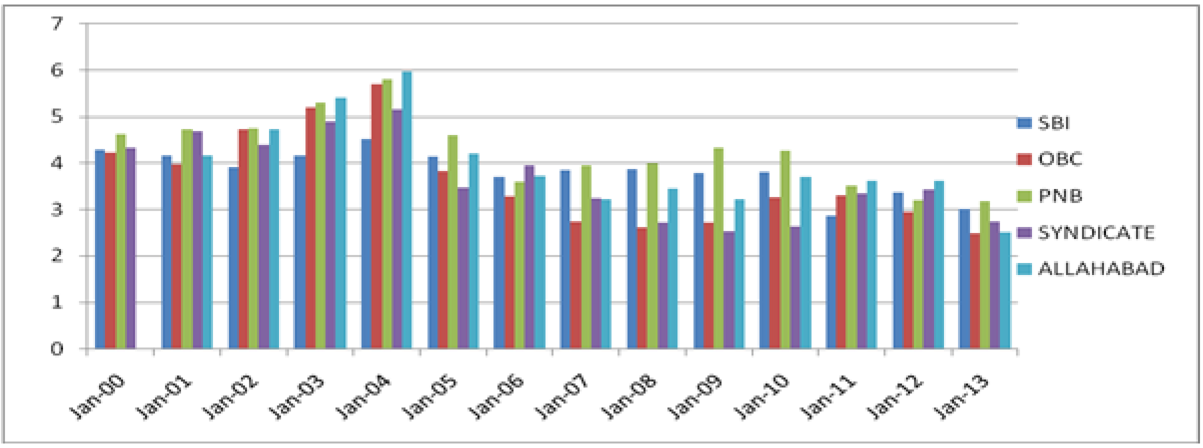

Figure 11, Net Interest Income of Public Sector Banks. Source: www.moneycontrol.com

Figure 11 discloses decline in the net interest income of all selected public sector banks. The comparative trends show that PNB has constant net interest income during the crisis period and there in the case of OBC there is the least net interest income as compared to other banks. However, the performance has not significantly increased after the crisis as compared to the pre-crisis period.

Net Interest Income of Private Sector Banks

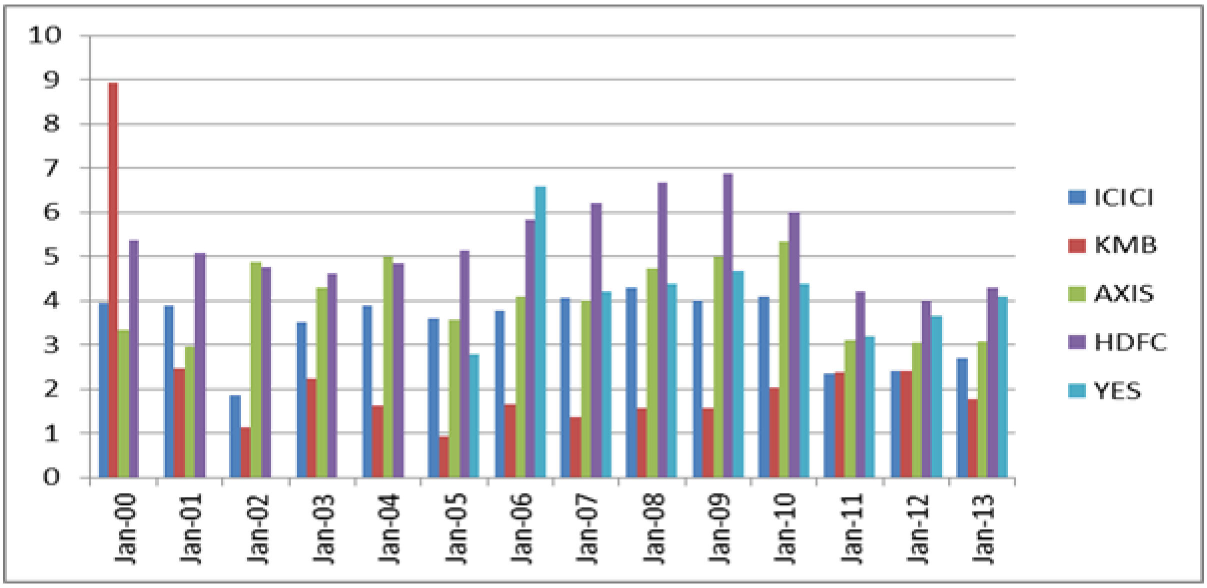

Figure 12, Net Interest Income of Private Sector Banks. Source: www.moneycontrol.com

Figure 12 states that the net interest income of HDFC banks has been constantly increasing during the crisis period, but after that, there is a decline in the interest income. The performance of KMB has comparatively less income except in the year 2000 but a slight increase has been found after the crisis period. The interest income of Axis bank follows a constant trend till 2010 but a fall has been shown after 2011. The interest income of Yes bank has mixed results during the crisis period, initially, there is an increase in the year 2006 but later on, there is a constant decline, especially after 2007.

The results of the overall performance of the banking sector have also been analyzed on the basis of the above-mentioned variables are explained in Table 2 and Table 3 given below.

Table 2: Group Statistics

Variables	Different Period	N	Mean	Std. Deviation	Std. Error Mean
Liabilities to the Banking System	Normal Period	337	777.20	222.27	12.11
	Crisis Period	79	920.70	131.77	14.83
Borrowing from banks	Normal Period	337	242.98	66.65	3.63
	Crisis Period	79	268.75	55.41	6.23
Aggregate deposits	Normal Period	337	27335.70	19228.11	1047.42
	Crisis Period	79	34871.23	4674.22	525.89
Investment In India	Normal Period	337	9223.99	5260.42	286.55
	Crisis Period	79	11031.84	1656.54	186.38
Bank Credit	Normal Period	337	19059.94	15437.46	840.93
	Crisis Period	79	24936.67	3095.83	348.31
Foreign Bills Discounted	Normal Period	337	204.76	115.60	6.30
	Crisis Period	79	267.03	26.21	2.95

Table 2 shows descriptive results of the overall performance of the banking sector on the basis of the normal period and during the crisis period. It discloses that the mean value of the liabilities to the banking sector is 777.20 in a normal period which is raised to 920.70 during the crisis period. Similarly, the mean value of borrowing from banks in the normal period is 242.98 and increased to 268.75 during the crisis period. The results are similar in the case of other considered variables. It has been found that the total transactions of the banking system during the crisis period have increased as compared to the normal period.

To find out the variance in the overall performance of the banking sector, the results of the f-test and t-test have been displayed in Table 3 as follows:

Table 3: Results of Levene's Test of Equality and T-test for Equality of Means

Variables		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	p-value	T	Df	p-value
Liabilities to the Banking System	Equal variances assumed	29.890	**.000***	-5.513	414	**.000***
	Equal variances not assumed			-7.497	196.46	**.000***
Borrowing from banks	Equal variances assumed	10.817	**.001***	-3.187	414	**.002***
	Equal variances not assumed			-3.572	136.24	**.000***
Aggregate deposits	Equal variances assumed	152.038	**.000***	-3.456	414	**.001***
	Equal variances not assumed			-6.429	413.54	**.000***
Investment In India	Equal variances assumed	108.990	**.000***	-3.017	414	**.003***
	Equal variances not assumed			-5.289	384.22	**.000***
Bank Credit	Equal variances assumed	156.435	**.000***	-3.365	414	**.001***
	Equal variances not assumed			-6.456	409.28	**.000***
Foreign Bills Discounted	Equal variances assumed	148.723	**.000***	-4.756	414	**.000***
	Equal variances not assumed			-8.956	413.80	**.000***

values are significant at 0.01 level

Table 3 shows the results on equality of variance and equality of means on variables considered for the present study. It states that the F-value for variable 'liabilities to the banking system' is 29.890 of which the p-value is 0.000 which is significant at 0.01 level. The significant p-value suggests not accepting the null hypothesis which state that there is no variance in the normal period and crisis period. However, the performance of the overall banking system has been found significant as reported by the t-test (-5.513) and respective p-value (0.000) which is significant at 0.01 level during the crisis period. The variances are not similar in both cases, and the performance of the banking system has been increasing during the crisis period as reported in Table 2. The results are similar in all cases and indicate to reject the null hypothesis which states that there is no variance in the normal period and crisis period. Similarly, the performance of all the variables across the period (including crisis and non-crisis periods) has been significant in representing the banking system in India.

Limitations of the Research

There has been a lot of work done to get the greatest and also most accurate findings. The study does, however, have major downsides, including a tough time gathering data, a lack of data, and a paucity of awareness as to how banks operate in their early stages. The secondary data from the annual reports published by the Indian banks for the research period served as the basis for the analysis and interpretation. Furthermore, the research was restricted to the timespan of 2007 to Dec 2009.

Conclusion

It is generally perceived that emerging economies will not remain unscathed because of the globalization of trade and services with the developed nation. Any slowdown in a developed nation will affect directly or indirectly the trade and industry of developing nations as they depend upon the imports (for raw material and technologies) and exports (of finished products) to the developed nations, and in turn to the banking sector. However, there is a negligible impact of the financial crisis on the Indian economy has been found, especially on the banking sector, due to strong fundamentals and regulations of the banking sector.

In the present study, it has been found that there is an immediate effect of the crisis on the financial coverage ratio of PNB and Syndicate Bank. The effect of the crisis on private sector banks is found only after 2008. There is no impact on the interest expanded/ total funds ratio of the public sector bank. EPS of public sector banks has declined as compared to private sector banks. The overall comparative results of the public and private sector banks give mix inputs on the performance of banks during the crisis period.

The result on the banking sector as an industry reflects the insignificant effect of the financial crisis as there no variance has been found between these two periods over six variables considered in the present paper. The null hypothesis for all the variables is rejected and an alternative hypothesis has been accepted which shows that there is variance in the performance of both periods, and Table 2 confirms that there is an increase in the performance of the overall banking sector during the crisis period.

As one of the few studies that try to evaluate the performance of the Indian banking industry during the financial crisis, future research can rely on the findings of this study. Furthermore, this work is intended to be useful to scholars because it discusses the effects of the financial crisis using data from a few chosen Indian banks to assess how well they fared during the crisis. Future studies can expand the sample size to gain more insightful results in order to shed more light on the crisis's long-term effects.

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