SETBACK OF FINANCIAL CRISIS ON INDIAN BANKING SYSTEM

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ABSTRACT
The latest global financial crisis emerged from the influential trade block Euro zone; had a striking collision on Euro nations ensuing tremendous fall in their economy. Indian banks are the most dominant financial intermediaries in the Indian financial system. With liberalization, Indian banking sector got global platform and over the past decades Indian banks are doing well. The conservative policies of the central bank, RBI guarded the banks to sail through the financial calamities whether laid by the Subprime crisis or Euro crisis. The impact of financial slowdown in dominating economies like Euro zone spilled over the other nations’ economies. The global economic outlook went negative when the economies round the world faced two crisis one after the other. Growth in economy and performance of the banking sector is interrelated. Banks are acting on the global level and to ensure their sustainability Basel accord was introduced which regulates the capital buffer of the banks. Several papers discussed the severity of Euro zone crisis on various aspects. This paper intends to study Indian banking sector in line with its capital adequacy and performance during the period of Eurozone crisis. These objectives are discussed in detail by studying the trends followed by various key indicators of banks’ performance.

Keywords: Capital Adequacy; Deposits; Advances; Cost of Funds; Net Interest Margin

INTRODUCTION
The term financial crisis refers to a situation where there is a fall in the nominal value of the financial assets and it certainly does have its impact on the economy, as the financial crisis leads to negative GDP therefore causing recession. The recent financial calamity was the most talked about Euro zone crisis where the Euro nations found it hard to repay and refinance their sovereign debt and accordingly had to approach to the third parties for support and even for bailouts. This had a sizeable effect on entire global economy and on the performance of Indian economy as it has trade and economic reliance. Last few years had been tough for Indian economy on account of economic slowdown in most influential trade block affecting foreign investments, current account and fiscal deficit, high inflation raising the interest rates and rupee devaluation. The crisis also marked its outcome on one of the core sectors of our economy that is banking. Indian banking sector survived the gust of subprime crisis in the 2009-10 and showed improvement in its performance together with the weak recovery of the international economy. A year later the economy again saw setback due to Euro zone crisis. Indian banks although faced a slowdown but were safe and sound as they were having negligible exposure in Portugal, Italy, Greece and Spain. As per earlier RBI Governor, D. Subbarao, in the year 2012 direct exposure of Indian companies and banks to the Euro zone banking sector is about $60 billion. Even
though the world economy is going through several disparities, Indian banking sector still stands at a better position than many advanced countries on the account of several benchmarks like earning efficiency, capital adequacy and asset quality.

OBJECTIVES OF THE STUDY

1. To know if there was any impact on the capital adequacy of Indian banks during the Euro zone crisis
2. To have a deep insight on the impact of the crisis on Indian banks’ performance

METHODOLOGY

Data Collection
Analysis in this paper will be done on the basis of secondary data collection. Major sources of secondary data will further include periodic publications and research reports from international and national financial regulatory bodies like World Bank, Reserve Bank of India, Indian Bank Association and leading research agencies. Newspapers were also consulted for the data. The data so collected will be helpful in understanding the influence of the crisis on the operational performance of the Indian banks.

Tools and Techniques
The data collected from the secondary sources will be analyzed and interpreted through charts and graphs.

Further to study the objective that if the recent Euro zone crisis had any major influence on the capital adequacy levels of the Indian banks we have opted for hypothetical examination which will be tested by using the technique of Z- Test.

Indian economy is playing spectacularly well on the line of globalization since 90’s and integration with the world’s economy is not limited only to exports but it is more than that. The recent Euro crisis put forward the fact that although the advanced economies faced huge economic and financial hindrance, but the emerging economies showed resilience and toughness towards these crisis majorly because of their better policy guidelines and healthy banking sector. Due to globalization and interdependence of the economies, the emerging economies like India also experienced the cascading effect of the crisis. The growth trajectory of Indian economy has gone under various transformations over the period of Subprime and Euro crisis as seen in figure 1.

Source: Data and Statistics, Planning Commission, Government of India

Figure 1. Indian GDP Growth Rate
With recent times out of the three major sectors of the economy, industrial sector is gaining pace and becoming major contributors in Indian GDP. However during financial years 2011-12 and 2012-13, fall in the growth of industrial sector interrupted the GDP growth rate. Financing, insurance and real estate are important segments of service sector which is another chief contributor in GDP, this sector also gave a declining performance in the financial years 2011-12 and 2012-13. According to Economic Survey 2011-12, India’s foreign exchange reached to a recorded growth of US $ 322 billion in August 2011 but the reserve declined to US $ 292.8 billion by January 2012, as RBI had to intervene in order to manage rupee devaluation because of volatile economic conditions.

**Source:** Data compiled from World Bank data base

**Figure 2.** Bank Capital to Asset Ratio

It is vital for the banks to maintain sufficient capital and high quality liquid assets so as to protect their depositors and uphold the stability of the financial system. When the crisis was at its peak in the year 2011-12 the banks cut off their cross border credit flows and started to intensify their capital base and this is reflected in the year 2012-13 in the above chart. A global initiative was seen by the banking industry internationally during this period to fight the crisis by guarding themselves with strong capital buffer. It is considerable for the banks to keep their capital base strong as it would help them to restore asset deterioration and boost their credit profile. Despite the fact that Euro zone has a considerable trade and financial involvement in Indian economy it was opined that the effect of the crisis will not be as drastic as Subprime crisis, since the Indian banks do not have extensive presence in Euro regions where the crisis was showing its effect in full valor.

The financial soundness of the banks is gauged by their capital adequacy. Against the background of Euro zone crisis it is necessary to assess the status of capital adequacy of Indian banks.

**HYPOTHESIS**

H0: There is no significant difference between the CRAR of Indian banks during the Euro zone crisis

H1: There is significant difference in the CRAR of Indian banks during the Euro zone crisis

For testing the above hypothesis we have used the parametric tool of Z- Test with the aim to know if there is any significant difference in the means of the samples taken or not. Sample of 32 banks was taken from public and private sector, on the basis of their asset holding for the financial year 2012-13 as per Indian Bank Association.

**Table 1. Z- Test Evidence**

<table>
<thead>
<tr>
<th></th>
<th>CRAR 2013</th>
<th>CRAR 2010</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>32</td>
<td>32</td>
<td>N</td>
</tr>
<tr>
<td>Mean</td>
<td>13.5694</td>
<td>14.6356</td>
<td>x-bar</td>
</tr>
<tr>
<td>Popn. 1</td>
<td></td>
<td></td>
<td>Popn. 2</td>
</tr>
<tr>
<td>Popn. Std. Devn.</td>
<td>2.1623</td>
<td>2.21118</td>
<td>S</td>
</tr>
</tbody>
</table>
The critical value for the two tail Z-Test is ±1.96 at 5% level of significance. On comparing the calculated value the Z-Test, i.e. -1.9503 with the critical value (± 1.96) we found that the calculated value is less than the critical value. Hence the evidence obtained from the Z-Test states that there is no significant difference in the CRAR during the period of crisis and hence the null hypothesis (Ho) stands correct and is accepted. For this reason it can be stated that Euro crisis does not had any adverse influence on the capital adequacy of the Indian banks. Indian banks were well capitalized during the period of the crisis as both public and private sector banks maintained their respective levels of CRAR above the stipulated norms of 9%. Indian scheduled banks are adhering and complying with Basel II accords since 2009 and Basel III got in effect from April 2013 which will be fully implemented by March 2018. Apart from the challenge of upgrading the risk management system and serving the growing credit demands of the country, Indian banks particularly those of public sector, will face a challenging turn in order to accumulate more capital to meet the fund requirement of Basel III as high level of liquidity will be needed for the compliance with the same. For this the banks need to approach to the market based funding channels which can be expensive. As indicated in figure 3, private sector banks are strongly capitalized comparatively. The solvency of the banks got affected as they had some exposure to export oriented and other vulnerable sectors of the economy. The capital adequacy of large private sector banks was much stable and the ir status of core capital was also strong as compared to the public banks. Public banks need to gear up their capital buffer and capital infusion would enhance their liquidity and will support their growth.

![CRAR of Indian Banking Sector](https://example.com/crar_graph.png)

**Source:** Profile of Banks 2012-13, RBI

**Figure 3. CRAR of Indian Banking Sector**

Despite of the availability of funds in the domestic market, Indian corporate sector conveniently access to international financial market for meeting their funding needs since due to India’s growth potential foreign investors were ready to take risks and provided them funds at a lower cost. After global liquidity crunch, Indian banks and corporate sector witnessed that their overseas investments were not generating any substantial returns. Since Indian corporate sector was not able to raise funds from the international markets during crisis period, they shifted to the domestic banking sector in order to meet their credit needs and they also withdrew their investments from the domestic money market. To fund their business transactions the corporate sector converted the domestic currency into foreign currency. This substitution brought Indian banks and money market under liquidity pressure. Moreover credit to the industrial sector slowed down. Banks prone to take less risk and their tendency of risk aversion raised their investments in government securities substantially as banks were looking for safer financial instruments in those turbulent times. High rates of interest and increased cost of borrowing drag down the level of investments of corporate sector.
The undercapitalization of the banks and financial institutions can lead them towards liquidity crunch. In the midst of the crisis alike the entire financial service industry which became turbulent, Indian banking sector also became unstable but at the same time it proved to be stronger comparatively to those of the advanced nations. This was possible due to the robust supervisory and regulatory provisions laid down by the central bank. After recovering from the Subprime crisis the Indian banking sector showed an improved performance with enhanced profitability and better asset quality. The flexibility of Indian banking sector in financial year 2010-11 was proved with an increase in the capital base in the banks’ balance sheets and with the growth in the capital base the liquidity also improved tremendously. However the level of capital shed its growth during 2011-12 drastically again due to the Euro crisis as indicated in figure 4.

The economies were witnessing back to back crisis and therefore the past experience of Lehman failure made the financial intermediaries more cautious. It is the ability of the banking sector that how efficiently it mobilizes the savings of the depositors and fulfills the credit needs of the economy. Figure 5 demonstrates a sharp fall in the level of advances and deposits in the year 2008-09 owing to...
US Subprime crisis but there was a sequential credit growth moderating the escalation in the advance level in 2009-10. The simultaneous pick up in the credit growth replicated the industrial recovery supporting their credit needs. Meanwhile the risk aversion in the entire financial system increased and Indian banks became more careful in their lending process. Deposits constitute as a major component of banks' liabilities in their balance sheets. After the moderate growth in deposits there was a drastic deterioration in their level during the period 2011-12 due to sluggishness in the demand and saving bank deposits. Banks while sourcing funds from demand and saving deposits incur least cost and reduction in their level put stress on banks’ profit. Intensifying inflationary tendencies also deteriorated the growth of advances and deposits. Increase in inflation led to fall in the rate of household saving in financial instruments with the rise in private consumption expenditure. Weak business sentiments and borrowers’ incapability to repay had an adverse effect on the balance sheets of the banks. Stressed liquidity conditions forced the banks to cut down their deposits and there was a sequential decline in the advances of the banks too.

Net interest income showed a highly fluctuating trend while return on assets, which marks the profitability of the banks exhibited a stagnant growth, as the financial stress on Indian banking sector became more dominant in late 2011 after the year 2009-10.

**Table 2. Profitability of Scheduled Commercial Banks (Year on Year Growth)**

<table>
<thead>
<tr>
<th>Years</th>
<th>Net Interest Income Growth (In %)</th>
<th>Return on Assets (In %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 2009</td>
<td>24.4</td>
<td>1.1</td>
</tr>
<tr>
<td>March 2010</td>
<td>14.8</td>
<td>1.0</td>
</tr>
<tr>
<td>March 2011</td>
<td>34.6</td>
<td>1.1</td>
</tr>
<tr>
<td>March 2012</td>
<td>15.8</td>
<td>1.1</td>
</tr>
<tr>
<td>March 2013</td>
<td>10.8</td>
<td>1.0</td>
</tr>
<tr>
<td>September</td>
<td>11.6</td>
<td>0.8</td>
</tr>
</tbody>
</table>

**Source:** Financial Stability Report, December 2013, RBI

Due to fluctuating macroeconomic environment Indian banking sector also faced variations in its interest margin. Table 2 states that after the period of 2009-10 the profitability of the scheduled commercial banks recovered in the year 2010-11 in terms of Net Interest Income and Return on Assets because the asset quality of the banks got better. However while the fiscal deficit in the Euro- nations triggered high it stated a blow on Indian economy. Tight liquidity and high interest rates led to rise in interest expense of the banks than their interest income and thus led to decline in their net interest margin. In the year 2011-12, there was a propelling downward trend in the interest income of the banks which continued in the year 2013, since the cost of deposits raised during the period because of high interest rates and interest expenditure for the banks also rose, stressing the overall profitability. Consequently, year 2012-13 saw a marginal dip in return on assets as well which put a strain on the bank’s earning efficiency. High inflation resulted in sluggish credit growth and the cost of funds also increased simultaneously as observed in figure 6. This resulted in an adverse effect on the profitability of the banks. Fall in the level of deposits as discussed earlier also affected the banks’ margin unfavorably. Financial slowdown crashed many sectors of the economy like aviation, real estate, power, etc. which deteriorated the asset quality of the banks and increased their provisioning expenses. Changes were also made in the regulatory norms on account of increasing NPAs and the banks had to increase the percentage of provision for NPAs which also curtailed their margin. Banks in both the sectors observed a decline in net interest margin in financial year 2011-12, with the exception of key performers like SBI and ICICI as these were able to maintain stable CASA levels. SBI because of its inherent image and having larger share of banking business managed to hold its interest margin even in the times of distress. Due to difficulties in the operational environment the fall in the interest margin was more apparent amongst public banks than the private banks. Unlike advanced economies, Indian
banks are more reliant on retail deposits and have restricted reliance on wholesale deposits for their funding needs; accordingly the adverse effect was limited and manageable.

Source: Data calculated and compiled from A Profile of Banks 2012-13, RBI

**Figure 6. Average Cost of Funds of Indian Banks**

Contraction in the interest income margin of the banks was largely due to increase in the funding cost and decrease in CASA deposits and advance levels. In figure 6, the average cost of funds is taken for the five years of selected public and private sector banks. In view of the fact that banks rely on borrowed funds, their cost of funds majorly includes the interest paid by them on their saving and time deposits. Increased returns can be obtained by availing funds at a lower cost, thus cost of funds is a major input cost for the banks. During the year 2010-11, the banks attained better spreads as their net interest margin increased with lower cost of funds as examined in figure 5 and figure 6. However, dissimilarity is found in the succeeding years where net interest margin is decreasing and the cost of funds increased radically which influenced the profitability of the banks.

Source: Data and Statistics, Planning Commission, Government of India

**Figure 7. GDP Growth of Indian Economy, Bank Credit and Deposit Growth of Indian Banks**

According to Economic Survey 2012-13, fiscal stimulus was inserted in the year 2009-10 which accounted for 6.5% of GDP and restoration of the economic health was seen in the year 2010-11 but the growth was not sustained in succeeding years. Apart from this the rate of savings also marked eight
year low record of 30.8% in 2011-12. Sharp decline in the growth of industrial sector and rising inflationary tendencies in the economy influenced the credit growth. Figure 7 showcase that fall in credit and deposit growth is more severe in the period affected by the Euro zone crisis than the earlier Subprime crisis. Growth rate of Indian GDP remained at 4.74% for financial year 2013-14. According to the annual forecast by RBI, for financial year 2014-15 the GDP growth rate is forecasted to be 5.6% and the mean growth in the service sector would be 7%. In contrast to the years affected by the financial crisis, the recovery in the economy ahead and rise in earning population will boost per capita income which will necessitate the need for financial savings in bank deposits, life insurance funds, pension and provident funds, shares, debentures bonds, etc.

CONCLUDING REMARKS

Indian banks have managed to deal with the financial chaos with the help of economic progress which was far superior to those of the advanced nations. Highly regulated banking sector also supported Indian banks as it restricted their exposure to risky assets in the crisis prone regions. There is no significant difference in the level of capital adequacy during the period of Euro crisis. Indian banks continue to preserve the capital adequacy levels irrespective of the unstable economic scenarios round the world. Though private banks have satisfactory capital with them, still there is a call for public banks for credit raise in order to act in accordance with Basel III norms to be implemented fully by March 2018. Credit growth can be achieved by expansion of the banking business in the untapped markets like rural areas with innovative financial products. In urge to retain high capital standards and stressing on tight liquidity, the cost of funds for the banks increased. The demanding economic and operational environment stressed the performance of the banks in terms of dipping credit growth, deposit growth and net interest margin. But there was manageable impact on the return on assets.

In a nut shell being a part of globalized world, a nation’s economy can’t fully ignore the consequence of the crisis. Indian economy also experienced the aftermath of the financial calamity which originated from Euro zone, still banking sector in India continue to remain sound and strong. Indian banks also have opportunity ahead as our economic growth is restoring and rise in working population collectively with per capita income will augment the financial savings and investment needs.

Annexure

Table 3. Average Cost of Funds (CoF) for Selected Private and Public Sector Banks

<table>
<thead>
<tr>
<th>Years</th>
<th>ICICI Bank</th>
<th>HDFC Bank</th>
<th>Axis Bank</th>
<th>Yes Bank</th>
<th>Kotak Mahindra Bank</th>
<th>SBI Bank of Baroda</th>
<th>Punjab National Bank</th>
<th>Bank of India</th>
<th>Canara Bank</th>
<th>Average CoF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008-09</td>
<td>5.72</td>
<td>6.92</td>
<td>5.74</td>
<td>8.67</td>
<td>5.72</td>
<td>5.25</td>
<td>5.93</td>
<td>5.69</td>
<td>6.82</td>
<td>6.268571</td>
</tr>
<tr>
<td>2009-10</td>
<td>4.18</td>
<td>4.66</td>
<td>4.03</td>
<td>6.05</td>
<td>4.5</td>
<td>5.14</td>
<td>4.37</td>
<td>4.9</td>
<td>4.97</td>
<td>5.077143</td>
</tr>
<tr>
<td>2010-11</td>
<td>3.59</td>
<td>4.64</td>
<td>4.1</td>
<td>6.54</td>
<td>5.2</td>
<td>4.67</td>
<td>4.19</td>
<td>4.58</td>
<td>4.53</td>
<td>5.29</td>
</tr>
<tr>
<td>2011-12</td>
<td>4.32</td>
<td>6.06</td>
<td>5.29</td>
<td>8.05</td>
<td>6.82</td>
<td>5.35</td>
<td>5</td>
<td>5.73</td>
<td>5.69</td>
<td>6.89</td>
</tr>
<tr>
<td>2012-13</td>
<td>4.55</td>
<td>6.41</td>
<td>5.52</td>
<td>8.01</td>
<td>6.95</td>
<td>5.63</td>
<td>5.04</td>
<td>6.11</td>
<td>5.66</td>
<td>7.07</td>
</tr>
</tbody>
</table>

Source: RBI

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