Banks and their Catastrophic Collapse; and How the Saviour Turns into a Killer

Dr. Jayant Kumar* and Ms. Khyati Shah**

Abstract

The commercial banks are lifeline and nervous system of any country. In India their proactive role in economic development cannot be ignored. The country requires a healthy banking system to support the ever increasing economic activities to keep pace with development paradigm. That banks conventionally are sandwiched between societal commitments and commercial motives is an age old established fact. The twist in the story is due to apprehensiveness about their financial strength to withstand the rising menace of their advances and qualm about their adequateness of capital funding. In either way, the role of the Government is conspicuously political. The present paper brings an econometric inquiry into the nature and causes of a catastrophic collapse that the banks are on the verge of.

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Introduction

The role of commercial banks is indispensable for the economic development of any country. A developing country such as India would always look for support from the banking system for allocation and distribution of resources in an optimum manner. This is important as nearly 40 percent of total households savings are in the form of banks deposits and therefore form a significant proportion of resources for the purpose of economic development. The economic reforms undertaken in 1991 and subsequent deregulation in rate of interest has ascertained a level playing field where banks can compete with each other and collectively become a catalyst in the process of economic development.

Unfortunately banks are not out of conventional but crushing control of the government in almost all aspects of banking operations. They seriously ride on a dilemma implicating social commitments and fulfilling commercial objectives. The present paper basically deals with the deteriorating conditions of public sector banks due to changing dimensions of capital requirements and serious decline in the quality of assets of commercial banks. In the present study we have taken Capital Ratio, Term Loans to Total Assets and net NPAs to Total Asset as important factors influencing the Return on Assets.

Relationship between ROA and Capital Ratio

The Return to assets shows the extent to which banks are profitable in relation to their total assets. In other words it is a measure to understand how commercial banks use their assets to generate income. This is represented by a ratio of net income to total assets.

ROA = Net Income / Total Assets

Since the Total Assets of the banks are likely to increase during the period, if the returns remains constant the ROA is set to decline ideally. This also means that if two banks have same earnings; that bank will have a lower ROA whose assets have sharply increased over the period.

The relationship between Capital Ratio and Return on Assets is complex in nature, although, there are established studies regarding the capacity of commercial banks to earn and the capital ratio they maintain. For example according to one study if the risk weighted assets remain the same, a one percent increase in capital ratio is likely to increase the banks' lending spread by 29 basis points; but if the risk weighted assets decline by say 20 bps, bank's lending spread will also decline by same proportion (VighneswaraSwamy, 2012).

In our study the first model directly relates capital ratio to the ROA. The study suggests that capital ratio is a determining variable of return on assets. The model is significant at 1 percent level and has a D-W statistics of around 2 which indicates that in terms of autocorrelation the model is quite stable.

ROA= -1.545 + 0.199 (CR) (0.909)*	
R^2 = 0.823	F ratio = 51.075*
DW Ratio = 2.124	N = 13

* 1 percent significant

Relationship between Capital Ratio and Net Non-Performing Assets

Our second model relates to capital ratio and non-performing assets. Equation shows that for every increase in proportion of NNPAs to Total Assets, Capital ratio is affected negatively by 0.781. Relationship is significant at 1 percent level. R^2 is 0.716. Although the model is significant, the possibility of auto correlation cannot be ruled out. However objective of presenting the model is satisfied providing an inverse relationship between Capital Ratio and Net NPAs to Total Assets. If we read the relationship along with the first model it becomes clear that ROA will be influenced by the capital ratio and the non-performing assets.

Capital Ratio = 13.270 – 0.781 (NNPAs to TA) (-0.846)*	
R^2 = 0.716	F ratio = 27.762*
DW Ratio = 0.809	N = 13

* 1 Percent Significant

The first two models also underlined the importance of capital ratio and non-performing assets for the public sector banks. In the matter of capital ratio, the banks will have to heavily depend upon the capital infusion from the government. Since the major ownership of such banks is with the government of India, the government will have to infuse huge amount of capital under Basel III accord as against Basel II accord. This is because under the new accord all the pillars of Basel II accord, such as, minimum capital requirements, supervisory review process, and disclosure and market discipline are to be fortified further with additional safety by enhancing their levels. This means that each of the pillars and the component inherent therein has to be revisited in order to bring capital compliance of banks. For example Tier 1 capital to risk weighted asset under Basel III accord should increase from 4 percent to 6 percent and the core Tier I capital to risk weighted assets should increase from 2 percent to 5 percent. It should be noted that the banks will have to maintain a capital conservation buffer (CCB) to risk weighted assets equal to 2.5 percent and leverage ratio of 3 percent. The banks will also have to maintain countercyclical buffer in the range of 0 to 2.5 percent depending upon the position of banks in economic cycle. In addition to this the banks are required to maintain minimum capital liquidity ratio from 2015 (not started yet) and minimum net stable funding ratio starting from 2018.

If the non-performing assets deteriorate in quality further, majority of above said ratios are likely to be adversely influenced. Therefore, the biggest challenge for banks is to improve the quality of the assets or atleast make them stable so as to reduce the need to rush for additional capital for maintaining capital adequacy ratio.

The government of India as a major stake holder is ready to infuse some capital in public sector banks. In the current fiscal year the budgetary allocation of capital terms out to be Rs. 7940 crores. This means that the banks will have to mobilize additional capital either through the new financing, follow up public issues, reduction of dividend and retention of profits. As such the return on equity has deteriorated to a great extent and price of most of the shares have already touched life time lows. The provision of funds from the profits to compensate for non-performing assets are been increasing over a period of time. Therefore, very little amount is left for distribution of dividends or conversion of retained profit into capital. Follow up issues of equity capital is not possible in a subdued stock market environment where the price of equity is alarmingly low. Thus, the commercial bans under public control face a very tough challenge to improve their capital adequacy.

Relationship between ROA to Term Loan and Net NPAs.

In our final model we have taken ROA as an independed variable and term loan to total assets and Net NPAs to Total Assets as dependent variable. The model suggests an inverse relationship between term loan and ROA, i.e., if the term loan increases the Return on Assets will decrease.

<table>
<tr><td colspan="2">ROA= 4.258 - 0.053(TLTA) – 0.640 (NNPAs to TA)
(-2.503)** (-3.166)*</td></tr>
<tr><td>R² = 0.701</td><td>F ratio = 11.731*</td></tr>
<tr><td>DW Ratio = 2.022</td><td>N = 13</td></tr>
</table>

**5 percent significance and * 1 percent significance

Although the long term and medium term loans attract relatively higher rate of interest they are not able to push up the ROA. On the other hand the Net NPAs is desirably negatively related to ROA. This means that a decrease in Net NPAs will bring improvement in ROA. The model is significant with a good F statistics and D-W ratio.

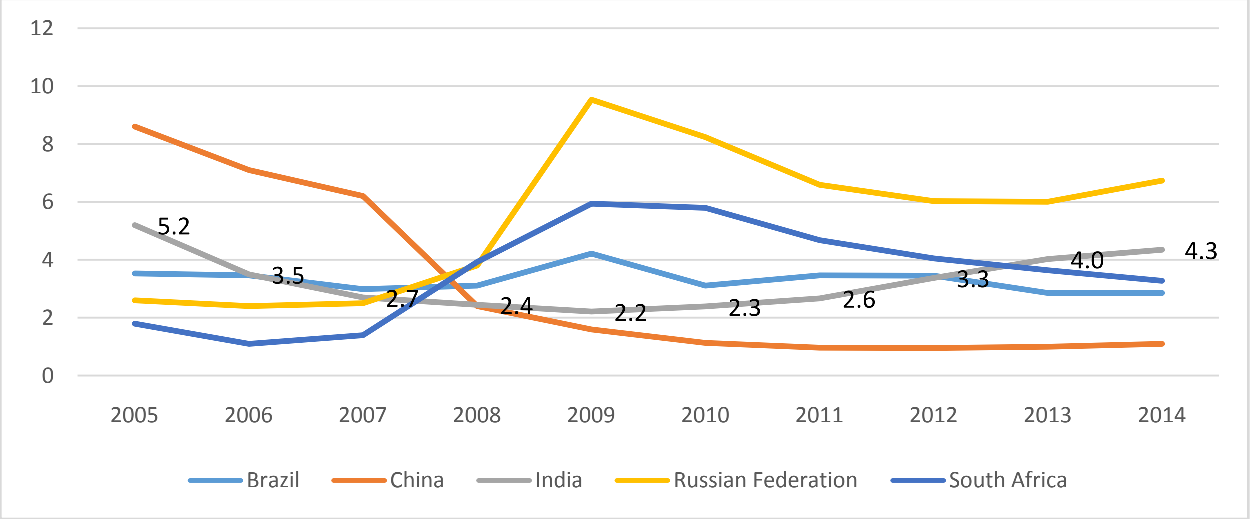
The Global Scenario

Silver lining, if any, emanating from global comparison is a tad ambiguous though. The capital adequacy ratio of banks in different countries are at different positions. Many developed countries have witnessed a gradual fall in the capital adequacy ratio in last five years. For example in Australia the capital adequacy ratio in 2010 was 6.3 percent which has reduced to 5.9 percent in 2014. Similarly in case of USA the ratio has declined from 12.7 percent to 11.7

percent during the same period. India witnessed a capital adequacy ratio of 7.1 percent in 2010 and with great efforts we could pull the ratio from some decline in 2014 at same level. However even 7.1 percent of capital adequacy ratio falls short by around 3.5 percent in view of Basel accord III. Therefore a country like USA might take the blow of 1 percent decline in capital adequacy ratio, whereas, the country like India or Australia having already lower capital adequacy ratio will have to struggle to increase or even maintain the ratio at the same level over a period of time.

The twist in the story is that India has also witnessed a rise in the non-performing assets. According to World Bank, the non-performing loans to total Gross Loans of India for all banks increased from 2.3 percent to 4.3 percent during the period 2010 to 2014. During the same period countries like Japan, Switzerland, United States, Unites Kingdom and Germany have witnessed considerably decline in their Non-Performing assets. The fast developing countries of the world such as Brazil has non-performing assets ratio of only 2.9 percent in 2014 as against 3.1 percent in 2010. China has maintained a level of non-performing assets ratio of only around 1 percent which was more than 8 percent in 2005. For the Russian federation all thought the ratio is high but it has declined from 8.2 percent in 2010 to almost 6.7 percent in 2014. The last country of BRICS, i.e. South Africa has witnessed a decline in the ratio of non-performing asset ratio from 5.8 percent in 2010 to 3.3 percent in 2014.

Non- Performing Loans to Total Gross Loans of Various Countries (2005 to 2014)



Source: Prepared from World Bank Interactive Data. Figures are in percent

Conclusion

Public sector banks stand exposed to three grueling factors affecting seriously their present financial strength. The requirement of additional capital to maintain adequate capital ratio under Basel III accord is simply mindboggling if not stupendous. Considering the proportion on non-performing assets banks have no clues how the net stable funding ratio will be maintained even after few years hence. This is because for each quality of assets and liabilities and each category of business the required funding ratio will change with reference to risk. The requirement of capital conversion buffer and other ratios stand tall before the banks for any comprehensive maintenance.

There is another twist in the story this comes from the enforcement of control and regulation of commercial banks by the government. On the one hand the Government is gradually gearing up for massive capital infusion, on the other hand, she is slow on economic reforms to provide any relief to the industries. The industries are eagerly waiting for rate cut form RBI. The Government does not have any clue to bring substantial reduction in inflation so as to make compatible decline in interest rates. The government is not ready to touch upon large sharks defaulting innumerable times in payment of loans. At the time of agricultural crisis looming large due to non-consistent monsoon, the Government is also not ready to touch upon non performing asserts originating from priority sector financing. This is also important to note that at the time of crisis commercial banks tend to increase their advances and without proper monitoring there is every possibility of accumulation of bad loans. The mute question therefore is- are we waiting for a catastrophic collapse?

Crucial Ratios used in formulation of Regression Equation

Year	Capital Ratio	Term Loan to Total Assets	NNPAs to Total Assets	ROA
2000	10.60	34.88	2.9	0.66
2001	10.80	35.05	2.7	0.47
2002	11.45	36.30	2.4	0.77
2003	12.45	39.26	1.9	1.00
2004	13.05	45.10	1.3	1.16
2005	13.00	51.63	1.0	0.95
2006	12.30	52.91	0.7	0.88
2007	12.35	54.88	0.6	0.90
2008	12.55	55.41	0.6	0.99
2009	12.65	54.06	0.6	1.02
2010	12.85	53.53	0.7	0.96
2011	12.60	52.33	0.7	0.91
2012	12.50	51.62	1.0	0.89

Source: Statistical Tables Relating to Banks in India

References

1. Arora, N. and Ostwal, N. (2014),"Unearthing the Epidemic of Non-Performing Assets: A Study of Public and Private Sector Banks.", Management in sight, Vol. 10, No.1, (June), pp. 47-52.
2. Balasubramaniam, C. S. (2012), "Non-Performing Assets and Profitability of Commercial Banks inIndia: Assessment and Emerging Issues." National Monthly Referred Journal of Reaserch Commerce and Management, Vol. 1, No. 7.
3. Bandt, O. D., BoubacarCamara, Pessarossi, P. and Rose, M. (2014),"Does the Capital Structure Affect Banks' Profitability? Pre- And Post-Financial Crisis Evidence from Significant Banks in France.", Direction DesÉtudes – SGACPR
4. Lokare, S. M. (2014), "Re-Emerging Stress in the Asset Quality of Indian Banks: Macro-Financial Linkages." Department of Economic and Policy Research, (February), pp. 1-43.
5. Manjule, R. R. (2013),"Non-Performing Assets (NPA) - A Challenge for Indian Public Sector Banks." Research Journal of Finance, Vol. 1, (Dec), pp. 1-11.
6. VighneswaraSwamy (2012), "Basel III, Implications for Indian Banking."
   http://www.iibf.org.in/documents/reseach-report/Report-25.pdf
7. Statistical Tables Relating to Banks in India, Various Issues.
8. World Bank Interactive Data
   http://data.worldbank.org/indicator/FB.AST.NPER.ZS/countries/IN-RU-BR-CN-ZA?display=graph