BANK CREDIT, ECONOMIC GROWTH AND NON-PERFORMING ASSETS- AN ANALYSIS OF INDIAN COMMERCIAL BANKING

K. Ramanadh*, Ch. Rajesham**

Abstract *Commercial banks as a financial intermediary channelize the accumulated savings into productive purposes by lending. In doing so, they are exposed to credit risk, which is a result of wide array of factors. Credit is an essential factor for economic growth and rising levels of NPAs may hamper the overall objectives of credit growth in economic development. An understanding of the relationship between credit expansion, NPAs, and GDP growth rate is important in analyzing the credit function of commercial banks. Analysis of credit growth and NPAs across various banking groups such as public sector, private sector, and foreign banks provides important insight in understanding the relationship mentioned among banking groups and identifies the banking group that has been improving in asset quality. This paper provides a comparative analysis of the relationship among GDP growth rate, growth in bank credit and NPAs of scheduled commercial banks during 15 years period commencing from 1996-97 to 2010-11.*

Keyword: *Indian Commercial Banks, Bank Credit, Non-performing Assets and Economic Growth, Asset Quality in Banking, Credit Expansion, Credit Growth and NPAs, Public Sector Banks, Private Sector Banks, and Foreign Banks.*

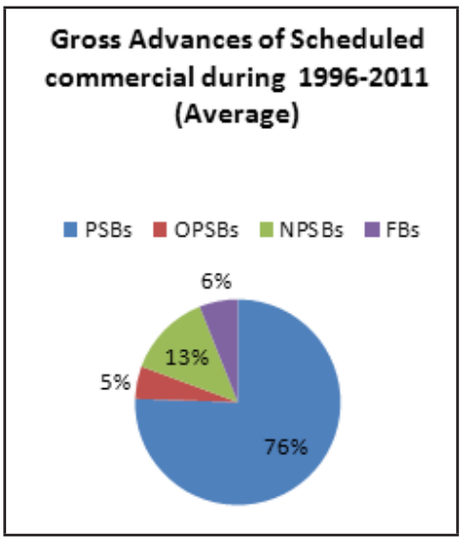
INTRODUCTION

NPAs are pretty often discussed in business news and most of the times it is viewed as a serious concern. This article examines the growth of NPAs over a period of 16 years from 1995-96 to 2010-11 in relation to the GDP. Such analysis though partial, essentially focuses on the growth of bank advances and NPAs to identify and measure the relationship among the three and examines whether the problem of NPAs is common with expansion of bank credit irrespective of banking ownership.

Banks are many a times are referred as catalysts in economic development. Gross bank credit is one of the important means of creating demand for goods and services. Increase in bank credit creates demand for goods and services, provides employment, raises income levels, and savings provided at a constant price level. Barring the changes in inflation, availability of bank credit certainly fuels economic growth at constant or increased supply of goods and services that match with the demand. Thus, growth of an economy does affect and is affected by bank credit.

In India, scheduled commercial banks are classified on the ownership such as Public Sector Banks (PSBs), Old Private Sector Banks (OPSBs), New Private Sector Banks (NPSBs) and Foreign Banks (FBs). Public sector banks are predominant in the country with more than 70 percent of market share, followed by private sector banks. Expansion of credit by these banks is imperative in economic growth and non-performing assets have become a serious concern for most of these banks and especially to the banks in public sector.

Figure 1: Gross Advances of SCBs



* Associate Professor, Swarna Bharathi Institute of Management Science (SBIM), Khammam, Andhra Pradesh, India. Email: ramanathkasturi@yahoo.com

** Professor, College of Commerce and Business Management, Kakatiya University, Warangal, Andhra Pradesh, India. Email: drchr18@gmail.com

Figure 2: Net Advances of SCBs

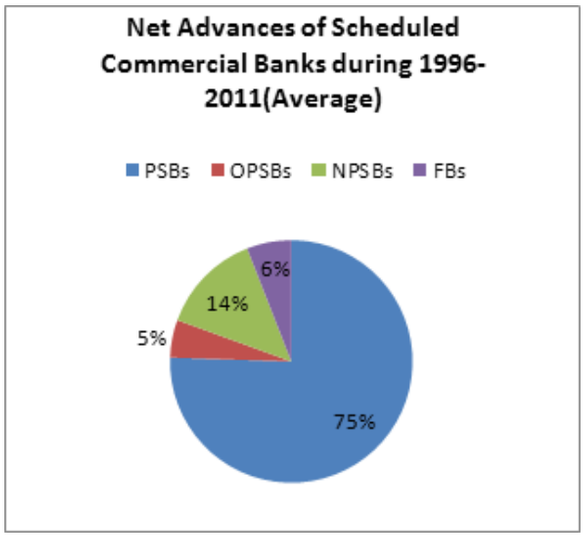
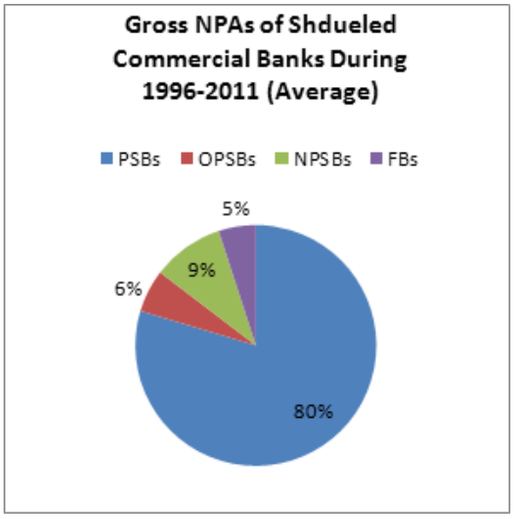


Figure 3: Gross NPAs of SCBs



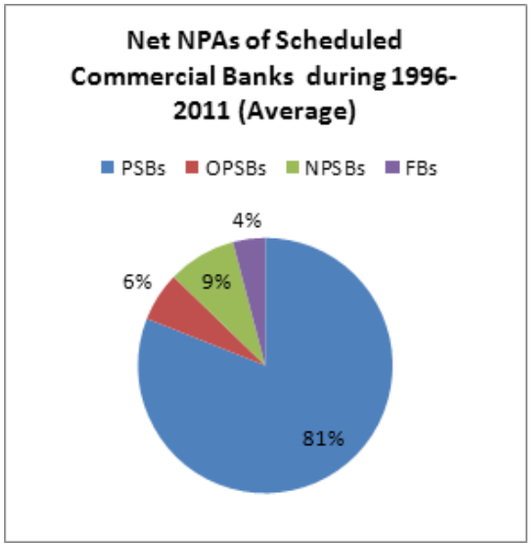
Figures 1-4 show that gross advances of public sector banks account for an average of 76 percent and net advances were 75 percent of total advances, followed by new private sector banks with 13 percent and 14 percent of gross and net advances of scheduled commercial banks. Old private sector banks and foreign banks have shared 5 percent and 6 percent of total gross and net advances.

The share of gross NPAs of public sector banks were 80 percent and of net NPAs were 81 percent, followed by new private sector banks with 9% in both gross and net NPAs.

REVIEW OF LITERATURE

Yoshiro Miwa et.al. (2000) find no significant role of commercial banks in economic growth from the history of Japan. Their study found no evidence of growth and development in business entities dominated by bank support. Katarzyna Burzynska (2009) identified long-run equilibrium relationship between economic growth and financial development. In his study he found the direction of the causality between bank credit and economic growth is affected by type of the bank type of loan. Krittika Banerjee (2012) finds that the direction of causality between bank credit and economic growth has changed over time from credit leading output to output leading credit. The study of Raveesh Krishnankutty (2011) also suggests the role of bank credit has no impact on economic growth in North Eastern States of India.

Figure 4: Net NPAs of SCBs



The quality of earnings is a very important criterion that determines the ability of a bank to earn consistently and in advancement. It determines the profitability of the banks and also explains the sustainability of growth in earnings (Sahila Chaudary, 2012). NPAs reflect the asset quality and it has been a major concern in Indian banks as it may adversely affect the industry and the economy. NPAs can be described as the best indicator for the health of the banking industry (GV Bhavani Prasad et al., 2011).

Namita Rajput et al. (2012) found negative correlation between NPAs and Return on Assets of public sector banks that may impact the profitability, expansion of credit and contribution for economic growth. Rising NPAs, in the wake of possible implementation of Basel III norms for capital adequacy may pose a problem for banks in raising additional capital due the prevailing market conditions and new private sector banks like ICICI and HDFC banks preparing for implementation of Basel III norms (C.S. Balasubramanian 2013).

Pacha Malyadri et al. (2011) found there is a significant improvement in the management of NPAs of the public sector banks in India. NPAs remained a cause for concern in Indian banks in the post millennium period due to recessionary pressures and poses significant pressure on credit risk management of commercial banks (Siraj K.K et al., 2012). Despite the efforts of banks in containing the NPAs, the amount of slippage is still high and public sector banks are more at threat while private sector banks able to consolidate with technology and improved methods (Bratati Gupta, 2012). What causes the rising NPAs has always been discussed in business and research literature. Many studies suggest the failure of the economy as the prime cause. A contrary to this idea was shared by M.R. Das (2013) who advocates against the credit policies of the banks instead of the economic conditions.

Studies on NPAs in banking groups reveal the differences in private and public sector banks, and foreign banks. Veerakumar (2012) finds more NPAs in priority sector lending in public sector banks than in foreign banks. A study by Suresh Patidar et al. (2012) supports the discussion that public sector banks registered more NPAs than private sector banks and suggests that NPAs are more in priority sector lending.

NEED FOR THE STUDY

Growth and sustainability in banking sector are imperative for attainment of economic objectives. Performance of banks is measured in terms of both income generation and quality of assets. Non-performing assets reveal the quality of assets, possibility of losses and reduction in income levels due to provisions against such losses. Many studies have been made on NPAs in different perspectives on NPAs, management of NPAs, measures, and strategies to contain NPAs etc. The present study focuses on finding the relationship between credit expansion and non-performing assets of commercial banks on banking group basis.

OBJECTIVES OF THE STUDY

1. To measure the growth of bank credit and NPAs of scheduled commercial banks in relation to the growth of GDP.
2. To compare and analyze the growth in NPAs along with growth in bank credit across banking groups.
3. To identify and measure the relationship between the NPAs and credit of commercial banks.
4. To present an overview of observations from the analysis and to suggest the banks on credit expansion.

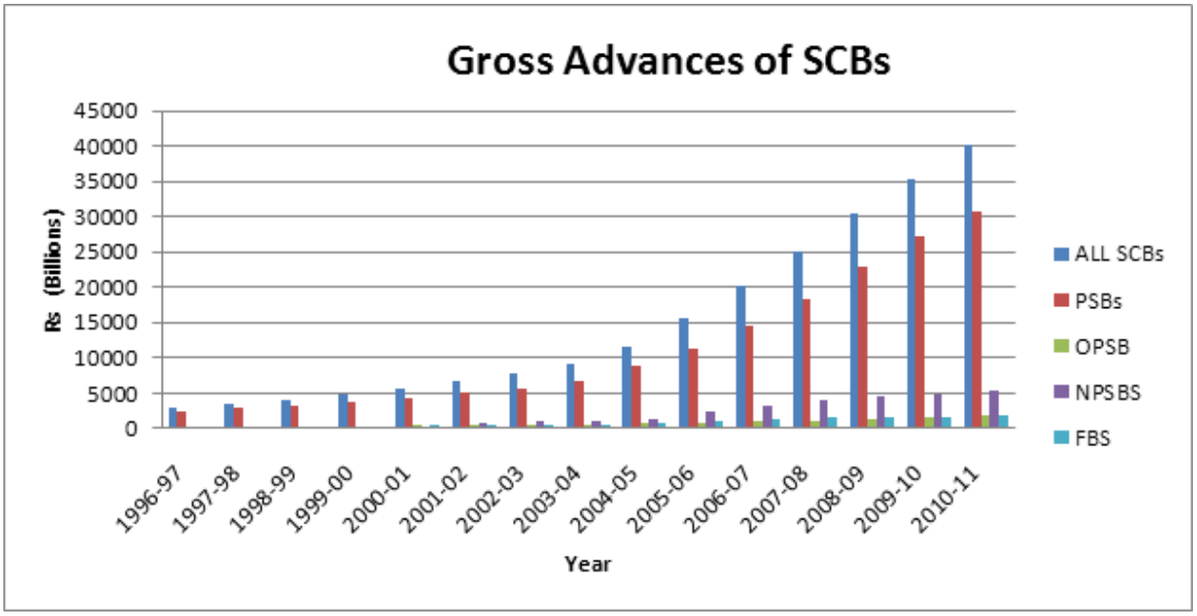
HYPOTHESES

H_o1: Expansion of credit has positive impact on economic growth.

H_o2: Expansion of credit will result in deterioration of asset quality.

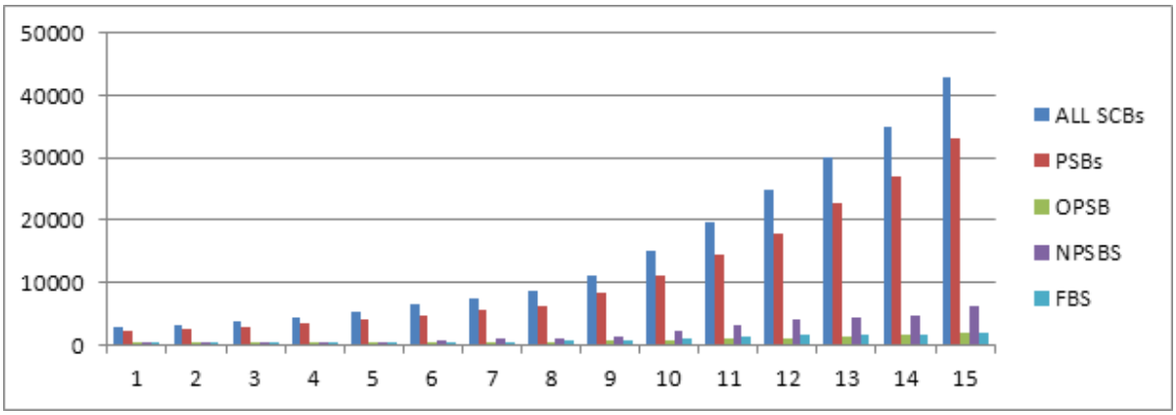
H_o3: Credit expansion and growth of NPAs significantly differ across banking groups.

Figure 5: Gross Advances of Scheduled Commercial Banks



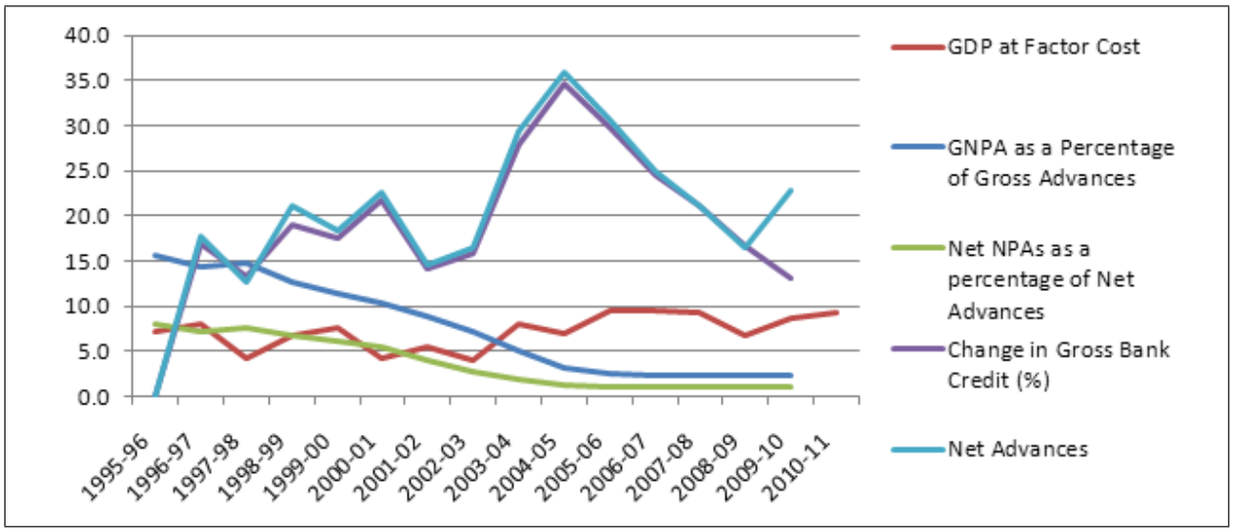
*Source: RBI Documents

Figure 6: Net Advances of Scheduled Commercial Banks



*Source: RBI Documents

Figure 7: Comparison of GDP Growth Rate with Growth in Gross Bank Credit, Gross and Net NPAs of SCBs



*Source: RBI Documents

METHODOLOGY

The study is based on secondary data collected from RBI documents for the period of 15 years from 1996-97 to 2010-11. The data is analyzed using arithmetic averages, correlation and regression techniques.

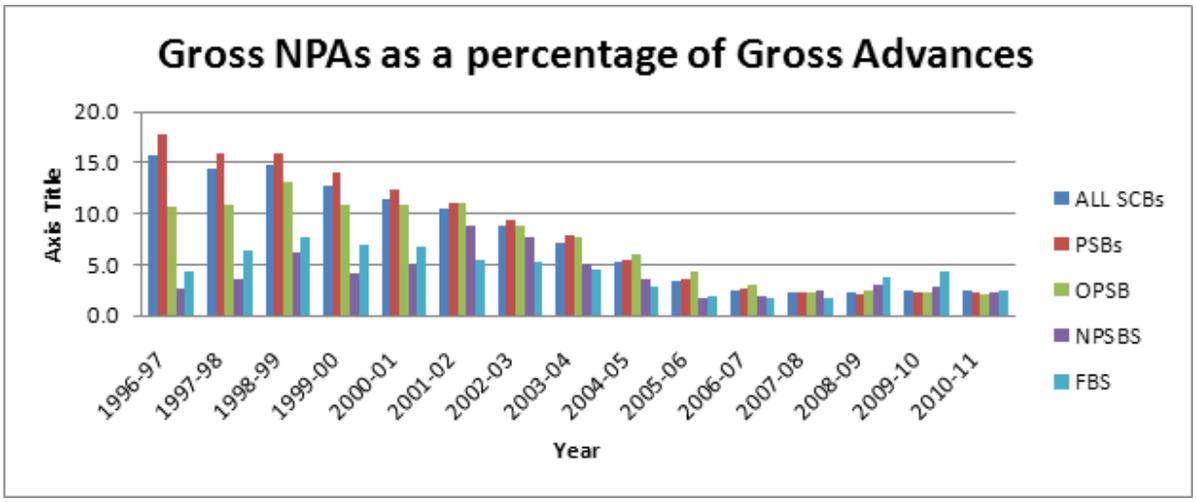
ANALYSIS

Growth in Advances and NPAs

The gross advances of all scheduled commercial banks have grown from Rs 3,017 billion in 1996-97 to 40,121 billion by the end of March 2011 (Figure 5). The average annual growth in bank credit was found at 20.6 percent. Public sector banks are predominant in gross bank credit with an average share of 75.5 percent. Old and new private sector banks have 5.1 percent and 13.3 percent of share respectively and that of foreign banks was 6.1 percent. On the other hand, the net advances of scheduled commercial banks have grown from 2,764.1 billion in 1996-97 to Rs 33,056.3 billion rupees by the end of March 2011. The average annual growth rate in Net Advances was found to be 21.82 percent.

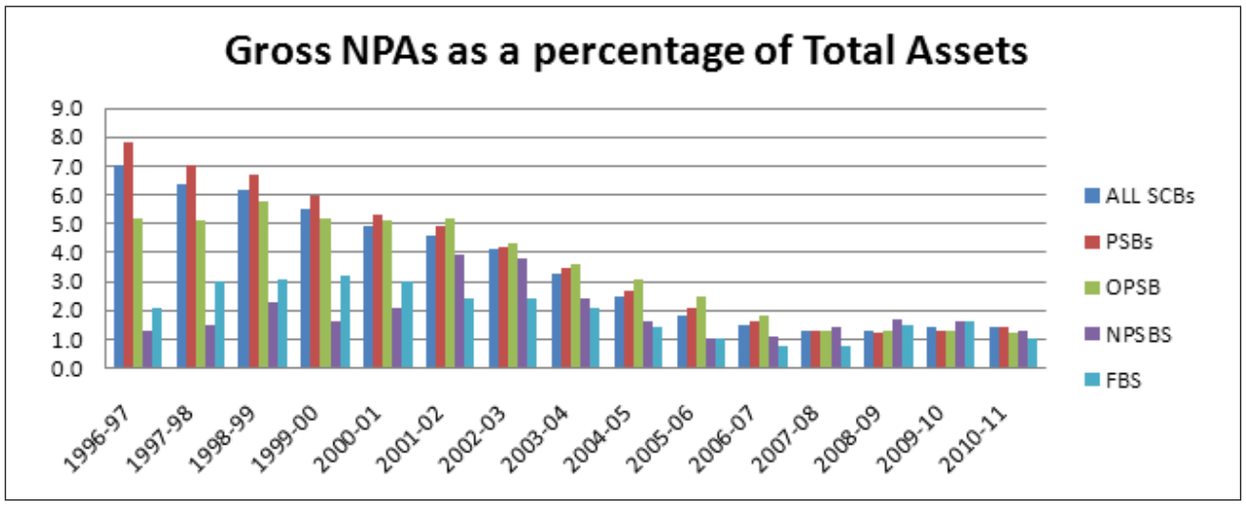
The growth in advances across various bank groups was different from each other. New private sector banks have recorded a highest average annual growth rate of 38.57 percent in gross advances, followed by the public sector banks with 20 percent, old private sector banks with 16.71 percent. Foreign Banks have shown the least growth of 15.62 percent per annum, on average, in comparison with their peers. The net advances of scheduled commercial banks have also shown similar trend, public sector banks

Figure 8: Gross NPAs as a percentage of Gross Advances



Source: RBI Documents

Figure 9: Gross NPAs as a percentage of Total Assets



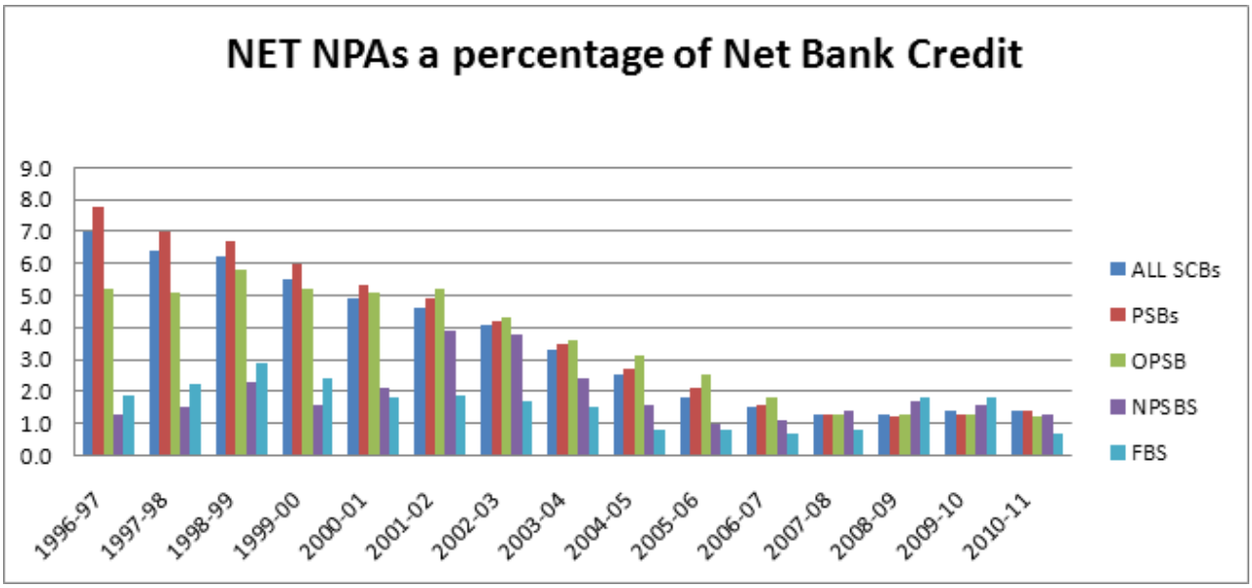
Source: RBI Documents

with 21.48 percent, old private sector banks with 17 percent, new private sector banks with 40.25 percent, and foreign banks with 15.71 percent.

A comparison of GDP growth rates with gross bank credit, gross NPAs and net NPAs has been portrayed in Figure 7. The results of the comparison show that, despite the changes in growth rates of gross bank credit, the gross and net NPAs of scheduled commercial banks have shown a decline over the period of observation. The level of NPAs exceeded the GDP growth rate for 1996-97, 1998-1999, and during 2000-01. Indian banking has seen its worst during 1997-98 during which the growth rate in gross bank credit has been lower than the level of NPAs. The study reveals that gross bank credit could not influence much the GDP growth rate. It can be seen from the chart (Figure 7) that the movement in GDP growth rate and growth in bank credit are showing different tendencies. This is a result of lower percolation of gross bank credit into the economy or its ability to influence demand for goods and services.

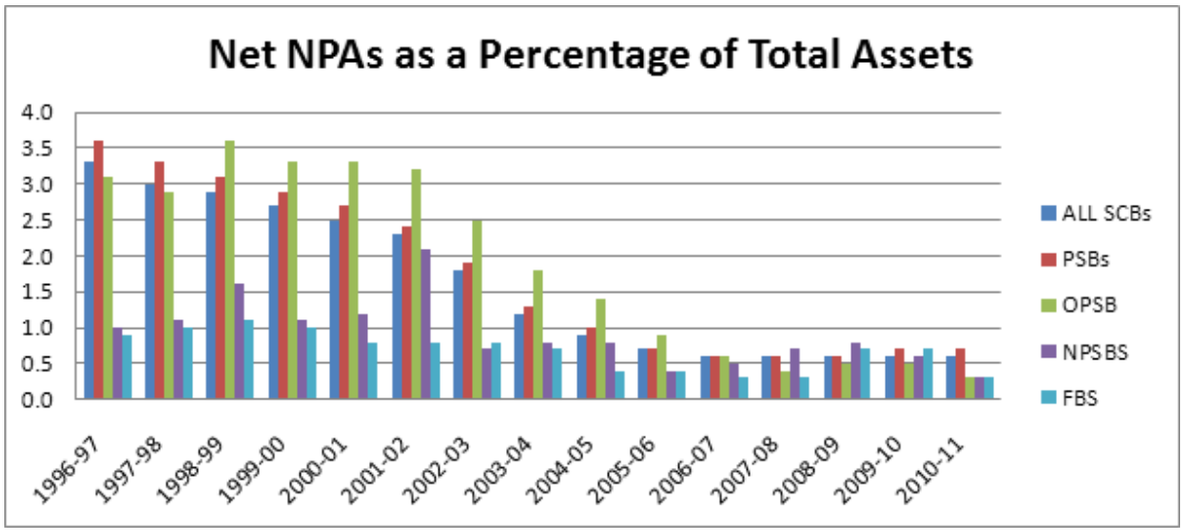
Figure 8 shows that the gross NPAs as a percentage of gross advances for all scheduled banks were found to have declined from 15.7 percent during 1995-96 to 2.4 percent during 2010-11. Public sector banks have higher gross NPAs than all scheduled banks, which were recorded at 17.8 percent during 1996-97 and have consistently brought down to 2.3 percent by the end of 2010-11. The gross advances of old private sector banks were lower than public sector banks during period, which were 10.7 percent at the end of March

Figure 10: NET NPAs a percentage of Net Bank Credit



Source: RBI Documents

Figure11: Net NPAs as a Percentage of Total Assets



Source: RBI Documents

1997 have declined to 2 percent by the end of March 2011. The gross NPAs of new private sector banks were initially low with 2.6 percent during 1996-97, have risen to 8.9 percent by the end of 2001-02, have declined to 1.7 percent by the end of March 2005-06. A further rise in gross NPAs as a percentage of gross advances was continued thereafter to reach 3.1 percent by 2008-09. A similar movement of gross NPAs was found with foreign banks during the period of study and these stood the highest among banking groups by the end of 2010-11 with 2.5 percent.

On the other hand (Figure 9), the gross NPAs as a percentage of total assets of all scheduled commercial banks was found to be 7 percent during 1996-97, have been brought down to 1.4 percent by the end of 2010-11. The Gross NPAs as a percentage of total assets of public sector banks exceeded the collective figures of all scheduled banks throughout the period, which were 7.8 percent during 1996-97, have been declined to 1.4 percent by the end of March 2011. Gross NPAs of old private sector banks and new private sector banks varied between 5.2 percent and 1.2 percent, 2.3

Table 1: Growth Rates in Advances and NPAs

	Average Annual Growth Rates in							
	Gross Advances	**GNPAs**	**GNPAs as a Percent of Gross Advances**	**GNPAs as a percent of Total Assets**	**Net Advances**	**Net NPAs**	**Net NPAs as a percentage of Net Advances**	**Net NPAs as a percentage of Total Assets**
All SCBs	20.46%	6%	-12%	-10%	21.82%	6%	-13%	-11%
PSBs	20.02%	5%	-13%	-13%	21.48%	5%	-13%	-10%
OPSBS	16.71%	4%	-10%	-10%	17.01%	1%	-14%	-13%
NPSBS	38.57%	51%	6%	6%	40.25%	45%	2%	1%
FBs	15.62%	16%	2%	2%	15.71%	14%	1%	-1%

*Source: Calculated from RBI Documents

percent and 1.3 percent respectively. Foreign banks have registered a decline in gross NPAs as a percentage of total advances from 2.1 percent at the end of FY 1997 to 1 percent by the end of FY 2011.

As shown in Figure 10, the Net NPAs of all scheduled commercial banks, as a percentage of net bank credit have declined from 7 percent to 1.4 percent, of public sector banks from 7.8 percent to 1.4 percent, of old private sector banks from 5.2 percent to 1.2 percent. The new private sector banks had Net NPAs at 1.3 percent during 1996-97 have risen to 3.9 percent by 2001-02 and were volatile during the period. They were found to be 1.3 percent at the end of fiscal 2010-11. Foreign banks have seen a rise in Net NPAs during 1996-97 from 1.9 percent to 2.9 percent, declined to 0.7 percent with year on variations by the end of 2010-11.

Figure 11 shows that the net NPAs as percentage of total assets were found to have declined from 3.3 percent at the end of March 1997 to 0.6 percent by the end of FY 2011 for all scheduled commercial banks. The net NPAs of public sector banks declined from 3.6 percent to 0.7 percent, that of old private sector banks declined from 3.1 percent to 0.3 percent. New private sector banks initially had low NPAs as a percentage of total assets at 1 percent during 1996-97, have been oscillated and reached to 2.1 percent by the end of March 2002 and gradually brought down to 0.3 percent by the end of March 2011. Foreign banks have recorded a highest of 1.1 percent during 1998-99 and by the end of 2011, the NPAs as a percentage of total assets declined to 0.3 percent.

The study on growth in bank credit and NPAs of scheduled commercial banks (Table 1) reveals that gross advances of scheduled commercial banks have recorded an annual growth rate of 20.46 percent, of which new private sector banks have shown almost double fold growth with 38.57 percent. Public sector banks have registered 20.02 percent growth, which is most representative of gross bank credit. Old private sector banks and foreign banks have recorded a growth in gross advances of 16.71 percent and 15.62 percent respectively. The average annual growth in gross NPAs of all scheduled commercial banks was found to be 6 percent, of which, 51 percent growth was observed in gross NPAs of new private sector banks and 16 percent growth in foreign banks. Public sector and old private sector banks have recorded a growth of 6 percent and 5 percent in gross NPAs. The growth in gross NPAs as a percentage of gross advances and total assets was found to be negative for public sector banks and old private sector banks but positive for new private sector and foreign banks. A similar trend is observed with respect to net NPAs of banks with and exception to foreign banks, whose net NPAs as a percentage of total assets was found to negative and small.

Correlation and Regression between Growth in Advances and NPAs

The correlation between GDP growth rate and gross bank advances, and between GDP and net advances were found to be moderate positive with 0.43829, and 0.5562 respectively (Table 2). However, the correlation between GDP growth rate and Gross NPAs has shown a negative and negligible and Net NPA with GDP growth rate have shown a low and positive correlation. These results indicate that the bank credit has moderate relation with the GDP growth rate and low or negative relationship with the NPAs.

Table 2: Correlation Coefficients between GDP Growth Rate, Advances and NPAs of all Scheduled Commercial Banks

	Correlation Coefficient
GDP Growth Rate and Growth in Gross Advances	0.43829
GDP Growth Rate and Gross NPAs	-0.0266
GDP Growth Rate and Net Advances	0.5562
GDP Growth Rate and Net NPAs	0.1227

*Source: Calculated From RBI Documents

Table 3: Correlation between Growth Rates of NPAs and Advances

	Correlation Coefficients Between Growth in					
	Gross NPAs with Gross Advances	Gross NPAs as a Percentage of Gross Advances with Growth in Gross Advances	Gross NPAs as a percentage of to Total Assets with Growth in Gross Advances	Net NPAs With Growth in Net Advances	Net NPAs as a Percentage of Net Advances With Growth in Net Advances	Net NPAs as a Percentage of Total Advances with Growth in Net Advances
All SCBs	-0.52	-0.75	-0.67	-0.21	-0.45	-0.22
PSBs	-0.41	-0.67	-0.60	-0.08	-0.34	-0.16
OPSBS	-0.21	-0.40	-0.49	-0.35	-0.51	-0.37
NPSBS	0.72	0.25	0.39	0.66	0.14	0.30
FBs	-0.35	-0.53	-0.43	-0.34	-0.50	-0.51

*Source: Calculated From RBI Documents

Table 4: Slope of Growth in NPAs with Advances and Assets

	Slope or Beta Coefficient between					
	Growth in Gross NPAs With Gross Advances	GNPA as a Percentage of Gross Advances with Gross Advances	Growth in Gross NPAs as a percentage of Total Assets with Gross Advances	Growth in Net NPAs with Growth in Net Advances	Growth in Net NPAs as a Percentage of Net Advances With Growth in Net Advances	Growth in Net NPAs as a Percentage of Total Advances with Growth in Net Advances
All SCBs	-0.009	-41.31	-35.35	-0.005	-0.010	-0.002
PSBs	-0.008	-0.012	-0.009	-0.002	-0.008	-0.003
OPSBS	-0.008	-0.014	-0.007	-0.016	-0.021	-0.013
NPSBS	0.017	0.003	0.004	0.015	0.002	0.003
FBs	-0.013	-0.02	-0.02	-0.014	-0.020	-0.021

*Source: Calculated From RBI Documents

The correlation between the growth in NPAs and advances of scheduled commercial banks (Table 3) reveals moderately negative between growth in gross NPAs with gross advances of public sector banks and foreign banks, low and negative correlation for old private sector banks and high degree positive correlation for new private sector banks. Similar trend is observed for other correlations between gross NPAs with gross advances and total assets ratios; however, the correlation coefficients were higher than gross NPAs with gross advances in all banking groups except for new private sector banks where the correlation in positive terms has decreased. A similar trend is observed with net NPAs of banks.

The slopes of growth rates in gross NPAs with gross advances was found to be positive and mild for new private sector banks, and, negative and mild for other banks (Table 4). These results indicate that growth in advances has almost no effect on growth rates in NPAs.

FINDINGS

a. There is a positive and moderate correlation between expansion of credit and GDP growth rates.

b. There is either a weak positive or a negative correlation between GDP growth and NPAs of banks.

c. The degree of influence of credit growth on growth of NPAs was mild, positive for new private sector banks, negative, and negligible for other banks.

d. New private sector banks are more at the risk of NPAs both in absolute and relational terms but the risk of the growing NPAs is not a serious problem for other banking groups.

e. There is a significant difference between the banking groups in terms of gross advances (Table 8 of appendix).

f. There is no significant difference between the banking groups in terms of net advances

g. There is a significant difference between the banking groups in terms of growth in gross NPAs as a percentage of gross advances (Table 10 of appendix).

h. There is a significant difference between the banking groups in terms of growth in gross NPAs as a percentage of total assets (Table 11 of appendix).

i. There is no significant difference between net NPAs between the banking groups. (Table 12 of appendix).

j. There is a significant difference between the net NPA as a percent of net advances between the banking groups (Table 13 of appendix).

k. There is no significant difference between net NPAs as a percentage of total assets between the banking groups (Table 14 of appendix).

CONCLUSION

Expansion of credit is more important concern not only for economic growth but also to improve the quality of bank assets. Banks need to identify the sectors and segment that are growing and providing returns to the economy as a whole. Banks, in general, and new private sector banks, in specific, need to evolve credit policies that ensure improving asset quality and adopt better credit risk management techniques.

The study accepts the hypothesis that there is a positive relationship between credit expansion and economic growth, rejects the hypothesis that the asset quality deteriorates with credit expansion and accepts the hypothesis that the credit expansion and changes in asset quality across banking segments significantly differ.

Expansion of credit does not necessarily result in rise in NPAs and banks may reduce the average losses arising out of NPAs with more qualitative loans. In other words banks may find better portfolio of advances to minimize the impact of NPAs. The risk of losses out of NPAs can be effectively be minimized through portfolio buyouts, securitization of loans, use of credit default swaps, provisioning for bad loans, teaser interest rates etc.,

Of all the banking groups, new private sector banks were found to have strong correlation between credit growth and growth in NPAs, whose credit growth was highest among banking groups. These banks need to maintain risk-return trade off across loan portfolios and ensure asset quality for sustainable growth and development. Technology and innovation undoubtedly helped these banks in growth and these advantages should also be employed in credit selection, evaluation, monitoring and controlling the credit risks. In other words, effective credit and credit risk management practices would improve the quality of assets.

SCOPE FOR FURTHER RESEARCH

1. Would the phenomenal relationship between GDP, bank credit and non-performing assets across globe be different across the economies?
2. Does credit selection (deployment) can influence the asset quality under various economic conditions?
3. What specific factors of a bank would influence the asset quality in commercial banks?
4. How banks can trade-off between net interest returns and NPAs?
5. What is the degree of influence of competition on the asset quality of commercial banks?

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APPENDIX

Table 5: Gross and Net Advances of Commercial Banks-Banking Group-wise

	Gross Advances					Net Advances				
	ALL SCBs	**PSBs**	**OPSBs**	**NPSBs**	**FBs**	**ALL SCBs**	**PSBs**	**OPSBs**	**NPSBs**	**FBs**
1996-97	3016.98	2442.14	217.02	82.57	275.25	2764.21	2209.22	208.32	78.14	268.53
1997-98	3526.96	2849.71	255.8	111.73	309.72	3255.22	2604.59	243.53	110.58	296.52
1998-99	3994.36	3253.28	289.79	140.7	310.59	3670.12	2977.89	260.17	137.14	294.92
1999-00	4751.13	3794.61	354.04	228.16	374.32	4442.92	3527.14	338.79	221.56	355.43
2000-01	5587.66	4421.34	397.38	314.99	453.95	5263.28	4152.07	379.73	300.86	430.63
2001-02	6809.58	5093.68	440.57	769.01	506.31	6458.59	4806.81	422.86	741.87	487.05
2002-03	7780.43	5778.13	513.29	947.18	541.84	7404.73	5493.51	494.36	895.15	521.71
2003-04	9020.26	6619.75	579.08	1195.11	626.32	8626.43	6313.83	556.48	1151.06	605.06
2004-05	11526.82	8778.25	704.12	1274.2	770.26	11156.63	8489.12	677.42	1236.55	753.54
2005-06	15513.78	11347.24	851.54	2325.36	989.65	15168.11	11062.88	829.57	2300.05	975.62
2006-07	20125.1	14644.93	948.72	3252.73	1278.72	19812.37	14401.46	928.87	3218.65	1263.39
2007-08	25078.85	18190.74	1134.04	4124.41	1629.66	24769.36	17974.01	1116.7	4067.33	1611.33
2008-09	30382.54	22834.73	1303.52	4547.13	1697.16	29999.24	22592.12	1285.04	4468.24	1653.85
2009-10	35449.65	27334.58	1563.57	4877.13	1674.37	34970.92	27013	1541.36	4783.58	1632.6
2010-11	40120.79	30798.04	1872.96	5450.14	1993.21	42987.04	33056.32	1846.47	6128.86	1955.39

*Source: RBI Documents

Table 6: Gross NPAs of Scheduled Commercial Banks-Banking Group-wise

Gross NPAs					GNPA as a Percentage of Gross Advances					Gross NPAs as a Percentage of Total Advances				
ALL SCBs	**PSBs**	**OPSBs**	**NPSBs**	**FBs**	**ALL SCBs**	**PSBs**	**OPSB**	**NPSBS**	**FBS**	**ALL SCBs**	**PSBs**	**OPSBs**	**NPSBs**	**FBs**
473	435.77	23.25	2.17	11.81	15.7	17.8	10.7	2.6	4.3	7.0	7.8	5.2	1.3	2.1
508.15	456.53	27.94	3.92	19.76	14.4	16.0	10.9	3.5	6.4	6.4	7.0	5.1	1.5	3.0
587.22	517.1	37.84	8.71	23.57	14.7	15.9	13.1	6.2	7.6	6.2	6.7	5.8	2.3	3.1

604.08	530.33	38.15	9.46	26.14	12.7	14.0	10.8	4.1	7.0	5.5	6.0	5.2	1.6	3.2
637.41	546.72	43.46	16.17	31.06	11.4	12.4	10.9	5.1	6.8	4.9	5.3	5.1	2.1	3.0
708.61	564.73	48.51	68.11	27.26	10.4	11.1	11.0	8.9	5.4	4.6	4.9	5.2	3.9	2.4
687.17	540.9	45.5	72.32	28.45	8.8	9.4	8.9	7.6	5.3	4.1	4.2	4.3	3.8	2.4
648.12	515.37	43.98	59.83	28.94	7.2	7.8	7.6	5.0	4.6	3.3	3.5	3.6	2.4	2.1
593.73	483.99	42	45.82	21.92	5.2	5.5	6.0	3.6	2.8	2.5	2.7	3.1	1.6	1.4
510.97	413.58	37.59	40.52	19.28	3.3	3.6	4.4	1.7	1.9	1.8	2.1	2.5	1.0	1.0
504.86	389.68	29.69	62.87	22.63	2.5	2.7	3.1	1.9	1.8	1.5	1.6	1.8	1.1	0.8
563.09	404.52	25.57	104.4	28.59	2.3	2.2	2.3	2.5	1.8	1.3	1.3	1.3	1.4	0.8
683.28	449.57	30.72	138.54	64.44	2.3	2.0	2.4	3.1	3.8	1.3	1.2	1.3	1.7	1.5
846.98	599.26	36.22	140.17	71.33	2.4	2.2	2.3	2.9	4.3	1.4	1.3	1.3	1.6	1.6
979.22	746.14	36.99	145.41	50.68	2.4	2.3	2.0	2.3	2.5	1.4	1.4	1.2	1.3	1.0

*Source: RBI Documents

Table 7: Net NPAs of Scheduled Commercial- Banks-Bank Group-wise

Net NPAs					**Net NPAs as a percentage of Net Advances**					**Net NPAs as a percentage of Total Assets**				
ALL SCBs	**PSBs**	**OPSBs**	**NPSBs**	**FBs**	**ALL SCBs**	**PSBs**	**OPSB**	**NPSBS**	**FBS**	**ALL SCBs**	**PSBs**	**OPSBs**	**NPSBs**	**FBs**
223.4	202.9	13.85	1.54	5.16	8.1	9.2	6.6	2.0	1.9	3.3	3.6	3.1	1.0	0.9
237.61	212.3	15.72	2.91	6.66	7.3	8.2	6.5	2.6	2.2	3.0	3.3	2.9	1.1	1.0
280.2	242.1	23.32	6.11	8.66	7.6	8.1	9.0	4.5	2.9	2.9	3.1	3.6	1.6	1.1
300.73	261.9	23.93	6.38	8.55	6.8	7.4	7.1	2.9	2.4	2.7	2.9	3.3	1.1	1.0
324.61	279.8	27.71	9.29	7.85	6.2	6.7	7.3	3.1	1.8	2.5	2.7	3.3	1.2	0.8
355.54	279.6	30.13	36.63	9.2	5.5	5.8	7.1	4.9	1.9	2.3	2.4	3.2	2.1	0.8
296.92	248.8	25.98	13.65	9.03	4.0	4.5	5.2	1.5	1.7	1.8	1.9	2.5	0.7	0.8
243.96	193.4	21.42	19.86	9.33	2.8	3.1	3.8	1.7	1.5	1.2	1.3	1.8	0.8	0.7
217.54	169	18.59	23.53	6.39	2.0	2.1	2.7	1.9	0.8	0.9	1.0	1.4	0.8	0.4
185.43	145.7	13.75	17.96	8.08	1.2	1.3	1.7	0.8	0.8	0.7	0.7	0.9	0.4	0.4
201.01	151.5	8.91	31.37	9.27	1.0	1.1	1.0	1.0	0.7	0.6	0.6	0.6	0.5	0.3
247.3	178.4	7.4	49.07	12.5	1.0	1.0	0.7	1.2	0.8	0.6	0.6	0.4	0.7	0.3
315.64	211.6	11.59	62.52	30	1.1	0.9	0.9	1.4	1.8	0.6	0.6	0.5	0.8	0.7
387.23	293.8	12.71	52.34	29.8	1.1	1.1	0.8	1.1	1.8	0.6	0.7	0.5	0.6	0.7
418.13	360.7	9.83	34.48	13.1	1.0	1.1	0.5	0.6	0.7	0.6	0.7	0.3	0.3	0.3

*Source: RBI Documents

Table 8: ANOVA Table for Gross Bank Credit across banking groups

Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Banking Groups	43447634.35	14	3103402	2.922434	0.006698	2.03742
Within Banking Groups	31857717.63	30	1061924			
Total	75305351.98	44				

Table 9: ANOVA for Net Bank Credit among banking groups

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	583202764.9	14	41657340	0.960855	0.505902	1.918249
Within Groups	1950949592	45	43354435			
Total	2534152357	59				

Table 10: ANOVA for Gross NPAs as a percentage of Gross Bank Credit among banking groups

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	255.3746667	14	18.24105	3.148386	0.004094	2.03742
Within Groups	173.8133333	30	5.793778			
Total	429.188	44				

Table 11: ANOVA for Gross NPAs as a percentage of Total Assets among banking groups

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	44.39777778	14	3.17127	2.14888	0.038635	2.03742
Within Groups	44.27333333	30	1.475778			
Total	88.671 11111	44				

Table 12: ANOVA for Net NPAs among banking groups

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2563.50708	14	183.1076	1.004722	0.473673	2.03742
Within Groups	5467.4124	30	182.2471			
Total	8030.91948	44				

Table 13: ANOVA for net NPAs to net NPAs as a percentage of net advances

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	105.5546667	14	7.539619	2.162139	0.037469	2.03742
Within Groups	104.6133333	30	3.487111			
Total	210.168	44				

Table 14: ANOVA for net NPAs to NPAs as a percentage of total assets

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	17.00133333	14	1.214381	1.625919	0.128863	2.03742
Within Groups	22.40666667	30	0.746889			
Total	39.408	44				