The Factors Influencing the Non-Performing Assets in the Indian Banking Sector: An Economic Analysis

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Abstract:

Non-Performing Assets are a burning topic of concern for the public sector banks, as managing and controlling NPA is very important. The current paper with the help of secondary data, from RBI website, tried to analyse the 8 years, (2010-2018) net non-performing asset data of 26 public sector banks, by using Hausman test statistics, and with the help of Stata software. The main objective of the study is to find out the factors influencing the Non-Performing Assets in the Indian Banking Sector. This paper also focuses on the reason behind the NPA and its impact on banking operations.

Keywords: Non performing asset, Interest rate, Inflation rate, GDP per Capita

Introduction:

Banking is considered as the life blood of every country's economy. Any issue relating to the banking sector will adversely affect the economy. Indian banking sector has been facing so many serious issues regarding the increasing level of Non- Performing Assets (NPAs). According to RBI, Non-Performing Asset indicates an asset of borrower, which has been classified by a financial institution as sub-standard, loss or doubtful asset, with respect to the guidelines relating to asset classification. NPAs directly impacts on the liquidity, profitability and the overall quality of assets and successful survival of banks. The increasing level of default is leading to rise in Non-Performing Assets, reducing the profitability and quality assets in financial statements of banking sector. The issue of NPAs isn't just influencing the bank but also the entire economy. According to Nair and Iyer (2016), the NPAs of the listed banks in India

Increased by Rs.1 trillion in the last quarter of 2015. The aggregate net profit of the 39 listed banks fell 98% to Rs.307 crore in the December quarter from Rs.16, 806 crore in the year earlier. The provisions made towards NPAs and loss assets wiped out the profits of these listed banks. Out of the 27 banks that reported a quarterly profit, six saw profits plummet more than 70% from a year-ago period (Nair and Iyer, 2016). Determinants of NPAs in India, has received inadequate attention of the researchers. There is research on other countries of the world like Tunisia, Ghana etc.

Literature Review:

Determinants on Non-performing assets in Banks:

Rathore (2017) stated that in India banks are going up against colossal issue of Non-Performing Assets (NPAs). NPA management needs inclusion and

comprehension on the some portion of staff on nonstop premise so that there is cantered consideration around recovery. Further, the bank employees for NPA management ought to be experienced, very much qualified and prepared with the goal that they can comprehend the issues of recuperation and manage them successfully.

The study done by Ganesan and Santhanakrishnan (2013) found that the sound financial position of a bank relies on the recovery of credits or its level of Non-performing Assets (NPAs). Decreased NPAs by and large gives the feeling that banks have reinforced their credit evaluation forms throughout the years and development in NPAs includes the need of arrangements, which cut down the general gainfulness of banks. The Indian banking system is confronting a difficult issue of NPA. The greatness of NPA is nearly higher out in the open parts banks. To enhance the proficiency and productivity of banks the NPA should be decreased and controlled.

Satyanarayanan (2016) pointed out that Non-Performing Assets reflect the execution of Banks and abnormal state of NPAs suggests that there are substantial quantities of credit defaults that influence the productivity and total assets of banks and furthermore dissolves the esteem of the benefit. The NPAs level of our banks is still high which contrasted with the outside bank. The issue of recovery isn't with little borrowers yet with extensive borrowers and a strict approach ought to be taken after for taking care of this issue.

Goyel and Piyush (2017) focuses on their study is to analyze the non-performing assets, net NPAs furthermore, net NPAs of 8 banks in India and to see the connection between net benefit, net NPAs also and gross NPAs. The point of the examination was to break down the yearly reports of 8 banks to see the circumstance of NPAs in the nation. As we have done the examination on Net NPAs, Net Profit and Gross NPAs, we have discovered the connection between Net NPAs and Net Profit. The study concludes that NPAs are higher in public sector banks than that of private sector bank.

Pradhan (2012) found that the amount of NPA constrained the banks to charge higher PLR and PLR related loan costs. This will draw in high risk borrowers which, thus, may bring about more elevated amount of nonperforming progresses in future. Huge borrowers are observed to be the foremost defaulters. Mismanagement of the fund is also considered as one of the main cause of NPA. The study focused with business banks in Orissa state covering six driving banks, for example, SBI, Bank of India, Punjab National Bank, ICICI Bank, Andhra Bank and Bank of India.

Natika (2016) .The crash in the banking sector may unfavourably affect different segments. A financier should be exceptionally mindful in loaning, since banker isn't loaning cash out of its own capital. A noteworthy bit of the cash loaned originates from the stores got from people in general and government share. An endeavour is made in this paper to break down the components adding to NPAs, the size of NPAs, purposes behind high NPAs and their effect on Indian keeping money tasks, connection between non-performing resources and business cycles, GDP, Interest rates and so on and to give reasonable recommendations to decrease NPAs in business banks.

Macro-economic determinants of NPA:

In the literature determinants of NPAs are categorized into macroeconomic factors and bank specific factors. Macroeconomic factors include GDP per capita, inflation, interest rates, business cycles etc (Kauko (2012), Louzis, Vouldis, and Metaxas (2012) and Abid, Ouertani and Ghorbel (2014)).

Many researchers have studied the link between macroeconomic variables like GDP and inflation and NPAs (Abid, Ouertani and Ghorbel, (2014), Kauko (2012), Louzis, Vouldis, and Metaxas (2012)). It has been accepted that at the expansionary stage of the economy, NPAs are relatively low because both consumers and firms' revenues are increasing and they therefore pay off their debts. But during the recessionary period banks tend to allocate credit even to poor quality borrowers and consequently bad debts multiply.

Lis, et.al. (2000) have found that Gross Domestic Product growth had negative effect on NPAs, because of increasing income levels businesses repay their

debts and NPAs will decline. Inflationary pressures in Sub-Saharan African countries have led to increasing bad loans (Fofack (2005)). Rate of unemployment is also another macroeconomic variable impacting NPAs (Rinaldi and Sanchis-Arellano (2006)). Research has proved that there is relationship between inflation rate and default rate as well.

KasturiRangan (2012) has been conducted to study if there is any relation between rising interest rates and rising NPA's in the banking sector. A null hypothesis was formed stating that there is no relation between rising interest rates and NPA's.

Objectives of the Study:

The primary objective of the paper is to study the factors responsible for high level of NPAs in the Indian banking sector.

Hypothesis:

H1: Scheduled commercial banks which have credit diversify of their operations will have lesser NPAs or diversification hypothesis.
Following Louzis, Vouldis, and Metaxas (2012), if banks diversify their business thay have lesser NPAs.

But the relation between the two is unclear and ambiguous. For this purpose we have taken the ratio of total loan of the bank to the total loan of the banking sector

H2: large size banks have lesser NPAs than medium and small size banks.
It has been widely accepted that bigger banks perform better and therefore their NPA level will be less, compared to smaller banks. We have measured size as a ratio of total assets of the bank to the total assets of the banking sector.

H3: Higher the PCI lower the NPAs
Following (Abid, Ouertani and Ghorbel, 2014) and (Louzis, Vouldis, and Metaxas, 2012) percapita income is the major macro-economic factor influencing NPAs in the banksing sector.

H4: Higher the inflation rate lower is the NPAs.
Following (Abid, Ouertani and Ghorbel, 2014) and (Louzis, Vouldis, and Metaxas, 2012) Inflation is the major macro-economic factor influencing NPAs in the banksing sector.

H5: Higher the interest rate lower is the NPAs.

Materials and Methods:
Results and Discussion:

Table 1.Average NPAs of Foreign Banks, Private Banks, Nationalised Banks and SBI and its Associates

	Foreign Banks	Private Banks	Nationalised Banks	SBI and its Associates	Total
2010	159271.3	708211.3	336360.4	430492.7	1634336
	9.74	43.3	20.58	26.34	100
2011	106693.5	852361.1	358082.6	562800.4	1879938
	5.67	45.33	19.04	29.93	100
2012	125378	1335902	364204	913882	2739366
	4.57	48.76	13.29	33.36	100
2013	158511.2	2033662	407633.4	1255569	3855376
	4.11	52.74	10.57	32.56	100
2014	233644.3	2948949	480878.2	1596330	5259801
	4.44	56.06	9.14	30.34	100
2015	253425.4	4099191	635138.2	1470169	6457923
	3.92	63.4	9.83	22.76535	100
2016	523242.6	8225623	1252012	1457643	11458521
	4.56	71.78	10.92	12.72	100
2017	314269.6	10138434	1791306	3556213	15800222
	1.98	64.16	11.33	22.50	100

Table 1 implies that the average NPAs in foreign banks worked out to be 159millions in 2010, which constituted only 9.4% of total all India average. Their percentage decreased to 3.92% in 2015. For Nationalised banks the figure was 708 millions, which was 43.33 of the all IndiaAverage in 2010 and it was increased to 63 % in 2015. For private banks it was 336millions, which was 20% of all India average. It slowly declined but by 9.14% in 2015. For SBI and its Associates it was 430millions, which was 26% of the total avarage. The percentage kept increasing till 2014 and in 2015. Public sector banks together constituted alsmost86% of total average NPAs and only 14% is byprivate sector banks and foreign banks.

Correlations among the variables and commercial banks:

Table 2 correlations between.Nationalised bank and variables

	Size	Gross NPAs	ratio adv	GDP percapita	Inflation rate	Int rate
Size	1					
Gross NPAs	.168	1	-.038	.052	-.099	-.152[*]
ratio adv	.000	-.038	1	.004	.054	.099
GDP percapita	.188	.052	.004	1	.493[**]	.386[**]
Inflation rate	.613	-.099	.054	.493[**]	1	.705[**]
Int rate	.295	-.152[*]	.099	.386[**]	.705[**]	1

Table 2 gives correlations amongst the variables for State Owned Banks. The table shows that NPA is negatively correlated with advance ratio, inflation rate and interest rate. There is also significant Correlation between NPA and Interest rate.

Table 3. Correlations between Private bank and variables

	Size	Gross NPAs	ratio adv	GDP percapita	Inflation rate	Int rate
Size	1					
Gross NPAs	.374[**]	1				
ratio adv	.104	-.067	1			
GDP percapita	.040	-.310[**]	.004	1		
Inflation rate	.083	-.630[**]	.075	.481[**]	1	
Int rate	.119	-.622[**]	.142	.389[**]	.691[**]	1

Table 3 gives correlations amongst variables for private banks. We find that there is significant and negative correlation of NPA with advance ratio, GDP per capita Inflation rate and Interest rate... Correlation is positive with size of the bank, and significant. There is significant correlation between advance ratio, GDP per capita Inflation rate and Interest rate.

Table 4 correlations between SBI and Associates and variables

	Size	Gross NPAs	ratio adv	GDP percapita	Inflation rate	Int rate
Size	1	.617**	-.024	-.023	-.057	-.035
Gross NPAs	.617**	1	-.029	-.154	-.247**	-.253**
ratio adv	-.024	-.029	1	.077	-.048	-.124
GDP percapita	-.023	-.154	.077	1	.473**	.381**
Inflation rate	-.057	-.247**	-.048	.473**	1	.680**
Int rate	-.035	-.253**	-.124	.381**	.680**	1

Table 4 gives correlations amongst variables for SBI and associates. We find that there is significant and negative correlation of NPA with advance ratio, GDP per capita Inflation rate and Interest rate... Correlation is positive with size of the bank, and significant. There is significant correlationbetween advance ratio, GDP per capita Inflation rate and Interest rate.

Table 5, correlations between foreign banks and variables

	Size	Gross NPAs	ratio adv	GDP percapita	Inflation rate	Int rate
Size	1	.831**	.007	.003	.046	.032
Gross NPAs	.831**	1	.022	-.119	-.251	-.269
ratio adv	.007	.022	1	-.020	.024	.074
GDP percapita	.003	-.119	-.020	1	.474**	.384**
Inflation rate	.046	-.251	.024	.474**	1	.687**
Int rate	.032	-.269	.074	.384**	.687**	1

Table 5 gives correlations amongst variables for foreign banks. We find that there is significant and negative correlation of NPA with, GDP per capita Inflation rate and Interest rate... Correlation is positive with size of the bank, and significant. There is significant correlation between advance ratio, GDP per capita Inflation rate and Interest rate.

Regression Results of commercial banks:

Table 6 gives results of panel data regression for NBs and FBS and PBs. It gives the coefficients for fixed effects and t-value is given in the table

	Nationalised bank	Private bank	Foreign banks
Variable	**Fixed Effect Model**		
Size	0.010(10.28)	0.000(21.84)	0.000 (8.24)
ratio adv	0.419 (-0.81)	0.566 (-0.57)	0.928 (0.09)
GDP per capita	0.527 (0.63)	0.849 (-0.19)	0.908(-0.12)
Inflation rate	0.249 (-1.16)	0.890(-0.14)	Omitted
Int rate	0.203 (-1.28)	Omitted	Omitted
R square	0.6531	0.6699	0.1395

.The Hausman test results reveal that Fixed Effect model is suitable to all the three categories of banks. The results of nationalised Banks suggest that advance ratio, inflation rate and interest rate are significant variables at 10%. The coefficient of GDP per capita has gotpositive sign. The reasonmay be that during rising income levels there will be more demand for loans and thereare chances that banks will be sanctioning loans without proper scrutiny (Abid,Ouertani and Ghorbel, 2014) (Louzis, Vouldis, and Metaxas, 2012).In case of foreign banks, none of the variables are significant. Thus we find that the determinants of NPAs vary according to its ownership.

Conclusion:

From the results of the panel data analysis it can be concluded that the determinants of NPLs in the banking sector vary across ownership structure of banks. No single set of variables can be   generalized for all the banks. The results show that Macro economic factor, like Interest rate is significantly affecting NPLs in Public Sector Banks (PSBs). In case of private banks (PBs) percapita income and inflation rate got negative sign. Other variables are significant at 10% level. For FBs none of the variables were significant. A further research is needed to study for FBs are able to keep their NPLs at a lower level.

References:

1. Abid, Ouertani and Ghorbel. (2014). Macroeconomic and Bank-Specific Determinants of Household's Non-Performing Loans in Tunisia: a Dynamic Panel Data. In T. S. (TSFS)(Ed.), Procedia Economics and Finance 13. 13, pp. 58-68. Tunisia: Elsevier.
2. Alhassan, Coleman and Andoh. (2014). Asset quality in a crisis period: An empirical examination of Ghanaian banks. Review of Development Finance, 4 (1), 50-62.
3. Berger and Deyoung. (1997). Problem Loans and Cost Efficiency in Commercial Banks. Journal of Banking and Finance, 21 (1), 1-28.
4. Fofack, Hippolyte, Nonperforming Loans in Sub-Saharan Africa: Causal Analysis and Macroeconomic Implications (November 2005). World Bank Policy Research Working
5. Paper No. 3769. Available at SSRN: HYPERLINK "http://ssrn.com/abstract=849405"   \t"_blank" http://ssrn.com/abstract=849405
6. Fischer, O. B. (Ed.). (1993). Commercial Banking: Trends, Cycles, and Policy. NBER

Macroeconomics Annual 1993 (pp. 319 - 377). MIT Press.

7. Hu, J.L., Li, Y., Chiu, Y.H. (2004), Ownership and nonperforming loans: Evidence from Taiwan's banks. The Developing Economies, 42(3), 405-420.

8. Kauko, K. (2012). External deficits and non-performing loans in the recent financial crisis. Economics Letters, 115, 196-199. BIBLIOGRAPHY \l 1033

9. Louzis, Vouldis, and Metaxas. (2012). Macroeconomic and bank-specific determinants of nonperforming loans in Greece: A comparative study of mortgage, business and consumer loan portfolios. Journal of Banking & Finance, 36, 1012–1027.

10. Table 1: Variable used, their definitions and expected sign