

A Study Onmacro Economic Determinants Of Non-Performing Loans In Indian Public Sector Banks

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Abstract: The macroeconomic variables will have a serious impact in the success of credit market. Non-performing loan is an important factor that is being considered to monitor the performance of the banks and financial institutions in the credit market. This paper focuses on study of the relationship and significance between Non-performing loans of public sector banks in India and macroeconomic factors such as Gross Domestic Product (GDP) growth, Inflation, Credit growth and unemployment.

Key Words: Non-performing loans (NPL), Inflation, Credit Risk, Credit growth, Gross Domestic Product (GDP), Minimum (min) and Maximum (max)

I. INTRODUCTION

Credit when frugally used can create wealth and bring prosperity to the economy as it has become a common feature for all global economies. No doubt credit is all pervasive and all important in proper day to day functioning of economy. Any disruption or hurdle in credit flow will have serious impact in the economy. Credit risk exists whenever a product or service is obtained without paying for it. The banks and financial institutions have to pay adequate attention to the external threats.

The banking history of several nations tells us stories of banks that disappeared all of the sudden due to changes in the external environment, like the downturn of the US real estate during 2007-09 washed out several reputed banks like Lehman Brothers, Wachovia Bank and Washington Mutual.

Credit risk refers to the probability of default or loss due to non-recovery of loans. The reasons can be non-fulfilment of contractual obligations or due to market and economic factors such as economic slowdown, market bubbles, and business cycle fluctuations. Those loans that have ceased to generate income for the bank are called "Non-Performing loans" due to the occurrence of event of credit risk.

Non-performing loans have been a hindrance to the banks and financial institutions. NPL in India has increased over the years due to the impetuous lending resorted by the banks and financial institutions. Increasing the loan book was given a higher priority than the quality of the asset. An

economy is not static and undergoes difference phases of business cycle like boom, trough, recession and recovery. The credit risk will peak at the top of business cycle although this will not be felt.

The CEOs and top bank officials will insist on growth strategy believing the good times will continue. The reluctant non-performing loans and bad debts due to the deterioration of borrower's financial positions, ensuing from declining sales and profit will be felt during recession phase. Monitoring a close eye on the business cycle would help to create and maintain quality of the assets.

II. LIMITATIONS OF THE STUDY

- ◆ Exchange rate as a macroeconomic factor is not considered.
- ◆ Extension of study by non-performing loan type is not considered.
- ◆ Other factors like business failures, wilful defaulters, frauds, management disputes, embezzlement are not substantiated.

III. RESEARCH METHODOLOGY

All data that are prerequisite to the study have been collected through secondary sources such as RBI, financial statements of banks, World Bank, annual reports, government publications and conference papers. A set of 20 public sector banks have been considered and the impact of macroeconomic determinants on the NPL of those banks has been studied for a period of 11 years. Macro-economic variables considered are Credit growth, Gross Domestic Product (GDP), Interest, Inflation and unemployment. The following hypothesis has been considered:

International Journal of Science, Engineering and Management (IJSEM)
Vol 2, Issue 1, January 2017

H1: GDP has a negative impact on non-performing loans
H2: Interest rate has a positive impact on non-performing loans
H3: Inflation has a positive impact on non-performing loans
H4: Credit growth has a negative impact on non-performing loans
Regression and correlation are used to find out the significance of the macroeconomic variables on non-performing loans

Credit Growth	-0.06	0.09	-0.38	-	0.69	0.522
Inflation	-0.22	0.23	-0.55	-	0.95	0.384
Interest	0.04	0.2	0.09	-	0.19	0.86
GDP	-0.24	0.28	-0.32	-	0.84	0.44
Unemployment	0.51	1.94	0.13	-	0.26	0.804

IV. DESCRIPTIVE STATISTICS

Variable	N	Mean	Std Dev	Min	Max
NPL	11	8.91	9.18	2	32
Credit growth	11	19.97	7.52	9.8	30.9
Inflation	11	7.97	3.07	4.17	14.87
Interest	11	4.79	2.96	-0.6	9.02
GDP	11	7.52	1.71	4.8	9.6
Unemployment	11	3.79	0.33	3.5	4.4

**REGRESSION ANALYSIS
MODEL SUMMARY NPL**

R	R Square	Adjusted R Square	Std. Error of the Estimate
.75	.57	.14	1.17

ANOVA (NPL)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.02	5	1.8	1.33	0.382
Residual	6.8	5	1.36		
Total	15.82	10			

Coefficients (NPL)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	6.14	8.35	0	0.74	0.489

CORRELATION ANALYSIS

		NPL	Inflation
NPL	Pearson Correlation	1.00	-0.49
	Sig. (2 tailed N)		0.124
	N	11	11
Inflation	Pearson Correlation	-0.49	1.00
	Sig. (2 tailed N)	0.124	
	N	11	11

		NPL	GDP
NPL	Pearson Correlation	1.00	-0.44
	Sig. (2 tailed N)		0.178
	N	11	11
GDP	Pearson Correlation	-0.44	1.00
	Sig. (2 tailed N)	0.178	
	N	11	11

		NPL	Unemployment
NPL	Pearson Correlation	1.00	0.13
	Sig. (2 tailed N)		0.705
	N	11	11
Unemployment	Pearson Correlation	0.13	1.00
	Sig. (2 tailed N)	0.705	
	N	11	11

		NPL	Interest
NPL	Pearson Correlation	1.00	0.52
	Sig. (2 tailed N)		0.103
	N	11	11

International Journal of Science, Engineering and Management (IJSEM)
Vol 2, Issue 1, January 2017

Interest	Pearson Correlation	0.52	1.00
	Sig. (2 tailed N)	0.103	
	N	11	11

H3: The Direction of relationship is negative as NPL and inflation are negatively correlated, beta (-.95) which means if one increases other decreases and vice versa implying that they are contrary to expected signs.

H4: Credit growth and NPL are negatively correlated (beta-.69). This can be observed from previous credit crisis where impetuous lending resulted in fall of banks due to the credit distress in the economy.

H5: Unemployment and NPL are positively correlated (beta .13). This is quite obvious as when more employment opportunities are created the obligations are served on time

		NPL	Credit Growth
NPL	Pearson Correlation	1.00	-0.26
	Sig. (2 tailed N)		0.445
	N	11	11
Credit growth	Pearson Correlation	-0.26	1.00
	Sig. (2 tailed N)	0.445	
	N	11	11

V. FINDINGS

- Among the five macro-economic variable, only one variable that is credit growth has been found significant in affecting NPL
- Significance F is .382 at 95% confidence interval implies that regression analysis as a whole is significant, indicating that NPL in Indian banking system are influenced by macroeconomics factors
- R square of .57 implies that 57% variation in percentage change in non-performing loan can be explained by variation in macro-economic factor.
- H1: GDP and NPL are negatively correlated (Beta -.32) which means when there is increase in NPL GDP decreases as there is a pressure in the economy to pay back the debts hence the focus on economic activity reduces. On the other hand when GDP increases people are more committed towards repayment of obligations hence NPL reduces.
 H2: The relationship between NPL and interest is positive (beta .19) which means both increase or decrease together, which is quite evident from historical data and previous researches which explains the inability of borrowers to pay back their loans when there is increase in interest rate and no equivalent increase in income.

VI. CONCLUSION

Our findings support the previous research activities of relationship between inflation, credit growth and unemployment and Non-performing loans.

The general interpretation is that low levels of default is an indication that their lending is low risk when the low defaults are actually due to economic expansion and general availability of credit making it easier for borrowers to pay interest and also to refinance their lending. When credit expansion and income growth is slow, defaults rise and lenders suddenly realize that their lending is much riskier than expected. Hence they begin to withdraw credit, refusing or limiting the amount of lending they provide to risky borrowers.

The above result proves that macroeconomic factors have a significant impact on non-performing loans in India. It can be concluded that the regulatory agencies to formulate policies to control credit in the boom period so that the economy's stress during the recession will be reduced.

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