# THE RISING LEVEL OF NPAs AND ITS IMPACT ON GDP OF INDIA

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## ABSTRACT

In this paper, we have attempted to critically analyze the impact of rising levels of Non-Performing Assets (NPA) on the Gross Domestic Product (GDP) of the Indian Nation across various years restricted to the past 12 years starting from 2004-05 to 2016-17. NPA, being a critical factor has been studied to highlight the effect and propensity to negatively affect the GDP of India. For the purpose of the study, we have collected the data regarding NPAs and GDPs of all different sectors of banks individually from RBI publications for the respective 12 years. We have used the data to try and to interpret the impact of NPAs on the GDP of India as well as understand the trends of the rising NPAs and the influencing factors behind the same. An analysis had been conducted on the data collected to observe the effect of rising NPAs on the GDP of India over the concerned period and also used the analysis to predict the positive correlation between GDP of India and the respective NPAs.

***Keywords: NPA, GDP, India, RBI, Banks***

## INTRODUCTION

Non-Performing Asset refers to a category of loans or advances where the principal and interest payments are overdue for an unreasonably long period of time. Non-Performing Assets(NPAs) is a rising trend that has been attracting the attention of financial analysts over the past many decades. NPAs have definable negative impact on the lenders as it reduces their cash inflows which in turn reduces their earnings, thereby affecting its subsequent lending capacity. The GDP of a nation is an indicator of the economic soundness of a nation. In theory, GDP is defined as the monetary value of all finished goods and services which have been produced within a nation's borders within a specific period of time. In other words, GDP is the godfather of all economic indications. Several studies have been carried out to find out the relation between NPAs and failures of banking sector. The aforesaid researches have also concluded that there is a positive relation between NPAs and bank failures as most banks record NPAs before filing for bankruptcy. Hence the NPAs is one of the leading causes for economic deterioration as each impaired loan asset leads the economy to financial instability and unprofitability. The condition necessary for minimization of economic

stagnation is the reduction in number of impaired asset loans. Initially this paper proposes to bring to light an inversely proportionate relationship between NPAs and GDP of different nations around the globe.

## REVIEW OF LITERATURE

1. This research paper aims at analyzing the relationship between non-performing Loans and GDP growth rate and is structured on Kenya's macro-economic environment during 1980-2015. This research paper tries to fill the research gap in of proper information on the effect that macroeconomic variable has on the credit risk among the Kenyan commercial banks. The researcher has used ordinary least square model as well as correlation coefficient and has arrived at the conclusion that Non performing Loans and economic growth of the country are negatively related. The researcher concludes by stating that the macro economic environment and its support plays a significant role in effective monitoring of non-performing Loans. (Muthami, 2016)
2. This journal article by Ramanadh and Rajesham highlights the credit function of commercial banks and analyses the impact of rising Non Performing Assets (NPAs) on commercial banking sector. It further presents a detailed explanation on the growth of NPAs in relation to GDP within a time period of 16 years (1995-95 to 2010-11). The article concludes that that credit expansion does not necessarily lead to rise in NPAs and the impact of NPAs can be reduced by better portfolio of credit advancing. The article accepts two of its three hypothesis which was proved positive through data analysis. (Ramanadh & Rajesham, 2013)
3. This research paper aims at examining the impact that macroeconomics and endogenous factors has on non-performing assets. The main focus of the paper is to understand the determinants of non-performing assets in Indian banking for which the researcher has used a panel data across the period 1997-2009. The researcher concludes by stating that private banks and foreign banks are more efficient in credit management that contains no-performing assets and thus privatization of banks can lead to better management of default risk. (swamy, 2012)
4. The objective of the paper is to simply put forth an in depth study of non-performing assets in the Indian banking sector and how it affects the performance of banks. This paper starts out with a discussion on non-performing assets, its identification(types) and how they are classified. It then goes on to discuss how NPAs affect the profitability, operations and liquidity position of banks. The paper further lays out a trend analysis of NPAs of the scheduled commercial banks in India, a bank group wise classification of loan assets and also a detailed sector wise classification of loan assets within the bank groups. (Balasubramaniam, 2012)
5. This paper aims to find out whether non-performing loans affect bank efficiency in Malaysia and Singapore. In order to achieve this objective, they have used the stochastic cost frontier approach assuming normal-gamma efficiency distribution model to estimate cost efficiency. These cost efficiency scores were then used to arrive at the effect of non-performing loans on bank efficiency using the Tobit simultaneous equation regression. The paper concludes that the cost efficiency level of both Malaysia and Singapore are more or less similar and

also arrives at the conclusion that the level of nonperforming assets inversely affects the cost efficiency of the bank. (Karim, Chan, & Hassan, 2010)

## RESEARCH DESIGN

### Statement of Problem

In recent times, there has been an increase in the level of NPAs arising in the banking sector. Studies have already proven that rising level of NPAs negatively impact the performance of banks. The question looming largely on our minds were whether the level of NPAs also affect the performance on a larger scale, and the best way to find out was to analyze how big an impact does the level of NPAs have on the GDP of our country, which is invariably the best determinant of performance in the larger picture.

### Research objectives

- To conclude whether any relationship exists between Non Performing Assets and Gross Domestic Product of India by analyzing data over the past 12 years.
- To analyze whether the rise of NPAs in banks affects the GDP of the country and if so, how it affects.

### Research questions

- There is always a school of thought that a positive relation between NPAs of Banks and GDPs of India. How true is the above statement?
- If the above statement holds good, how consistent is the increase in the trend?
- What are the chain of events which lead to an effect on the GDP of a country because of the rise of NPAs in the banking sector?

### Hypothesis

- $H_0$: The level of NPAs have no effect on the GDP of our country.
- $H_1$: The level of NPAs significantly affect the GDP of our country

### Sources of data

- The data collected is from a secondary source
- Collecting the data from RBI publications with respect to the Gross NPAs of all the different sectors of banking individually, for the past 12 years
- Collecting data regarding GDP at current prices of India over the past 12 years from the data published by RBI.

- Arriving at the totals of NPAs for each year by taking the sum of NPAs of the individual banks in each sector

**Data Analysis Tools Used**

- Using data tools such as regression models and paired sample testing to decide whether the null hypothesis or the alternate hypothesis should be accepted

**Sample size**

- Data regarding NPAs and GDP in India over the past 12 years

**Expected Outcome**

From our study, we expected to arrive at the conclusion that the NPA level in banks do have a significant impact on the GDP of the nation and the relationship between the two is an inversely proportionate relationship.

## DATA ANALYSIS

**Data Tools Used**

The tools used for data analysis are T-test analysis and Regression test under ANOVA.

| Year | GDP (Bn) | NPA (Mn) |
|---|---|---|
| 2004-05 | 32422.09 | 551630 |
| 2005-06 | 36933.69 | 497160 |
| 2006-07 | 42947.06 | 481180 |
| 2007-08 | 49870.9 | 535220 |
| 2008-09 | 56300.63 | 627050 |
| 2009-10 | 64778.28 | 746076 |
| 2010-11 | 77841.16 | 889523 |
| 2011-12 | 87363.29 | 1306994 |
| 2012-13 | 99440.13 | 1848433 |
| 2013-14 | 112335.2 | 2514474 |
| 2014-15 | 124679.6 | 3121583 |
| 2015-16 | 137640.4 | 5958095 |
| 2016-17 | 152,537 | 7,766,469 |

*Note: The Base year taken for the GDP of India is 2011-12 at current prices*

**T-Test**

**Paired Samples Statistics**

| | | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Pair 1 | GDPBn | 82699.1962 | 13 | 39958.70093 | 11082.54962 |
| | NPAMn | 2064914.385 | 13 | 2316407.7213 | 642455.9088 |

**Paired Samples Correlations**

| | | N | Correlation | Sig. |
|---|---|---|---|---|
| Pair 1 | GDPBn & NPAMn | 13 | .892 | .000 |

**Regression**

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .892[a] | .796 | .777 | 18855.22764 |

a. Predictors: (Constant), NPAMn

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 15249657656.312 | 1 | 15249657656.312 | 42.894 | .000[b] |
| | Residual | 3910715702.200 | 11 | 355519609.291 | | |
| | Total | 19160373358.513 | 12 | | | |

a. Dependent Variable: GDPBn

b. Predictors: (Constant), NPAMn

## FINDINGS AND SUGGESTIONS

Under Paired T Test data tool, we can analyze the univariate descriptive statistics such as mean, sample size, standard deviation and standard error from the output 'Paired Samples Statistics'. The averages for NPAs and GDPs for the past 12 years have been reflected in the above mentioned table. On the same line, 'Paired Samples Correlations' output puts forth the bivariate Pearson Correlation Coefficient with two tailored test of significance for the NPAs and GDP for the past 12 years for the Indian Nation. It has been observed that the NPAs and GDPs of India 12 years are significantly positively correlated (r=.892). Under Linear Regression Analysis, the Model Summary Table predicts R value which represents the simple correlation between the Independent variables (NPA) and Dependent Variables (GDP). It also enhances the data analysis by providing the R square which helps the reader to understand the percentage of variance in Dependent Variable (GDP) which can be explained by Independent variable(NPA). As stated above, the observed r value is .892 which explains the significant, positive correlation between NPAs and GDPs of India. Also the analysis concludes that .796 variation in GDP can be explained by NPAs. The ANOVA table concludes that since F = 42.894 and degree of freedom = 12, there exists a linear positive relation between NPAs and GDPs of India over the past 12 years. Moreover, since the p value in ANOVA table output is 0 the relationship between NPAs and GDPs of India is significant.

## CONCLUSION

As evident from the two tests conducted in the above two tests, the P-value is .000 which is less than 0.05 and thus indicates strong evidence against the null hypothesis. Hence the null hypothesis has been rejected and alternate hypothesis is accepted.

Hence we reject the null hypothesis: 'There is no relationship between NPAs and GDPs of the India' and accept the alternate hypothesis: 'There exists a form of relationship between NPAs and GDP of India'.

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