# Trend and determinants of non-performing assets in India

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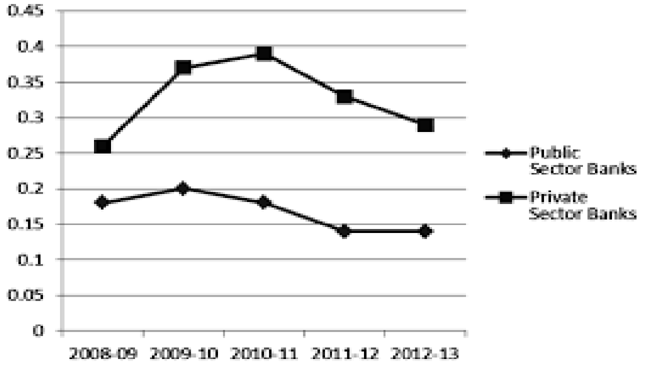
## Abstract
Indian banking sector has played a seminal role in supporting economic growth in India. Recently, Indian banks are experiencing consistent increase in non-performing assets (NPA). The financial strength of any bank depends upon the performance of its own assets. The degradation in the assets quality results in accretion of non-performing assets. The public sector banks in India have started to show decline in profits and even losses in their financial results because of piling up of bad assets and the performance of any bank's loans depends upon the progress of the operating economy. The private banks work for profit with high priority. The foreign banks do limited business like credit card facilities. Bank specific parameters are unique for each bank, whereas the macro parameters are common for all the banks.

**Keywords***:* Non-performing assets, Bad assets, Macro parameters, Trend.

## Introduction
The assets of the banks which don't perform, that is, don't bring any return are called Non Performing Assets (NPA) or bad loans. Bank's assets are the loans and advances given to customers. If customers don't pay either interest or part of principal or both, the loan turns into bad loan.

GDP slowdown between early 2000's and 2008 in Indian economy were in the boom phase. During this period Banks especially Public sector banks lent extensively to corporate. However, the profits of most of the corporate dwindled due to slowdown in the global economy, the ban in mining projects, and delay in environmental related permits affecting power, iron and steel sector, volatility in prices of raw material and the shortage in availability of this has affected their ability to pay back loans and is the most important reason behind increase in NPA of public sector banks. Another reason is that rising NPA is the relaxed lending norms especially for corporate honchos when their financial status and credit rating is not analyzed properly. Also, to face competition banks are hugely selling unsecured loans which attributes to the level of NPAs.




Source: RBI Data base on Indian Economy
**Fig. 1:** Public and private sector banks in India

**Table 1:** Banks with high gross NPAs in India

| Bank with high gross NPAs in Rs crore | | | |
|---|---|---|---|
| **Bank** | **Q3-FY2015** | **Q3-FY2016** | **% change** |
| St Bk of India | 61,991 | 72,792 | 17.4 |
| Bank of Baroda | 15,453 | 38,934 | 152.0 |
| Bank of India | 16,694 | 36,519 | 118.8 |
| Punjab National Bank | 22,211 | 34,338 | 54.6 |
| I O B | 14,501 | 22,672 | 56.4 |
| Canara Bank | 10.574 | 19,813 | 87.4 |
| IDBI Bank | 12,140 | 19,615 | 61.6 |
| Union Bank | 12,596 | 18,495 | 46.8 |
| Central Bank | 11,793 | 17,564 | 48.9 |
| UCO Bank | 9,531 | 14,932 | 56.7 |

Source: RBI Data base on Indian Economy

## Trends in India's NPAs
India's financial sector, as of 2017, comprises 93 scheduled banks of which 27 and 21 are in the public and private sectors; and the rest owned by foreign interests (Fig. 1). The other financial sector institutions include cooperative societies, regional rural banks, post office banks, insurance companies and stock markets (Mohan and Ray, 2017). The growth impact of the commercial banks during the 16-year period of study is well reflected in rapid rise in deposits and credit disbursed. Their deposits increased from 41.3% in 1999-2000 to 69.5% of GDP in 2014-15; whereas their advances grew from 24.9% of GDP in 1999-2000 to 51.8% of GDP. As of 2015 (Table 1).

PSBs aggregate deposits were around 47.9% of GDP, with a 72.9% of market share. The PSBs disbursed credit (36.3% of GDP) with 71.6% of market share. The private sector banks' aggregate deposits were 12.9% of GDP controlling 19.7% of market share and holding total credit about 10.6% of GDP with 20.8% of market share, foreign banks deposits 2.9% of GDP with market share of 4.4%, together with total credit outstanding at 2.5% of GDP, which amounted to 4.9% of market share. As the quality of assets was seen to be weakening with the emergence of rising ratio of gross NPA to gross advances since 2013-14, RBI applied rigorous assessment standards (table 2), The newly introduced Asset Quality Review (AQR) in mid 2015 revealed that the system wide gross NPA ratio went up from 5.1% in September2015 to 7.6% in March 2016 (*Nir Klein, 2013).*

## Review of Literature

Saikat Ghosh Roy (2014) observed that, level of banks credit plays an important role in economic developments. The panel regressions, fixed effect allows evaluating the impact of selected macroeconomic variables on the NPA. The Panel regression result indicates that the GDP growth, change in exchange rate and global volatility have major effects on the NPA level of Indian banking sector. The results coming out of the research are in similar line with the findings of the other studies done for other regions. But the factors which determine the non-performing assets don't work in the exactly similar fashion for different regions in the world. Indian banking sector is facing the stress in their asset quality as the GDP growth declined and Indian rupee saw steep depreciation. The Reserve Bank of India is taking several measures to curb the NPA level and issuing directives to scheduled commercial banks. Gourav Vallabh (2016) analyzed the problem of non-Performing Assets (NPAs) in Indian banking system and devised a unique way to forecast the NPAs in Indian banking system in 2020. The focus was to devise a model which would play a pivotal role in forecasting future NPAs in the Indian banking sector. This was achieved by looking into various methodologies and zeroing in on a model, which could be implemented to help understand how NPAs could be predicted**.** Biswajit Patra and Puja Padhi (2016) examined the relationship between the Net Nonperforming Assets (NNPAs) and the factors influencing them for different group of Indian commercial banks in a panel data framework. From the macroeconomic variables, two principal component series have been created; one is from the group of variables having positive correlation with the NNPAs and the other from the group of variables having negative correlation, for different type of banks. The linear and the dynamic panel regressions and further Impulse Response analysis have been carried out to check the linkages between the NNPAs with its determinants. The result shows that the impact of determinants on NNPAs varies for different group of banks as the banking practices and regulations vary among themselves. Indian banks got influenced more in comparison to the foreign banks with the change in macroeconomic conditions. In general, it is implied that both macro and bank specific factors play significant roles in influencing the occurrence of NNPAs. Jayaraman TK, *et. al* (2017) presented the results of an empirical study focusing on determinants of NPAs, covering a 56 quarterly observation (2000-2015). The results indicate that real GDP, gross advances, total operating expenditures and inflation are indeed important determinants of NPAs. In the long run, economic output represented by real GDP and total operating expenditure are found to be inversely related with NPAs, while gross advances and inflation are found to be positively influencing the NPAs. The findings indicated that the determinants such as real GDP, gross advances, operating expenditure and inflation certainly matter for long term non-performing assets of Indian banks. Real GDP was found to have significant negative relation with non-performing assets, implying that rise in real GDP would increase the incomes of households as well as the business enterprises thereby raising their ability to meet the debt obligations and hence, reduction in NPA of banks. Total gross advances have positive impact on NPA. The findings also show that total operating expenditure in relation to recovery of loans reduces the non-performing assets of banks. Jayaraman TK (2018) pointed out that the gross non-performing assets (NPA) as a proportion of gross assets of India's commercial banks in the public and private sectors as well in banks owned by foreign interests have been rising for the past few years. Gross NPAs of all commercial banks, as a proportion of total assets are 10.8%, as of March 2018. In the case of the public sector banks, which dominate the banking sector with a share of 70% of business, the gross NPA as percent of total assets is 14.5%. This paper is an empirical study focuses on causal factors, which are macroeconomic as well as bank specific that influences NPA. We employ the Autoregressive Distributed Lag (ARDL) procedure and conduct Bounds F- Tests, by using sixty quarterly observations (fiscal years 1999-2000 to 2015-16) to explore the effects of these determinants. The study findings reveal that real GDP, gross advances, total expenditures and price level are important determinants of NPA in India's commercial banks.

**Table 2:** Rise of stressed loans in India

RISE & RISE OF STRESSED LOANS

The RBI's projections show the gross NPA of banking sector could go up to 8.5 % by March 2017

| (in %) | Net NPA | Gross NPA | Stressed assets* |
|---|---|---|---|
| March 2013 | - | 3.4 | 9.2 |
| September 2013 | 2.3 | 4.2 | 10.2 |
| March 2014 | 2.2 | 4.1 | 10 |
| September 2014 | 2.5 | 4.5 | 10.7 |
| March 2015 | 2.5 | 4.6 | 11.1 |
| September 2015 | 2.8 | 5.1 | 11.3 |
| March 2016 | 4.6 | 7.6 | 11.5 |

The stress in the banking sector, which mirrors in the corporate sector, has to be dealt with in order to revive credit growth — RAGHURAM RAJAN, RBI Governor

Source: Hindu newspaper

## Objectives

The objectives include:

1. To ascertain the association of institutional-specific and macroeconomic indicators with the non-performing assets of Public banks in India.
2. To define the impact of institutional-specific and macroeconomic indicators on the non-performing assets of Public banks in India.

## Results and Discussion

**Gross domestic product**

GDP is a growth indicator of an economy. As GDP grows, loans and advances also grow and hence it directly impacts on NPAs. Moreover, when the economy is in shambles, corporate will not be able to pay the debts which will thereby lead to an increase in NPA's. There is a significant empirical evidence of negative association between growth in gross domestic product and non-performing loans (table 3).

**Loans and advances**

Loans and advances are considered the most important factor while forecasting NPAs. As the size of loans and advances increases, the proportion of NPA's increase due to increase in risk in that case.

**Inflation rate**

Inflation based upon the consumer price index (CPI) is the main inflation indicator in most of the countries. Inflation rate in India is based upon the Indian Consumer Price Index. As inflation rises it becomes cheap for borrowers to borrow money, because of inflation purchasing power of consumer's fall resulting in a drop in profits for the companies. Combination of both these factors results in rise in NPA's. There is an empirical evidence of positive relationship between the inflation in the economy and non-performing loans (Tanima Niyogi Sinha Roy and Basabi Bhattacharya, 2011).

**Repo rate**

Repo rate is the rate at which the central bank of a country (RBI in case of India) lends money to commercial banks in the event of any shortfall of funds. Repo Rate is generally related to the Bank Prime lending rate as well as reverse repo and MLR. It is an indicator of the prevailing interest rate in the country. Interest rate and inflation has a cumulative effect on the economy and ability of the borrower to pay back. Hence, repo rate is a crucial factor impacting NPAs.

**Interest rate**

Lending rates/ interest rates are one of the primary economic determinant of non-performing loans/bad loans. There is an empirical evidence of positive correlation between the interest rate and non-performing loans (Gokul Kumar S and Jayanthi M, 2017).

**Unemployment**

There is an empirical evidence of positive relationship between unemployment in the economy and non-performing loans which ultimately affects the production/sales of the firms; which leads to decline in revenues of the firms and a fragile debt conditions.

**Exchange rate**

As far as relationship of the exchange rate is concerned there is a positive relationship between real effective exchange rate and non-performing loans. An appreciation in exchange rates may have different implications i.e. it can adversely affect the loan payment capacity of export oriented firms borrowers who borrow in foreign currency, the relationship between Nominal effective exchange rate (includes inflation) and non-performing loans is indeterminate.

**Table 3:** NPA at a glance in India

| Fiscal Year | Gross NPA to Gross Advances (%) | RGDP (%) | GA (billion) | TE (billion) | CPI (index point) | Lending rate (%) | Employment (in million) | Repo rate (%) | US dollar |
|---|---|---|---|---|---|---|---|---|---|
| 1999 | 12.71 | 100 | 4751.13 | 398.5 | 52.073 | 12 | 40.09 | 9 | 43.05 |
| 2000 | 11.41 | 103.841 | 5587.66 | 487.2 | 54.1609 | 12 | 40.37 | 9 | 44.94 |
| 2001 | 10.41 | 108.85 | 6809.58 | 535.6 | 56.1566 | 12 | 41.34 | 8.5 | 47.19 |
| 2002 | 8.83 | 112.991 | 7780.43 | 615.69 | 58.6231 | 11.5 | 42 | 7.5 | 48.60 |
| 2003 | 7.19 | 121.872 | 9020.26 | 739.21 | 60.8542 | 11 | 41.47 | 7 | 46.58 |
| 2004 | 5.15 | 131.528 | 11526.82 | 798.07 | 63.1467 | 11 | 40.46 | 6 | 45.32 |
| 2005 | 3.29 | 143.74 | 15513.78 | 890.06 | 65.8282 | 12.75 | 39.35 | 6.25 | 44.10 |
| 2006 | 2.51 | 157.057 | 20125.1 | 1010.89 | 69.8737 | 14.75 | 41.47 | 7.25 | 45.31 |
| 2007 | 2.25 | 170.576 | 25078.85 | 1181.38 | 74.3246 | 15.75 | 39.97 | 7.75 | 41.35 |
| 2008 | 2.25 | 177.213 | 30382.54 | 1478.39 | 80.5321 | 16.75 | 39.11 | 6.5 | 43.50 |
| 2009 | 2.39 | 192.241 | 35449.65 | 1652.54 | 89.2919 | 15.75 | 38.15 | 4.75 | 48.40 |
| 2010 | 2.44 | 211.964 | 40120.79 | 2019.35 | 100 | 9.5 | 38.83 | 6.25 | 45.73 |
| 2011 | 3.07 | 226.035 | 46488.08 | 2296.14 | 108.858 | 10.75 | 40.17 | 6.25 | 46.67 |
| 2012 | 3.25 | 238.431 | 59718.2 | 2564.26 | 118.995 | 10.25 | 44.79 | 8.25 | 53.44 |
| 2013 | 3.83 | 254.025 | 68757.48 | 3111.48 | 131.975 | 10.25 | 46.8 | 7.75 | 58.60 |
| 2014 | 4.22 | 272.263 | 76606 | 3470.51 | 140.75 | 10.25 | 48.26 | 8 | 61.03 |

Source: RBI Data base on Indian Economy

**Operating expense for NPA**

Positive relation between NPA and operating expense for NPA when it is increasing for recovering or operating expense for this is high.

**Steps taken by RBI and Government in last few years to curb NPA**

1. Government has launched 'Mission Indradhanush' to make the working of public sector bank more transparent and professional in order to curb the menace of NPA in future.
2. Government has also proposed to introduce Bankruptcy code.
3. RBI introduced number of measures in last few years which include tightening the Corporate Debt Restructuring (CDR) mechanism, setting up a Joint Lenders' Forum, prodding banks to disclose the real picture of bad loans, asking them to increase provisioning for stressed assets, introducing a 5:25 scheme where loans are to be amortized over 25 years with refinancing option after every 5 years, and empowering them to take majority control in defaulting companies under the Strategic Debt Restructuring (SDR) scheme.

## Conclusions

The Non-Performing assets or bad loans continue to impact the economies around the world adversely from time to time. That led to a banking crisis in a country and a contagion to other countries as well as the whole banking sector of the world is connected now. The central banks all over the world have taken a tough stance against the non-performing assets and other regulators, think-tanks are joining them to create a safer banking sector.

## Source of funding

None.

## Conflict of interest

None.

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