Inflating NPAs –A Critical Issue in Indian Banking System

Tabassum[1*], Sarveshwar Pande[2]

[1*] Ph.D. student, "Amity University Uttar Pradesh", Lucknow, India

Email: tabassumhashimi39@gmail.com

[2]Assistant Professor, "Amity University Uttar Pradesh", Lucknow, India

Email: spande@lko.amity.edu

[*] Corresponding author: Tabassum; Email: tabassumhashimi39@gmail.com

Article Info
Volume 83
Page Number: 10709 - 10721
Publication Issue:
March - April 2020

Abstract: This paper examined the trend of inflating Non-Performing Assets (NPAs) in the Indian Banking System with special reference to Scheduled Commercial Banks, Public Sector Banks, Private Sector Banks and Foreign Banks. It also investigated the issues and challenges of escalating NPAs and their implications on the profitability of banks. It also discussed the role of regulatory framework in management of rising NPAs. The time period of study was from 1997 till 2019. Secondary data analysis was done using time series method. It was observed that in all categories of Indian Banks including Scheduled Commercial Banks, Public Sector Banks, Foreign Banks and New Private Sector Banks of India, there was a sharp rise and increasing trend in the gross NPA percent aftermath the Global Financial Crisis 2007-08. But before the occurrence of Global Financial Crisis 2007-08, these banks including Old Private Sector Banks of India had comparatively less amount of NPAs and decreasing trend in NPA level till the crisis. It was also observed that inflating NPAs adversely impacted the Indian Banks' profitability and solvency. The results confirmed that a large number of credit defaults occurred in the Public Sector Banks as compared to Private Sector and Foreign Banks in India. It is expected that future researches will be accomplished including macroeconomic variables and bank-specific factors that are responsible for occurrence of NPAs in Indian Banks.

Keywords: *Non-Performing Assets (NPAs), Indian Banking System, Scheduled Commercial Banks, Public Sector Banks, Private Sector Banks, Foreign Banks, Profitability, Regulatory Framework*

Article History
***Article Received**: 24 July 2019*
***Revised**: 12 September 2019*
***Accepted**: 15 February 2020*
***Publication**: 13 April 2020*

I. INTRODUCTION

Since the commencement of the Global Financial Crisis in the year 2007-08, the bank assets quality of loan portfolio in most of the countries across the world including India strongly deteriorated. Financial Crisis in 2007-08 which was the spillover effect of U.S Subprime Mortgage Crisis 2007 has led to the banking crisis and impacted bank performance in most countries including India (Shukla, 2014). This has caused some researchers to study the negative repercussion of the banking crisis on the macroeconomic conditions (Agnello, Furceri, and Sousa, 2011; Agnello and Sousa, 2011). Simultaneously it has also encouraged some researchers to study the factors that provoke banking crisis (Laeven and Valencia, 2010). Adverse macroeconomic conditions with high interest rate, low growth rate, high unemployment rate and high inflation rate influences banking crisis (Demirguc-Kunt and Detragiache, 1998; Llewellyn, 2002).The unfavorable macroeconomic environment have also resulted in escalating the level of non-performing loans and bank credit risk in the banking system which can cause them to become insolvent and eventually lead to banking crisis (Barr and Siems, 1994; Demirguc-Kunt, 1989; Whalen, 1991). There is negative relationship between non-performing assets and macroeconomic conditions (Espinoza and Prasad 2010; Ghosh 2015; Louzis, Vouldis, and Metaxas, 2012; Skarica 2014; Zeng 2012; Zhu, Wang, and Wu, 2014). Not only macroeconomic variables but also bank specific factors cause changes in the level of Non-Performing Assets. Some researchers in their research studies analyzed influence of different bank-specific factors on NPAs (Berger and DeYoung, 1997; Dhar and Bakshi, 2015; Rajaraman and Vasishtha, 2002). IMF (2006) defines Non-Performing Loans as "loans (and other assets) should be classified as the NPL when (1) payments of principal and interest are past due by 3 months (90 days) or more, or (2) interest payments equal to 3 months (90 days) interest or more have been capitalized (re-invested into the principal amount, refinanced, or rolled over (i.e. payment has been delayed by arrangements)." As per RBI (2015), "A non performing asset (NPA) is a loan or an advance where interest and/ or instalment of principal remain overdue for a period of more than 90 days in respect of a term loan." As per RBI (2015), "A non performing asset (NPA) is a loan or an advance where interest and/ or instalment of principal remain overdue for a period of more than 90 days in respect of a term loan…..An asset, including a leased asset, becomes non-performing when it ceases to generate income for the bank." NPA is inevitable in the banking sector. As there is increase in the lending process by the banks and there is growth in credit or advances, the possibility of default also increases. Banks cannot afford zero or no lending of credit in order to avoid occurrence of NPAs as much of their income is generated by the interest earned on loans. Inflating NPAs gives mammoth pressure on banks' balance sheets with adverse impact not only on profitability and bank lending but also on financial stability and socio-economic growth of the nation (Otasevic, 2015). Hence it is very important to build up more effective and efficient credit risk management system and regulatory framework to manage and control the escalating NPAs in the banks.

This paper examines the trend of inflating Non-Performing Assets (NPAs) in the Indian Banking System with special reference to Scheduled Commercial Banks, Public Sector Banks, Foreign Banks and Private Sector Banks. It investigates the issues and challenges of escalating NPAs and their implications on the profitability of Indian Banks. It also focuses on the role of regulatory framework in management of rising NPAs. Time period of the study is from 1997 till 2019. Secondary data analysis is applied using time series method.

The remaining discussions are classified as follows. Section 2 represents the literature review. Section 3 gives the data and research methodology. Section 4 gives the findings. Section 5 gives the conclusion.

II. LITERATURE REVIEW

The literature review is divided into two parts. First part discusses issues and challenges of inflating NPAs while second part discusses role of

TEST Engineering & Management
March - April 2020
ISSN: 0193-4120 Page No. 10709 - 10721

regulatory framework in management of rising NPAs.

1. Issues and Challenges of Inflating NPAs

There are various research studies which focus on the repercussions of inflating NPAs in the banks.
Escalating NPAs result in insolvency of banks which can even cause banking crisis. This confirms that bank asset quality is a sign of insolvency of banks (Barr and Siems, 1994; Demirguc-Kunt, 1989; Whalen, 1991). Inflating NPAs gives mammoth pressure on banks' balance sheets with adverse impact not only on profitability and bank lending but also on financial stability and socio-economic development of the country (Otasevic, 2015). Inflating NPAs decreases overall profitability of banks and their income reduces considerably because banks have to maintain provision coverage to recover loss due to bad loans and secondly they stop gaining interest income from defaulting loans (Louzis, Vouldis, and Metaxas, 2012; Mester, 1996; Rajaraman, Bhaumik, and Bhatia, 1999).

Some researchers studied the impact of rising Non-Performing Loans on measured cost efficiency. Berger and DeYoung (1997) concluded that inflating level of bad loans results in reduction in measured cost efficiency and capital of the banks. High level of NPAs adversely impact bank efficiency and can cause failure of banks (Barr and Siems, 1997; Karim, Chan, and Hassan, 2010; Kwan, 2006; Martin, 1977; Pantalone and Platt, 1987).They favoured the concept of poor management suggested by Berger and DeYoung (1997) that faulty management activities results in deterioration of bank asset quality and increase in bad debts. Similarly Tsai and Huang (1999) also concluded that bank asset quality is linked with cost efficiency and bad management practices of bad loans results in negative repercussions on operating performance of the banks. Fan and Shaffer (2004) stated that non-performing assets and profit efficiency of banks are negatively associated with each other but this relation is statistically insignificant.

Some researchers stated that bad loans are discarded spin-off of performing assets which are regarded as financial pollution as they have harmful impact on economy (Barseghyan 2010; Espinoza and Prasad 2010; Gonzales-Hermosillo 1999; Nkusu 2011; Zeng 2012). Similarly Zhang et al. (2015) in his study confirmed that escalating NPAs causes bank lending riskier which in turn degrade bank asset quality and hampers the economic stability. They supported the moral hazard problem.

2. Role of Regulatory Framework in Management of Rising NPAs

Reserve Bank of India initiated various measures to control rising NPAs and solve the problem of stressed assets which are:

- **Recapitalization of Public Sector Banks**
  In the year 2015-16 as per the Indradhanush Plan, the Public Sector Banks were infused with capital of 519 billion by the government (RBI, 2017a). Recapitalization plan for Public Sector Banks of 2.1 lakh crore or trillion was announced by the Government of India in October, 2017 where capital infusion plan was 8,139 crore from budgetary assistance and 80000 crore via recapitalization bonds for the year 2017-18 (RBI, 2017a; RBI, 2018). These banks were struggling with the problem of inflating stressed assets and non-performing loans. Hence this step of recapitalizing Public Sector Banks was to clear out the banks' balance sheets, reduce NPAs, for devising better operational policies, for technology upgradation, to improve their profitability and efficiency.
- **Prompt Corrective Action Framework (PCA Framework)**

Prompt Corrective Action Framework was initiated by RBI in December 2002 for those banks which have impacted the Trigger Points including Net NPA, CRAR and ROA where the Net NPA percent should be 10 percent or below 10 percent, CRAR should be 9 percent or above 9percent and ROA should be 0.25 percent or above 0.25 percent to be outside the PCA Framework. If the NPA percent is more than 10percent, CRAR is below 9 percent and ROA is below 0.25 percent then certain structured and discretionary actions are to be taken by RBI for those banks (RBI, 2002).This scheme on PCA was reviewed by the Board for Financial Supervision in June, 2004 and it was decided to follow the same scheme (RBI, 2004).

PCA Framework was revised by RBI on April 13, 2017, where the asset quality, capital and profitability were the triggering points in terms of Net NPA Ratio, CRAR/Common Equity Tier I ratio and ROA respectively to monitor the banks' effective functioning. As per this revised PCA framework the Net NPA Ratio should be less than 6 percent for the banks to be outside the PCA Framework so as to prevent themselves from corrective actions. If the Net NPA Ratio is 6 percent or above 6 percent or any of the risk threshold limit related to ROA or CRAR/Common Equity Tier I ratio is breached then certain mandatory and discretionary actions are to be taken by RBI for those banks such as restriction on branch expansion, dividend distribution, management compensation, raising capital level and increasing provision coverage (RBI, 2017b).
Quoting the "RBI Triggers Corrective Action on Banks over NPA Worries", RBI levied certain restrictive actions under PCA Framework 2017 on some banks like Bank of India, Corporation Bank, IDBI Bank, Central Bank of India, Dena Bank, UCO Bank, Oriental Bank of Commerce, Indian Overseas Bank, United Bank of India and Bank of Maharashtra in 2017 for abrupt increase in NPA and capital erosion (ET Bureau, 2017)

- **Insolvency and Bankruptcy Code (IBC)**
  In May 2016, Insolvency and Bankruptcy Code 2016 implemented and declared in the Gazette of India was a single law that resolved the cases of bankruptcy and insolvency by either giving reorganization or insolvency resolution plan within a time limit of 180 days for the defaulting units like companies, individuals, partnership firms etc. The time limit of 180 days can be extended by 90 days more in certain cases. The IBC has shifted control powers from shareholders to creditors and thus creditors got the powers to decide whether to resuscitate or liquidate the defaulting company (RBI, 2017a). Quoting the "BS Banking Round Table", bankers opinioned that balance of power was transposed by IBC (BS Reporter, 2017).

  The Government further on 23rd November, 2017, announced the Insolvency and Bankruptcy Code (Amendment) Ordinance, 2017 to reinforce the insolvency resolution plan (RBI, 2017a).

- **Banking Regulation (Amendment) Ordinance 2017**
  The Banking Regulation (Amendment) Ordinance, 2017 enforced by government on 5th May, 2017 that gave more powers to the RBI to handle the NPAs problem. RBI has been empowered by NPA Ordinance for issuing directions to commercial banks to

March - April 2020
ISSN: 0193-4120 Page No. 10709 - 10721

start insolvency procedures under IBC 2016 to recover bad loans (Tiwari, 2017). The Banking Regulation (Amendment) Ordinance, 2017 was enforced to tackle the issue of bad loans in Indian Banks by giving extra powers to the RBI (RBI, 2018). But this Ordinance had some drawbacks and was soon replaced by Banking Regulation (Amendment) Bill 2017 in July, 2017.

- **Banking Regulation (Amendment) Bill 2017**
  Quoting the "All you need to know about the Banking Regulation (Amendment) Bill" (2017), Banking Regulation (Amendment) Bill 2017 which was launched in July, 2017 replaced the Banking Regulation (Amendment) Ordinance, 2017 and modified the Banking Regulation Act, 1949.This Bill authorized RBI to initiate insolvency resolution procedures and appoint committees for advising the financial institutions on resolution of stressed assets. It empowered RBI to guide and issue directions to Indian Banks to handle and manage bad loans under the Insolvency and Bankruptcy Code 2016.

III. DATA AND RESEARCH METHODOLOGY

The sample consists of all Scheduled Commercial Banks of India Banking System (except RRBs) which are divided into Public Sector Banks, Foreign Banks and Private Sector Banks of India. Private Banks is again divided into old and new Private Sector Banks. Categorization of sampled banks into three groups provides an efficient way of comparing and obtaining considerable amount of information about banks' NPAs. The study used secondary data. The Old Private Sector Banks data is tabulated till 2013, while the new Private Sector Banks data is compiled till 2017.Annual data related to Gross NPAs as a percentage of gross advances for all these sampled banks is analyzed which is collected from RBI reports, Handbook of Statistics on the Indian economy and database of RBI. Annual data is used and the time period of the study is from the year 1997 till 2019. Time series method is used to analyze the sampled data where the data is collected on one or more variables over a period of time and its trend analysis is done (Brooks, 2008).

STATA 14.0 version and MS Excel 2007 is used in all the calculations and graphs.

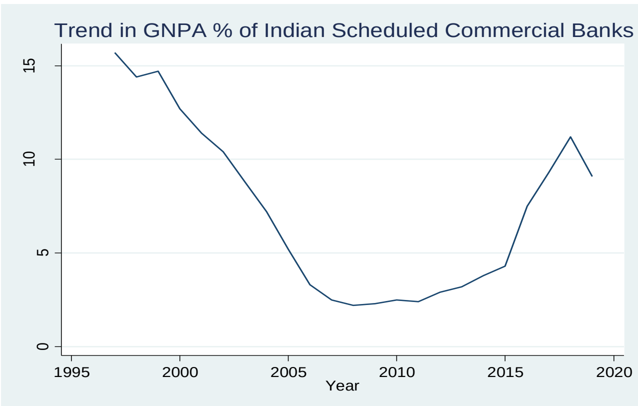
IV. FINDINGS

In this section, we will analyze the trend of inflating Gross NPA percent in Scheduled Commercial Banks, Foreign Banks, Old Private Sector Banks, New Private Sector Banks and Public Sector Banks of Indian Banking System from the year 1997 till 2019 by time series method. Let us discuss each category of bank one by one.

1. Trend in GNPA percent of Indian Scheduled Commercial Banks

Figure 1 as shown below shows the trend in GNPA percent of Indian Scheduled Commercial Banks.

Figure 1: Trend in GNPA percent of Indian Scheduled Commercial Banks



Source: Handbook of Statistics on Indian Economy 2018-19, RBI (Compilation by the author using STATA 14.0 version)

TEST Engineering & Management
March - April 2020
ISSN: 0193-4120 Page No. 10709 - 10721

From Figure 1, we can conclude that gross NPA percent of Scheduled Commercial Banks in India was 15.7 percent in 1997 which reduced to 14.4 percent in 1998 and increased to 14.7 percent in 1999.

Following 1999, there was a decreasing trend in the gross NPA percent of Indian Scheduled Commercial Banks till 2008. There was abrupt decrease in the gross NPA percent of Indian Scheduled Commercial Banks from 14.7 percent in 1999 to 2.3 percent in 2008. This was due to improved macroeconomic conditions in India during this period and sharp increase in the GDP growth from 3.8 percent in 2002 to 9.8 percent in 2007 (World Bank, 2018).

In 2007-08, the outbreak of Global Financial Crisis due to the spillover effect of U.S. Subprime Crisis 2007 shattered almost all the emerging economies including Indian economy (Ghosh and Chandrasekhar, 2009; Kshetri, 2011; Sharma, 2009; Subbarao, 2009). Hence, there was an increasing trend in the gross NPA percent of Indian Scheduled Commercial Banks from 2008 till 2018. There was abrupt increase in GNPA percent in Indian Scheduled Commercial Banks from 2.3 percent in 2008 to 11.2 percent in 2018.

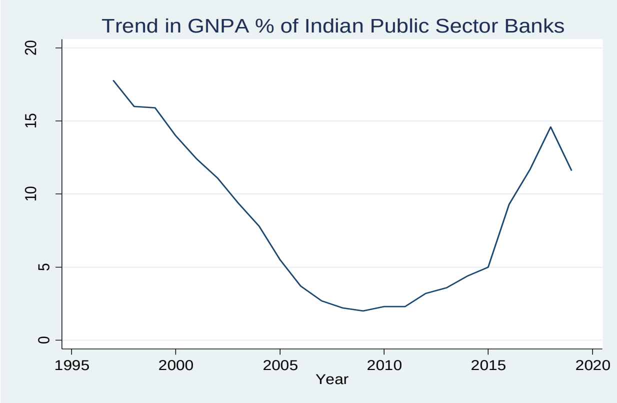
As per the latest RBI report, the performance of the Indian Scheduled Commercial Banks improved to some extent and their GNPA percent declined from 11.2 per cent in March 2018 to 9.1 percent in March 2019 (Database on Indian Economy, 2020; RBI, 2019a). As per the other latest RBI report, the GNPA percent in Indian Scheduled Commercial Banks remained unchanged at 9.3 percent between March and September 2019 (RBI, 2019b).

Based on the Macro-stress tests for default risk, there is a possibility for the GNPA percent in Indian Scheduled Commercial Banks to rise from 9.3 percent in September 2019 to 9.9 percent by September 2020 on account of minor rise in slippages, variation in macroeconomic conditions etc. (RBI, 2019b).

2. Trend in GNPA percent of Indian Public Sector Banks

Figure 2 as shown below shows the trend in GNPA percent of Indian Public Sector Banks.

Figure 2: Trend in GNPA percent of Indian Public Sector Banks



Source: Handbook of Statistics on Indian Economy 2018-19, RBI (Compilation by the author using STATA 14.0 version)

From Figure 2, we can conclude that gross NPA percent of Indian Public Sector Banks was 17.8 % in 1997 that decreased to 16 % in 1998 and 15.9 % in 1999.

Following 1999, there was a decreasing trend in the gross NPA percent of Indian Public Sector Banks till 2009. There was abrupt decrease in the gross NPA percent from 15.9 % in 1999 to 2.2 % in 2008 and further to 2 % in 2009. It was because India had favourable macroeconomic conditions which caused abrupt increase in the GDP growth from 3.8 % in 2002 to 9.8 % in 2007 (World Bank, 2018).
It is observed that there was an increasing trend in the gross NPA percent of Indian Public Sector Banks from 2009 till 2018.There was sharp increase in GNPA percent from 2 % in 2009 to 14.6 % in 2018 which can be related to the after effect of Global Financial Crisis 2007-08 which was the

March - April 2020
ISSN: 0193-4120 Page No. 10709 - 10721

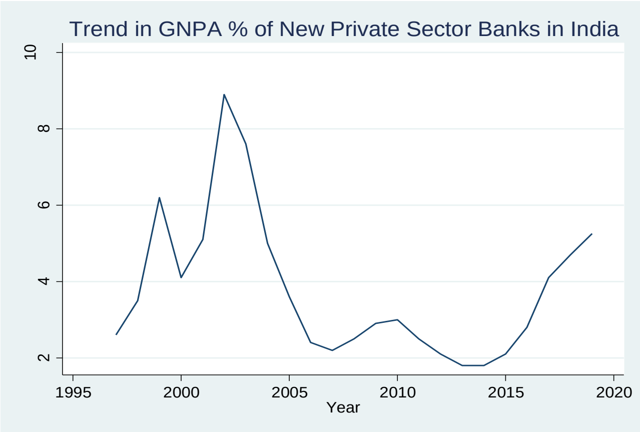
spillover impact of U.S. Subprime Crisis 2007.This crisis adversely impacted all the rising economies of the world including India (Ghosh and Chandrasekhar, 2009; Kshetri, 2011; Sharma, 2009; Subbarao, 2009).

As per recent report from Database on Indian Economy (2020), the gross NPA percent in Indian Public Sector Banks declined from 14.6 percent in March 2018 to 11.59 percent in March 2019.

3. Trend in GNPA percent of New Private Sector Banks in India

Figure 3 as shown below shows the trend in GNPA percent of New Private Sector Banks in India.

Figure 3: Trend in GNPA percent of New Private Sector Banks in India



Source: Handbook of Statistics on Indian Economy 2018-19, RBI (Compilation by the author using STATA 14.0 version)

From Figure 3, we can conclude that gross NPA percent of New Private Sector Banks in India escalated from 2.6 % in 1997 to 6.2 % in 1999 and then reduced to 4.1 percent in 2000. It increased from 4.1 percent in 2000 to 8.9 percent in 2002.

Following 2002, there was a decreasing trend in gross NPA percent of New Private Sector Banks in India till 2007. There was an abrupt decrease in Gross NPA percent from 8.9 percent in 2002 to 2.2 percent in 2007 as during this period there prevailed enhanced macroeconomic environment in India and GDP growth sharply elevated from 3.8 percent in 2002 to 9.8 percent in 2007(World Bank, 2018).

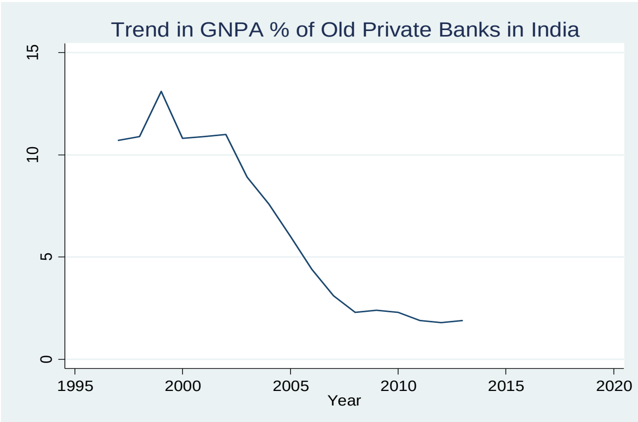
It is observed that there was an increasing trend in the gross NPA percent of New Private Sector Banks in India from 2007 till 2010. After 2007, GNPA percent elevated from 2.2 percent in 2007 to 3 percent in 2010 which can be related to the after effect of Global Financial Crisis 2007-08 that occurred due to the U.S. Subprime Crisis 2007. This crisis also impacted the Indian Economy (Ghosh and Chandrasekhar, 2009; Kshetri, 2011; Sharma, 2009; Subbarao, 2009). GNPA percent lowered from 3 percent in 2010 to 1.8 percent in 2014 and then it increased to 4.7 percent in 2018.

As per recent report from Database on Indian Economy (2020), the gross NPA percent in New Private Sector Banks in India elevated from 4.7 percent in March 2018 to 5.25 percent in March 2019.

4. Trend in GNPA percent of Old Private Sector Banks in India

Figure 4 as shown below shows the trend in GNPA percent of Old Private Sector Banks in India.

Figure 4: Trend in GNPA percent of Old Private Sector Banks in India



Source: Handbook of Statistics on Indian Economy 2018-19, RBI (Compilation by the author using STATA 14.0 version)

From Figure 4, we can conclude that gross NPA percent of Old Private Sector Banks in India was

March - April 2020
ISSN: 0193-4120 Page No. 10709 - 10721

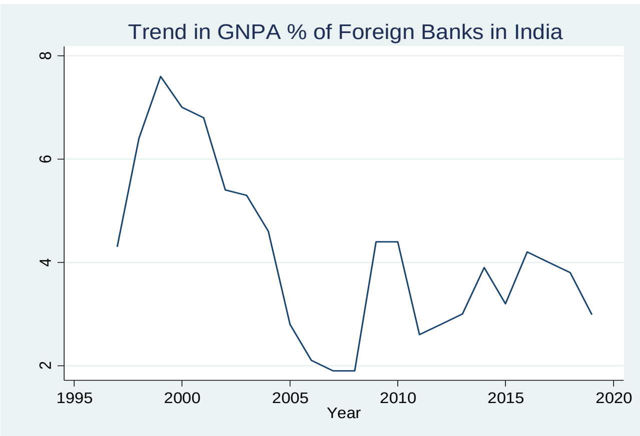
10.7 % in 1997 which escalated to 10.9 % in 1998 and further inflated to 13.1 % in 1999.Then it reduced to 10.8 % in 2000 and then inflated to 11 % in 2002.

Following 2002, there was a decreasing trend in gross NPA percent of Old Private Sector Banks in India till 2008. There was a abrupt decrease in gross NPA percent of Old Private Sector Banks in India from 11 percent in 2002 to 2.3 percent in 2008 as improved macroeconomic conditions in India during this period led to the sharp increase in the GDP growth from 3.8 % in 2002 to 9.8 % in 2007 (World Bank, 2018). The gross NPA percent increased to 2.4 percent in 2009 and then reduced to 1.8 percent in 2012. It rose to 1.9 percent in 2013.

5. Trend in GNPA percent of Foreign Banks in India

Figure 5 as shown below shows the trend in GNPA percent of Foreign Banks in India.

Figure 5: Trend in GNPA percent of Foreign Banks in India



Source: Handbook of Statistics on Indian Economy 2018-19, RBI (Compilation by the author using STATA 14.0 version)

From Figure 5, we can conclude that gross NPA percent of Foreign Banks in India escalated from 4.3 % in 1997 to 7.6 % in 1999.

Following 1999, there was a decreasing trend in gross NPA percent of Foreign Banks in India till 2008. There was a abrupt decrease in gross NPA percent from 7.6 percent in 1999 to 1.9 percent in 2008 as there were improved macroeconomic conditions in India and sharp increase in the GDP growth from 3.8 % in 2002 to 9.8 % in 2007 (World Bank, 2018).

It is observed that there was an increasing trend in the gross NPA percent of Foreign Banks in India from 2008 till 2010. Hence, then there was sharp rise in gross NPA percent from 1.9 % in 2008 to 4.3 % in 2010 which can be related to the after effects of Global Financial Crisis 2007-08 which took place as a result of U.S. Subprime Crisis 2007.This crisis adversely impacted all the developing economies including Indian Economy (Ghosh and Chandrasekhar, 2009; Kshetri, 2011; Sharma, 2009; Subbarao, 2009).

Then gross NPA percent decreased from 4.3 percent in 2010 to 2.6 percent in 2011 and further it increased to 3.9 % in 2014.It further lowered to 3.2 % in 2015 and then escalated to 4.2 % in 2016. Further gross NPA percent of Foreign Banks in India decreased to 3.8 percent in 2018.

As per recent report from Database on Indian Economy (2020), the gross NPA percent in Foreign Banks in India declined from 3.8 percent in March 2018 to 2.99 percent in March 2019.

6. Trend comparison in Gross NPA percent in all categories of Indian Banks

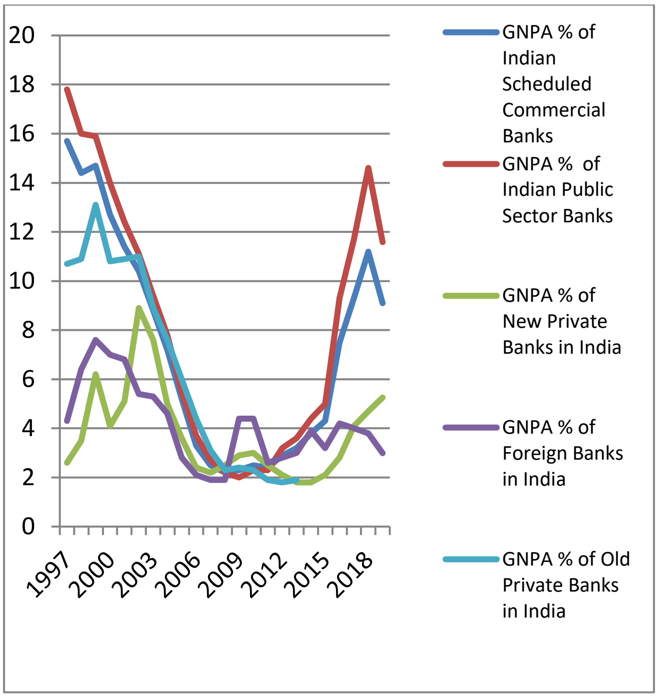
Figure 6 as shown below shows the trend comparison in GNPA percent in all categories of Indian Banks like Scheduled Commercial Banks, Foreign Banks, Old Private Sector Banks, New Private Sector Banks and Public Sector Banks.

From Figure 6, it can be observed that in all categories of Indian Banks including Scheduled Commercial Banks, Public Sector Banks, Foreign Banks and New Private Sector Banks of India, there is a sharp rise and increasing trend in the gross

March - April 2020
ISSN: 0193-4120 Page No. 10709 - 10721

NPA percent aftermath the Global Financial Crisis 2007-08. But before the occurrence of Global Financial Crisis 2007-08, these banks including Old Private Sector Banks of India had comparatively less amount of NPAs and decreasing trend in NPA level till the crisis.

Figure 6: Trend comparison in Gross NPA percent in all categories of Indian Banks



Source: Handbook of Statistics on Indian Economy 2018-19, RBI (Compilation by the author using MS Excel 2007)

It can be also observed that a large number of credit defaults occur in the Public Sector Banks than Private and Foreign Banks. Public Sector Banks has higher number of Non-Performing Assets than Foreign and Private Banks across the sampled time period.

V. CONCLUSION

On examining the trend of inflating Non-Performing Assets (NPAs) which is a critical emerging issue in the Indian Banking System, it can be concluded that since the onset of Global Financial Crisis 2007-08 which was the spillover effect of US Subprime Crisis 2007, all the emerging economies including Indian Economy were adversely impacted. The Gross NPA percentage in all the categories of Indian Banks including Scheduled Commercial Banks, Public Sector Banks, Foreign Banks and Private Sector Banks of India, had an increasing trend and a sharp rise in the gross NPA level aftermath the Global Financial Crisis 2007-08. But before the occurrence of Global Financial Crisis 2007-08, these banks including Old Private Sector Banks of India had comparatively less amount of NPAs and decreasing trend in the NPA level till the crisis. It was also observed that a large number of credit defaults occur in the Public Sector Banks than Foreign and Private Banks. Public Sector Banks had higher number of Non-Performing Assets than Foreign and Private Banks across the sampled time period. This proved that number of Non-Performing Assets decreases with privatization of banks because Private Sector Banks and Foreign Banks have more effective and systematic credit risk management system with strict norms and regulations for controlling occurrence of bad loans. Such a high number of Non-Performing Assets in Public Sector Banks confirms that the loan sanctioning processes are not followed effectively by these banks and they have defective systematic credit risk management system. The Government and Reserve Bank of India must pay special attention towards the working of Public Sector Banks in order to improve their functioning, asset quality and profitability.

Inflating NPAs is a serious issue both for the banking sector as well as economy of the country. Rising NPAs not only adversely impacted the profits of Indian Banks but also hampered the socio-economic development of the country. High level of NPAs decreases measured cost efficiency and capital of the banks. Piling up of non-performing assets and credit risk in the banks had caused them to become insolvent and eventually resulted in banking crisis. They give huge pressure

TEST Engineering & Management

March - April 2020
ISSN: 0193-4120 Page No. 10709 - 10721

on banks' balance sheets as well as adversely impact bank lending and financial stability. High level of NPAs decrease banks' earnings as they stop gaining interest income from defaulting loans and also had to maintain provision coverage to recover loss due to bad loans. Rising bad loans decreases economic efficiency and hampers economic growth of the country. High level of NPAs adversely impact bank efficiency and can cause failure of banks. They cause bank lending riskier and degrade the bank asset quality.

Hence inflating NPAs should be controlled and managed effectively by the banks, banking authorities and government. Regulatory framework and credit risk management system should be strengthened and systematized to tackle the issues and challenges caused by escalating Non-Performing Assets in the banking sector. Recently Indian Government and RBI have taken several actions to settle the issue of inflating NPAs in the Indian Banking System. Indian Public Sector Banks were recapitalized by 2.1 lakh crore or trillion by the Government of India in October, 2017 via budgetary assistance and recapitalization bonds as they had higher number of bad loans as compared to Private and Foreign Banks. RBI also revised Prompt Corrective Action Framework and made it mandatory for the banks to keep their Net NPA Ratio less than 6 percent to be outside the PCA Framework so as to prevent themselves from corrective actions such as restriction on branch expansion, dividend distribution, management compensation, raising capital level and increasing provision coverage. The Government also announced the Insolvency and Bankruptcy Code (Amendment) Ordinance, 2017 to modify the Insolvency and Bankruptcy Code 2016 and reinforce the insolvency resolution plan. The government also passed the Banking Regulation (Amendment) Ordinance, 2017 and Banking Regulation (Amendment) Bill that gave more powers to the RBI to handle the NPAs problem and issue directions to commercial banks for initiating insolvency proceedings under IBC 2016 to recover bad loans.

This study focused primarily on examining the trend of inflating Non-Performing Assets (NPAs) in the Indian Banks with special reference to Scheduled Commercial Banks, Public Sector Banks, Private Sector Banks and Foreign Banks. It also analyzed the issues and challenges of escalating NPAs. It also discussed the role of regulatory framework in management of rising NPAs. But the determinants of NPAs like macroeconomic variables and bank-specific factors that are responsible for occurrence of NPAs were not studied in this study. Hence, it is expected that future researches will be accomplished including macroeconomic variables and bank-specific factors that are responsible for occurrence of NPAs in Indian Banks.

REFERENCES

[1]. All you need to know about the Banking Regulation (Amendment) Bill. (2017). *The Hindu* [online] 11 August. https://www.thehindu.com/business/all-you-need-to-know-about-the-banking-regulation-amendment-bill-2017/article19475175.ece (Accessed 16 March 2020).

[2]. Agnello, L., Furceri, D. and Sousa, R. (2011) *Fiscal policy discretion, private spending, and crisis episodes*, NIPE Working Paper, WP 31/ 2011, pp.1-35, University of Minho.

[3]. Agnello, L. and Sousa, R. (2011) *How do Banking Crises Impact on Income Inequality*, NIPE Working Paper, WP 34/2011, pp.1-22, University of Minho.

[4]. Barr, R. S. and Siems, T. F. (1994) *Predicting bank failure using DEA to quantify management quality*. [online] Financial Industry Studies Working Paper, 94-1, Federal Reserve Bank of Dallas.

https://ideas.repec.org/p/fip/feddfi/94-1.html (Accessed 25 April 2019).

[5]. Barr, R. S. and Siems, T. F. (1997) 'Bank failure prediction using DEA to measure management quality', *Interfaces in computer science and operations research*, pp.1-20.

[6]. Barseghyan, L. (2010) 'Non-performing loans, prospective bailouts, and Japan's slowdown', *Journal of Monetary Economics*, Vol. 57, No. 7, pp.873-890.

[7]. Berger, A. N. and DeYoung, R. (1997) 'Problem loans and cost efficiency in commercial banks', *Journal of Banking & Finance*, Vol. 21, No. 6, pp.849-870.

[8]. Brooks, C. (2008). *Introductory Econometrics for Finance*. 2nd Edition, Cambridge University Press, United States of America.

[9]. BS Reporter (2017). 'BS Banking Round Table 2017: IBC has shifted balance of power, say bankers' *Business Standard* [online] 14 December.

https://www.business-standard.com/article/finance/bs-banking-round-table-2017-ibc-has-shifted-balance-of-power-say-bankers-117121300383_1.html (Accessed 16 March 2020).

[10]. Database on Indian Economy. (2020). *Statistical Tables Relating to Banks in India: Bank-wise and Bank Group-wise Gross Non-Performing Assets, Gross Advances and Gross NPA Ratio of Scheduled Commercial Banks* [online]. https://dbie.rbi.org.in/DBIE/dbie.rbi?site=publications

[11]. Demirguc-Kunt, A. (1989) 'Deposit-institution failures: a review of empirical literature', *Economic Review*, Vol. 25, No. 4, pp.2-19.

[12]. Demirguc-Kunt, A. and Detragiache, E. (1998) 'The determinants of banking crises in developing and developed countries', *IMF Staff Papers*, Vol. *45*, No. 1, pp.81-109.

[13]. Dhar, S. and Bakshi, A. (2015) 'Determinants of loan losses of Indian Banks: a panel study', *Journal of Asia Business Studies*, Vol. 9, No. 1, pp.17-32.

[14]. Espinoza, R. A. and Prasad, A. (2010) *Nonperforming loans in the GCC banking system and their macroeconomic effects*, IMF Working Paper, WP/10/224, pp.1-24, International Monetary Fund.

[15]. ET Bureau (2017) *RBI Triggers Corrective Action on Banks over NPA Worries.*

https://economictimes.indiatimes.com/markets/stocks/news/rbi-triggers-corrective-action-on-boi-united-bank-of-india-on-npa-worries/articleshow/62189399.cms?from=mdr (Accessed 16 March 2020).

[16]. Fan, L. and Shaffer, S. (2004) 'Efficiency versus risk in large domestic US banks', *Managerial Finance*, Vol. 30, No. 9, pp.1-19.

[17]. Ghosh, A. (2015) 'Banking-industry specific and regional economic determinants of non-performing loans: Evidence from US states', *Journal of Financial Stability*, Vol. 20, pp. 93-104.

[18]. Ghosh, J. and Chandrasekhar, C. P. (2009) 'The costs of 'coupling': the global crisis and the Indian economy', *Cambridge journal of economics*, Vol. 33, No. 4, pp.725-739.

[19]. Gonzalez-Hermosillo, B. (1999) 'Developing indicators to provide early warnings of banking crises', *Finance and Development*, Vol. 36, pp.36-39.

[20]. IMF. (2006). *The Financial Soundness Indicators: Compilation Guide* [online]. http://www.imf.org/external/pubs/ft/fsi/guide/2006/ (Accessed 16 March 2020)

[21]. Karim, M.Z.A., Chan, S.G. and Hassan, S. (2010) 'Bank efficiency and non-performing

loans: Evidence from Malaysia and Singapore', *Prague Economic Papers*, Vol. 2, No. 1, pp.118-132.

[22]. Kshetri, N. (2011) 'Emerging economies and the global financial crisis: Evidence from China and India', *Thunderbird International Business Review*, Vol. 53, No. 2, pp.247-262.

[23]. Kwan, S. H. (2006) 'The X-efficiency of commercial banks in Hong Kong', *Journal of Banking & Finance*, Vol. 30, No. 4, pp.1127-1147.

[24]. Laeven, L. and Valencia, F. (2010) *Resolution of Banking Crises: The Good, the Bad, and the Ugly*, IMF Working Paper, WP/10/146, pp.1-35, International Monetary Fund.

[25]. Llewellyn, D. T. (2002) 'An analysis of the causes of recent banking crises', *The European journal of finance*, Vol. 8, No. 2, pp.152-175.

[26]. Louzis, D. P., Vouldis, A. T., & Metaxas, V. L. (2012) 'Macroeconomic and bank-specific determinants of non-performing loans in Greece: A comparative study of mortgage, business and consumer loan portfolios', *Journal of Banking & Finance*, Vol. 36, No. 4, pp.1012-1027.

[27]. Martin, D. (1977) 'Early warning of bank failure: A logit regression approach', *Journal of banking & finance*, Vol.1, No. 3, pp.249-276.

[28]. Mester, L. J. (1996) 'A study of bank efficiency taking into account risk-preferences', *Journal of banking & finance*, Vol. 20, No. 6, pp.1025-1045.

[29]. Nkusu, M. (2011) *Non performing Loans and Macrofinancial Vulnerabilities in Advanced Economies*, IMF Working Paper, 161, International Monetary Fund, Washington DC.

[30]. Otasevic, D. (2015) 'The Influence of Macroeconomic Risks on Credit Risk in the Serbian Banks' Loan Portfolio', *Neo-Transitional Economics*, pp.219-243.

[31]. Pantalone, C.C. and Platt, M.B. (1987) 'Predicting commercial bank failure since deregulation', *New England Economic Review*, pp.37-47.

[32]. Rajaraman, I., Bhaumik, S. and Bhatia, N. (1999) 'NPA variations across Indian commercial banks: Some findings', *Economic and Political Weekly*, pp.161-168.

[33]. Rajaraman, I. and Vasishtha, G. (2002) 'Non-performing loans of PSU banks: Some panel results', *Economic and Political weekly*, pp.429-435.

[34]. RBI. (2002). *Prompt Corrective Action (PCA)* [online].

https://rbidocs.rbi.org.in/rdocs/notification/PDFs/33393.pdf (Accessed 16 October 2018)

[35]. RBI. (2004). *Prompt Corrective Action (PCA)* [online].

https://rbidocs.rbi.org.in/rdocs/notification/PDFs/54289.pdf (Accessed 16 October 2018)

[36]. RBI. (2015). *Master Circular-Prudential norms on Income Recognition, Asset Classification and Provisioning pertaining to Advances* [online].

https://rbidocs.rbi.org.in/rdocs/notification/PDFs/101MC16B68A0EDCA9434CBC239741F5267329.PDF (Accessed 24 October 2018)

[37]. RBI. (2017a). *Insolvency and Bankruptcy Code and Bank Recapitalisation* [online]. https://rbidocs.rbi.org.in/rdocs/Publications/PDFs/4CHA4201700B999F90E3041A28AC7798A6F9F0BA9.PDF (Accessed 17 October 2018)

[38]. RBI. (2017b). *Revised Prompt Corrective Action (PCA) Framework for Banks* [online]. https://rbidocs.rbi.org.in/rdocs/notification/PDFs/NOTI2764ED835C9681F48359414E0EB10CB37A0.PDF (Accessed 16 October 2018)

[39]. RBI. (2018). *Prompt Corrective Action: An Essential Element of Financial Stability Framework* [online]. https://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/PCAS255E21AB302F4D4DB307D29D6346F6ED.PDF (Accessed 16 October 2018)

[40]. RBI. (2019a). *Report on Trend and Progress of Banking in India 2018-19* [online]. https://rbidocs.rbi.org.in/rdocs/PressRelease/PDFs/PR1504EC85905A6305485B8973305109D4CD74.PDF (Accessed 18 March 2020)

[41]. (RBI, 2019b). *RBI releases December 2019 Financial Stability Report* [online]. https://rbidocs.rbi.org.in/rdocs/PressRelease/PDFs/PR15309AF20CEFCBCC406FAD83BD7FBCCD2AEC.PDF (Accessed 18 March 2020)

[42]. Sharma, S. D. (2009) 'Dealing with the Contagion: China and India in the Aftermath of the Subprime Meltdown', *China & World Economy*, Vol. 17, No. 2, pp.1-14.

[43]. Shukla, S. (2014) 'Analysis of banking system performance of select global economies with that of India–during and after the global financial', *Procedia Economics and Finance*, Vol. 11, pp.383-395.

[44]. Skarica, B. (2014) 'Determinants of non-performing loans in Central and Eastern European countries', *Financial theory and practice*, Vol. 38, No. 1, pp.37-59.

[45]. Subbarao, D. (2009) *Impact of the global financial crisis on India: Collateral damage and response*. [online] In Speech delivered at the Symposium on The Global Economic Crisis and Challenges for the Asian Economy in a Changing World, Organized by the Institute for International Monetary Affairs, Tokyo.

https://rbidocs.rbi.org.in/rdocs/Speeches/PDFs/Speech%20-%20as%20sent-%20Modified%20 _4_.pdf (Accessed 15 February 2019)

[46]. Tiwari, D. (2017). 'IMF Alert on NPAs may have Made RBI Seek Government Action' *The Economic Times* [online] 16 May. https://economictimes.indiatimes.com/news/economy/policy/imf-alert-on-npas-may-have-made-rbi-seek-more-power/articleshow/58689239.cms?from=mdr (Accessed 16 March 2020)

[47]. Tsai, D. H. and Huang, F. W. (1999) 'Management quality and bank efficiency: empirical evidence for Taiwanese banks', *Management Review*, Vol. 18, No. 3, pp.35-55.

[48]. Whalen, G. (1991) 'A proportional hazards model of bank failure: an examination of its usefulness as an early warning tool', *Economic Review*, Vol. 27, No. 1, pp.21-31.

[49]. World Bank (2018). *GDP growth (annual %)* [online].

https://data.worldbank.org/-indicator/NY.GDP.MKTP.KD.ZG (Accessed 25 October 2018).

[50]. Zeng, S. (2012). Bank non-performing loans (NPLS): A dynamic model and analysis in China. *Modern Economy*, Vol. 3, No. 1.

[51]. Zhang, D., Cai, J., Dickinson, D. G. and Kutan, A. M. (2016) 'Non-performing loans, moral hazard and regulation of the Chinese commercial banking system', *Journal of Banking & finance*, Vol. 63, pp.48-60.

[52]. Zhu, N., Wang, B. and Wu, Y. (2015) 'Productivity, efficiency, and non-performing loans in the Chinese banking industry', *The Social Science Journal*, Vol. 52, No. 4, pp.468-480.