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Evaluation of Financial Stability in India

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ABSTRACT

This research paper is an attempt to analyze the financial stability in India from Period Q4 2012-13 to Q4 2018-19, through an empirical analysis as well as a theoretical study of the macroeconomic variables pertinent to financial stability. The variables are categorized into four different categories, based on the type of macro-economic policy under which they belongs. This study utilizes the framework of Principal Component Analysis to simplify our analysis by converting data on 12 different pertinent variables on financial stability into three principle components. And the technique of Ordinary Least Squares (OLS) Regression is used to identify the empirical relationship between Credit Ratings and the ten variables pertinent to financial stability (converted to 3 principal components).Analysis reveals a coefficient of determination of 0.913, which signifies that >90% of the variance of the financial stability in India (for which credit-rating is used as a proxy) is explained by the set of variables chosen (converted to 3 principal components). Based on the data and a rigorous review of available literature, it can be recommended certain policy measures: prudent fiscal measures, enhancement of transmission of monetary policy, utilization of excess foreign exchange reserves for providing financial leeway to the central government and lastly fundamental measures to revive Consumer and Investment Demand in the Indian Economy.

Key Words: Financial Stability, OLS, Macro Economic Variables, Credit rating.

1. INTRODUCTION

Most economies of the world have been under experienced long periods of economic and financial moderation. This moderation has been done under well organized, highly powerful authorities under the finance portfolio of the governments and the Central Banks, most of whom are not elected representatives. Hence it's essential to evaluate the frameworks and the consequences of those, since financial-instability has wide ranging consequences: are costly events in terms of economic dislocation. The resulting financial distress usually takes time to dissipate. Monetary policy is profoundly affected by financial disruption, since important channels of transmission are interrupted. Fiscal policy as well is usually strained in such circumstances, requiring significant effort to restore macroeconomic equilibrium. There are several parameters to evaluate while understanding financial stability, and we have grouped them into 4 categories:

a) **Fiscal Parameters**: Dealing with Government Revenue, Expenditure and corresponding debt.

b) **Monetary Parameters**: Dealing with Monetary Policy metrics and are a function of the decisions undertaken by the Reserve Bank of India

c) **Balance of Payments (BOP)**: Dealing with parameters comprising the BOP of India

d) **Market Confidence**: Dealing with parameters reflecting the view of the private sector and ratings agencies of the performance of the Indian Economy

Fiscal parameters are always essential-they reflect the financial stability of the government and its ability to carry out day to day administration, policy implementation and debt payments: clearly a poor performance here would dampen effective functioning, and would have impact on other parameters too. Similarly monetary parameters are essential since they determine the financial flows to various sectors of the economy. BOP has always been a significant issue in economic policymaking, a crisis here can shake the very foundations of the economy, as was witnessed in 1991. Market Confidence becomes important because it reflects the underlying confidence of a very important part of the economy: the Private Sector. It also consists of sophisticated techniques being utilized to come up with a comprehensive evaluation of the economy by agencies. It can also be gauged, to a great extent, by the stock market indexes like Nifty and Sensex.

2. LITERATURE REVIEW

In recent years, financial stability has become a critical point in prospects of economic growth in a country. This is underscored further by the ongoing COVID-19 pandemic as most economies recorded a negative growth rate for at least one quarter. Alshubiri (2017) attempts to find some factors affecting financial banking stability. The study measures a score for the six commercial banks in Oman and attempts to find the relationship between stability and monetary and fiscal policies, and the extent of their responses to changes in environment variables. The study shows that income diversity has a significant impact in one of the four independent variables used in regression, while macroeconomic and external governance factors appear insignificant at a 1% significance level. The study recommends the need to adapt a system of risk detection and mitigation in the banking and financial sector.

A study by Patra and Roy (2000) looks at financial stability in the Indian context. The study argues that there is no clear consensus on what financial stability is. A preliminary definition would be the absence of financial instability, but that is not enough. They study attempts to define financial stability by looking at the performance of banks. Their results indicate that NPAs (non-performing assets) have had a significant negative impact on functioning of public sector banks. ROA (Return on assets) is seen to be negatively related to operating efficiency of the banks, but that has been seen to have little impact on their performance. There is a similar trend in private banks as well. The study suggests that policies for financial sector reform have had a higher impact on the performance of banks as compared to variables like operating efficiency and macroeconomic considerations.

Another study authored by Dhal et. al. (2011) tries to look at the relationship between financial stability, economic growth, inflation, and monetary policy in India. Like the study by Patra and Roy (2000), this paper also argues that financial stability cannot be defined in simple terms the way economic and monetary stability are. Generally, financial stability goals are pursued with strong, sound and stable institutions, competitive and effective markets, and efficient financial pricing. The policies and regulatory framework prior to 2008 was focused on making sure that individual institutions don't fail. Since then, however, the focus has shifted to trying to make sure that the financial system as a whole does not fail. This study looks in the direction of dynamic interaction between macroeconomic indicators and banking stability and fragility indicators. It focuses on banking because banks still play a dominant role in resource mobilization, allocation of these resources, and in various financial market segments. The study concluded that there could be a medium-long term relationship between financial stability, inflation, and growth.

The financial stability and systemic risk can be postulated through multiple indicators comprising soundness indicators of banks and financial institutions, indicators of financial market prices and volatilities and macroeconomic indicators (Sundarajan et.al., 2002). In the Indian context, though financial stability has received considerable attention from the authorities as evident from numerous speeches of the central bank including Subbarao (2012, 2009), empirical research on the subject with a focus on seeking answers to the above questions is almost non-existent. Financial stability can also enhance effectiveness of monetary transmission systems. Finally, it suggests that economic growth can have a positive effect and inflation a negative effect on financial stability. The vice-versa also holds true, i.e. financial stability can mean more persistent growth and less persistent inflation.

3. DATA AND METHODOLOGY

Studies conducted in the past have made use of various macroeconomic indicators to assess the functioning of the economy and resilience of the nation. The approach used in this study is similar. Various macroeconomic variables have been used from Q4 2012-13 to Q42018-19. This period mainly deals with the pre-Covid economy. The lack of data availability restricted us to this time frame. The macroeconomic indicators used in study are Gross domestic product(GDP), Unemployment rate, IIP(Index of Industrial Production), IIP change%, Foreign exchange reserves ($),Wholesale Price Index(WPI) ,Consumer Price Index (CPI, Cash Reserve Ratio (CRR) ,Statutory Liquidity Ratio(SLR),Policy Repo Rate, Reverse Repo Rate and 10-Year G-Sec Par Yield (FBIL).

The rationale for using these variables stems from the implications of Fiscal and Monetary measures. The variables like policy rates have a deterministic impact on the whole financial sector that comprises Banks, NBFCs, HFCs and stock markets. Forex reserve impacts the financial resilience of the country and helps in stabilizing the currency. The inflation measured by WPI and CPI helps assess the impact of price fluctuations. The GDP and IIP bring in the economic production factors into the model. Although there are numerous other variables that can impact the financial stability of India, we limit our discussion to these variables with an understanding of spillover effects of one variable on another Thus, we are making an assumption that these variables explain the financial stability of India satisfactorily, by inherently encompassing the effects of omitted variables. The results of the model shall discuss the validity of this argument.

Also, it is important to describe the Regressed variable to be used in the Model. The Regressed variable used is the proxy for Credit Ratings of India by Moody's Rating. India's credit rating has been fairly constant, fluctuating only 4 times in the past 15 years within Baa3 to Baa2. The following table shows the methodology used to obtain values from credit ratings.

Rating	Outlook	Proxy Value
Baa3	Negative	0
Baa3	Neutral	1
Baa3	Positive	2
Baa2	Negative	3
Baa2	Neutral	4
Baa2	Positive	5

Table - 1: Understanding Proxy Variable

Prior to Applying regression analysis, we normalized the data and conducted the PCA analysis to reduce the dimensionality of the data. We reduce the data to three principal dimensions and then use these variables to regress against the explained variable. In the following sections, we test our hypothesis formally by deploying an OLS regression model. We also build on existing studies and reports to present a theoretical evaluation of the various metrics associated with financial stability in the Indian Economy.

3.1. OLS Model

	Coeff	Std Err	t	P>|t|	[0.025	0.975]
Const	1.8462	0.089	20.826	0	1.662	2.03
0	-0.495	0.034	-14.556	0	-0.565	-0.424
1	-0.0815	0.074	-1.099	0.284	-0.235	0.072
2	0.3157	0.078	4.049	0.001	0.154	0.477

Omnibus	2.856	Durbin-Watson	1.284
Prob(Omnibus):	0.24	Jarque-bera(JB)	1.39
Skew	-0.341	Prob(JB)	0.499
Kurtosis	0.3904	cond.No.	2.61

Image 1: OLS Model

R- Squared:	0.913
Adj. R-squared:	0.901
F- statistics:	76.5
Prob (F-statistic):	8.52E-12
Log-Likelihood:	-14.076
AIC:	36.15
BIC:	41.18

Selected Variables are used for analysis from many possible variables that may play a role in India's credit rating. Hypotheses are used to test whether these variables are enough to help explain India's credit Rating. The Adjusted R-squared value of 0.901 suggests that the model explains 90% of the variance in proxy for financial stability.

3.2. Discussion

In this section, we critically examine the impact of various variables on the financial stability of India and try to analyze a possible trend in these variables. A special emphasis has been given on these variables during the post Covid induced lockdown periods, as the lack of data availability prevented a formal OLS analysis.

a) Fiscal Parameters: Dealing with Government Revenue, Expenditure and corresponding debts and some general economic variables

Image 2: India's Unemployment Rate

Unemployment rate was quite steady during the pre- covid years as can be seen from the above graph. There was a sharp decline in unemployment during the FY 2017-18. The Government has stopped collecting unemployment data post covid.

Image 3: India's GDP

Quarterly GDP was on rise pre covid. It saw a sharp decline post covid. The growth rate of GDP was on a declining trend pre covid indicative of slowdown, but the financial quarters during Covid saw India underground a Technical Recession. The recent quarters have shown revival of production, giving certain positive offshoots that need to be sustained if we are to maintain a stable path of growth.

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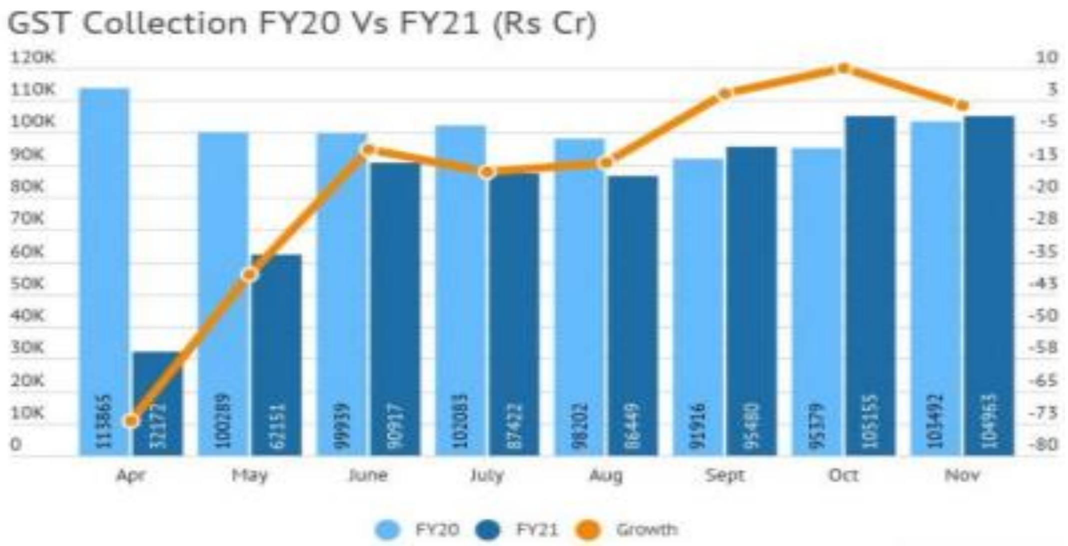

Image 4: India's GST Collection Source: PIB

After falling to a record low in April 2020, the amount of GST collected has seen a remarkable increase in the following months, crossing 1 lakh crore INR two months in a row in October 2020 and November 2020. This is in line with the economic activity in 2020. With complete lockdown in April 2020, only about 25% of the economy was functional. Since there were very little transactions, there was little GST collection. This was also a time when the government increased spending, which caused a dramatic increase in budget deficit.

b) Monetary Parameters: Dealing with Monetary Policy metrics and are a function of the decisions undertaken by the Reserve Bank of India

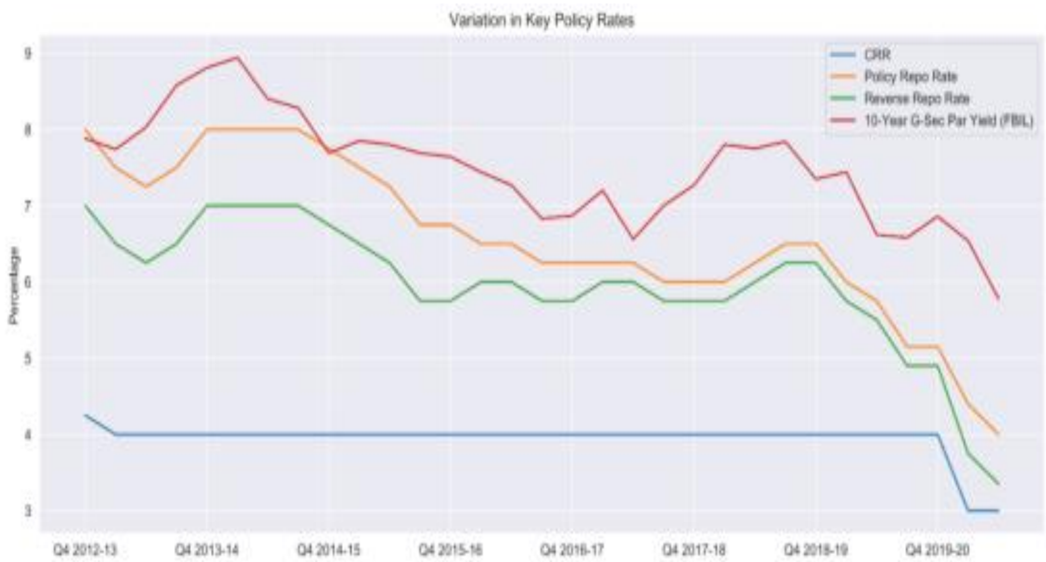

Image 5: Key Policy Rates

This image shows the variation in key policy rates over time. CRR has stayed constant, while Policy Repo Rate Reverse Repo Rate and 10 Year G-Sec Par Yield show a decline. All policy rates have fell sharply post covid

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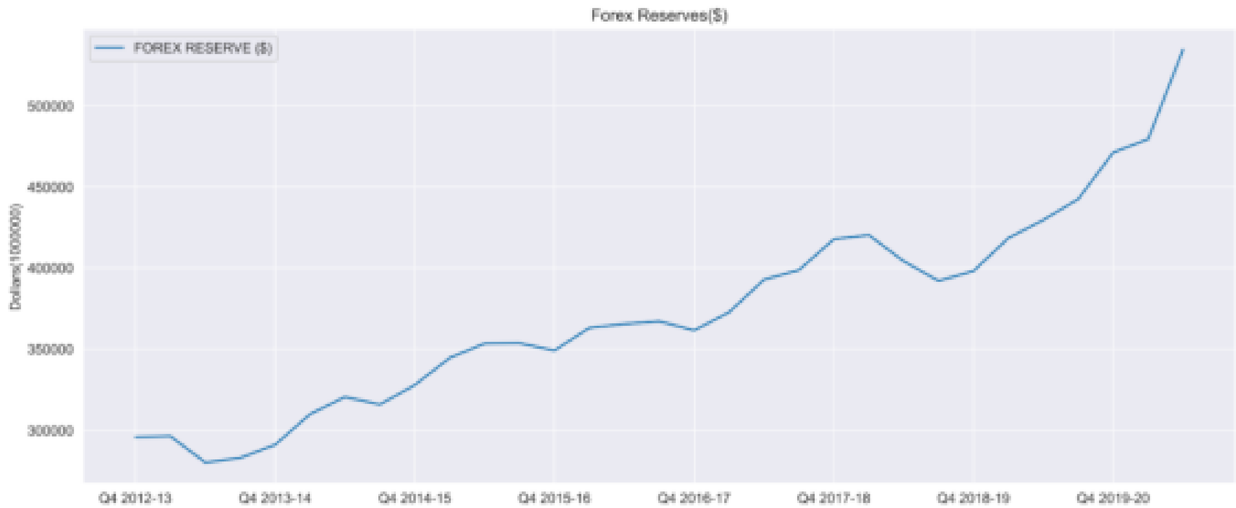

Image 6: India's Forex Reserves

Forex Reserves have increased over time. This provides stability by serving as a backup in case the national currency rapidly devalues. The steady climbing forex reserve gives confidence to the economy.

c) Balance of Payments (BoP): Dealing with parameters comprising the BoP of India

Image 7: India's Current Account Deficit Source: RBI

RBI tracked down the current account deficit of India in the yearly trend. The growing deficit as a proportion of GDP was a cause of concern for the financial stability of India. However, the recent developments as tracked by RBI show that India's current account balance (CAB) recorded a surplus of US$ 19.8 billion (3.9 percent of GDP) in Q1 of 2020-21 on top of a surplus of US$ 0.6 billion (0.1 per cent of GDP) in the preceding quarter, i.e., Q4 of 2019-20. These are some green offshoots in the economy. However the sustainability of positive numbers is to be monitored carefully, since the

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recent surplus were witnessed on the backdrop of steeper decline in merchandise imports relative to exports on a year-on-year basis.

d) Market Confidence: Dealing with parameters reflecting the view of the private sector and ratings agencies of the performance of the Indian Economy.

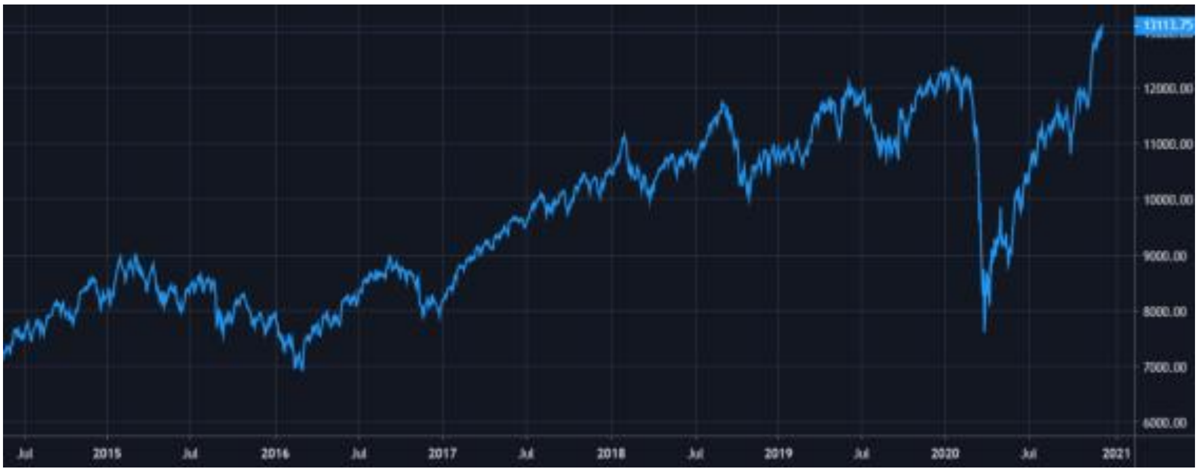

Image 8: Nifty 50 Source: Trading View

Broader Stock Market Indexes are at lifetime highs. Nifty and Sensex have been making new highs each day in the month of November, This throws some light on the Market Confidence. The consistent positive FPI and FDI inflows in the last few months, as can be seen from the below tables, have assisted in this recovery. The liquidity that has been pumped into the financial markets across the globe has also facilitated the recovery.

Month	FPI Flow
March	-118203
April	-14859
May	-7356
June	26009
July	3301
August	49879
September	-1196
October	21826
November	62782
December	11540

Table 2 : FPI FLOW

3.2.1. Gross and Net Non-Performing Assets of Scheduled Commercial Banks (SCBs). In this section, we focus our attention towards an important determinant of Financial Stability of a country, viz banking industry. The trends of the past suggest that growth of a nation is accelerated by the credit growth. However, the past few years have shown the detrimental impact poor asset allocation can have on the whole economy. Thus, we critically analyze the trend as well as impact of NPAs on the financial stability.

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Analysis for this has been based on the data presented in the RBI-Financial Stability Reports, July 2018-July 2020. We choose a three year period to evaluate this metric, to assess how much stability has been achieved with regards to this aspect, considering that the SCB NPA were at an all-time high during 2018, as evident from the data. What we observe is that while there was an NPA crisis in 2018, which contributed substantially to corresponding slowdown of the Indian Economy, 2019 and 2020 report lower NPAs. This can be attributed to the implementation of Insolvency and Bankruptcy Code (IBC) along with Prompt Coercive Action (PCA) frameworks for Public Sector Banks, after a lot of criticism was levied on PSBs for not adhering to standard banking practices, resulting in substantial losses of taxpayer money.

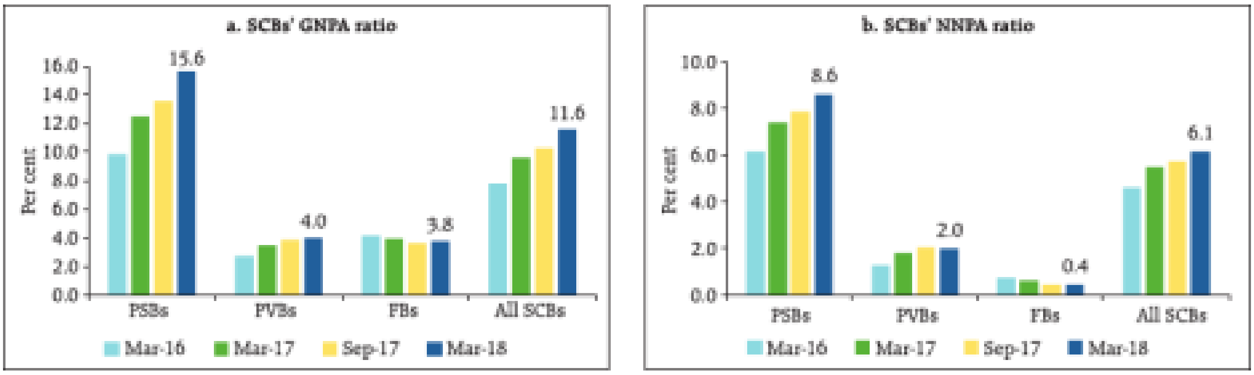

Image 9: GNPAs and NNPAs, 2018 Source: RBI

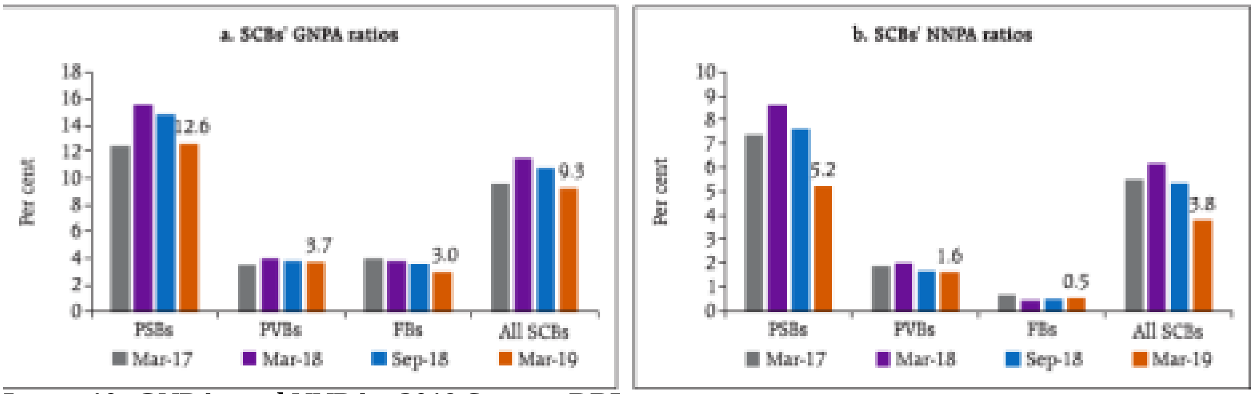

Image 10: GNPAs and NNPAs, 2019 Source: RBI

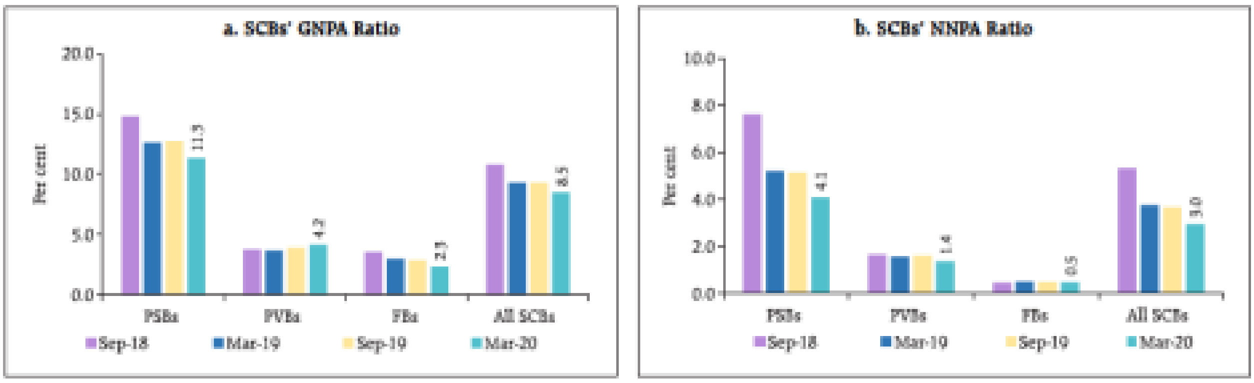

Image 11: GNPAs and NNPAs, 2020 Source: RBI

4. POLICY RECOMMENDATIONS

We have formulated these recommendations by sorting them according to the 4 types of parameters we introduced in the introduction. These recommendations have been formed after analyzing the given data as well as the literature present on the topic

1. Fiscal Parameters: Viral Acharya has constantly pointed out the prevalence of fiscal deficits in the Indian Economy since a while now. He calls this phenomenon as 'fiscal dominance' referring to the fact that owing to huge deficits of the central government, often other tools of economic policy making, essential for maintaining macroeconomic equilibrium are tweaked to accommodate that. It has compromised on the independence of monetary policy and constrained their ability to focus on important variables such as inflation. It is essential that the government sticks to strict fiscal responsibility, based on the Fiscal Responsibility and Budget Management (FRBM) Rules, 2004 and makes a solid commitment to stick to them. Malfunctioning state enterprises must be liquidated soon through market-friendly auction procedures monitored by the government, and the facilitation of private players encouraged. Sustainability has to be a pivotal objective while formulation of welfare programmes: we can't sponsor schemes (MSPs being one of the examples) which are not sustainable, and neither have a great welfare value.

2. Monetary Parameters: Credit must be given to RBI for stabilizing inflation to the acceptable levels post the 2013 economic crisis. However, post the slowdown of the economy and the subsequent economic disaster due to the pandemic, the RBI should be emphasizing on stabilizing the economy by infusing liquidity and boosting the economy. Forex reserves of the RBI are at an all-time high, they can be utilized to provide some relief to the government. Transmission of monetary policy needs to be improved, via methods like a) Linking Repo-Rate with deposit rate: Most of the term deposits have a fixed interest rate, rendering transmission effective only for new deposits. b) Fixing the health of the banks: Increasing NPAs, decreasing profitability of the banks lead to liquidity crunches which weaken the balance sheets of banks and make transmission difficult. Insolvency and Bankruptcy Code (IBC) needs to be implemented promptly, along with a Prompt Corrective Action (PCA) framework for the Public Sector Banks. c) Launch of RLLR (Repo-linked lending rate) products: This initiative will encourage transmission of monetary policy. It is essential that all Scheduled Commercial Banks are encouraged to launch these.

3. BoP parameters: Exports need to be encouraged, by enhancing port connectivity and development of ports. Owing to the collapse of Consumer Demand, India is recording Current Account Surpluses, an odd thing for the Indian Economy. Owing to this, the Foreign Exchange reserves are at an all-time high. It is important that these be utilized to stabilize the economy by transferring assets to the government as per the recommendations of Bimal Jalan Committee. Foreign Investors are looking for investing in emerging economies, since developed economies aren't offering enough returns to them. Encouraging them to invest in India, through lucrative opportunities and ensuring the investments are

realized in form of stable FDI inflows, would be essential for improving our balance of payments.

4. Market Confidence: The biggest problem with the Indian Economy, even before the pandemic was the collapse of underlying Consumer Demand in the economy. It had led to a substantial decline in sectors such as Auto, FMCG etc. The pandemic has further worsened it, in light of which it is essential that the demand be revived, so that the net output is not just dependent on government spending. Encouraging MSMEs, infusion of liquidity in the economy and the moratorium for loan repayments announced by the RBI, are steps in the right direction. Investment will improve only with government's help: investment in the infrastructure sector is essential, since it is associated with forward and backward linkages, which are essential for thriving of any industry. Focusing on infrastructural investment will also lead to creation of more jobs in the economy, which is also facing an unemployment crisis. Integration of schemes such as MGNREGA with these developmental goals should be done: emphasis can be laid on creation of rural assets. Efficiency in the financial markets, as proposed in the measures under monetary parameters will facilitate the transmission of funds for such objectives. All this combined has a great chance of improving India's economic outlook.

REFERENCES:

Dhal S., Purnendu Kumar and Jugnu A. (2011), " Financial Stability, Economic Growth, Inflation and Monetary Policy Linkages in India: An Empirical Reflection". Reserve Bank of India Occasional Papers.

Roy, Michael, Debabrata P. and Sunando.(2000), "Financial Stability: A Survey of the Indian Experience". Reserve Bank of India Occasional Papers.

Patnaik, Shalini Mittal and Radhika P. (2019), "Examining the trade-off between price and financial stability in India." NIPFP Working paper series.

Bijoy Rakshit, Samaresh Bardhan. (2020), "Does Bank Competition Enhance or Hinder Financial Stability? Evidence from Indian Banking." Journal of Central Banking Theory and Practic.

Padha V., Padha P.K. Jena, Bikash R. M., and Mantu K. M. (2020), "Is monetary policy safeguarding financial stability in India?" Journal of Public Affairs.

Subbarao, D. (2009), "Financial stability - issues and challenges", FICCI-IBA Annual Conference on "Global Banking: Paradigm Shift", organized jointly by FICCI and IBA, Mumbai, 10 September 2009.

Data references:

1.Financial Stability Report, 2020. Mumbai: Financial Stability Unit, Reserve Bank of India

2.World Bank Open Data. Accessed November 15, 2020. https://data.worldbank.org/.