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Mitigating the Burden of Debt Servicing for Term Loan on Account of Covid-19 Pandemic: An Impact Analysis

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Abstract

Due to the pandemic outbreak of COVID-19, several nations including India took emergency actions and imposed curfews and lockdowns in different parts of the nation as a disaster management strategy. The lockdown is implemented all over the nation covering entirely social, financial, and business activities. Under this plan government also attempted to protect borrowers from loan burdens and hence introduced several regulatory measures for mitigating the burden of loans for the stability of sustainable businesses ***(Ajayi, 1991)****. The Indian industry and economy are not forgetful of the widespread effects of these lockdowns and curfews, which have sparked fears about the performance of the prevalent and current legal obligations to be served by the entities under different agreements* ***(Idolor, 2000)****. Although nations and international organizations have mobilized for years for a global pandemic, planning for the subsequent economic shock seems to be less researched.*

Thus, this study focuses on studying what initiatives the Indian government is taking to ease the burden of debt servicing for term loans due to the COVID-19 Pandemic. The major objective of the study is to find the Debt-cost impact of the moratorium and also find out the awareness level about moratorium period debt cost and borrower repayment behavior. The researcher has selected 45 borrowers from different financial institutionsinthe Kota district of Rajasthan. The analysis is done using frequency tables and graphs and hypothesis testing is performed utilizing Levene's test and between subjects' factors. These findings indicate that borrowers should avoid taking this scheme of moratorium of loans provided by RBI to avoid the debt cost associated with it.

Keywords : COVID-19, Moratorium, debt-cost, consumer protection, term loan, borrower repayment behavior, nationwide lockdown, interest deferment

1. Introduction

Under the provisions of the Disaster Management Act, 2005 ("DM Act"), the National Disaster Management Authority reclaims its order dated 24 March 2020 called for a 21-day lockdown within India. Then India's reserve bank issued a notification RBI 2019-20/186 on 27 March 2020 (notification) to enable financial institutions, including commercial banks, cooperative banks, all "India's financial institutions and NBFCs (including housing finance firms)", to permit a three-month moratorium on payment of installments (including principal and/or interest aspects and bullet repayment) for all term loans (whose payment was due

between 1 March 2020 and 31 May 2020) RBI's intention seems to change the repayment dates by 3 months, i.e. the moratorium will start from the due date, falling immediately after 1 March 2020, against which the payment has not been made **(Tanuj, 2020)**. Accordingly, the repayment timeline, corresponding due dates, and the tenure for the loans can be changed around the board by three months by lending institutions under the notice. However, as per the notification, it should be noted that the moratorium is a 'payment holiday' and interest on the outstanding portion of the term loan over the moratorium period will continue to accrue, which is due after the moratorium period according to the revised loan agreement.

It must be noted that RBI did not grant the mandatory moratorium, RBI was only permitted to allow a three-month moratorium for the lending institutions. RBI's providing this relief to lending institutions **(Rangan & Chakraborty, 2020)**. This is neither a guideline from the RBI to the lenders nor is it leniency by the RBI to the borrowers to delay or delay the repayment of the loans. Therefore, the moratorium would also have to be given to the lenders by the financial institution. The RBI has given such a moratorium to the borrowers.

Theoretically, new loans that have been approved after March 1, 2020, are not protected by the press release because it listed loans that were unpaid as of March 1, 2020. Moreover, it can be assumed, based on the RBI circular, that the lending institution may, at its decision, expand the gain to these creditors if the loan payments of such borrowings fall due between March 1, 2020, and May 31, 2020 **(Schildbach, 2020)**.

The moratorium applies to all term loans and working capital facilities (refer to paragraphs 5 and 6 of the Development and Regulatory Policy Statement). Consequently, the borrower can extend, as the case may be, the advantage of the moratorium or deferment of interest to lending facilities in the form of term loans as well as revolving lines of credit, i.e. working capital facilities.

1.1 Interest Deferment on "Working Capital Facilities"

With respect to Working Capital Facilities approved in the form of cash credit/overdraft, lending institutions are permitted to delay interest payments on all unpaid facilities as of 1 March 2020 for three months. After the expiry of the deferment period, the accumulated interest will be paid.

The moratorium/deferment is specifically authorized to allow borrowers to wind over COVID-19's economic consequences. Consequently, the same will not be viewed as a modification in terms and conditions of loan agreements due to borrowers' financial difficulties and, will not result in a reduction of asset classification. Consequently, the financial institutions might well implement a policy approved by the Board in this reference **(www.cnbctv18.com)**.

Under the moratorium mechanism, repayment of credit card dues may also be deferred according to the RBI. Under ordinary circumstances, if loan repayment is postponed then the credit history of the borrower and the loan risk rating can be adversely affected. However, the credit rating of the borrower will not be affected in any way in the case of this moratorium, according to the central bank remark.

1.2 Covid-19: Impact on the Indian Economy

The coronavirus outbreak causes large-scale loss of life and serious human suffering worldwide. This is the growing national epidemic in modern history, which has also caused a major economic downturn, with production stopping in affected states, demand and morale falling, and stock markets responding negatively to increased uncertainties **(www.oecd.org)**.

"Several international organizations have published studies in recent weeks on aspects of the economic impact of the pandemic corona virus. For example, UNCTAD has estimated that the effect of the corona virus in the People's Republic of China (hereafter 'China') has cost the world over market chains 50 billion USD in exports. Whereas in early March UNCTAD predicted FDI could shrink by 5-15 percent **(www.unctad.org)**, on 26 March the forecast was revised to a reduction by 30-40 percent in 2020-21 **(unctad.org/en/pages /newsdetails.aspx)**. The ILO estimates that the impact of COVID-19 will lead to an increase in global unemployment between 5.3 million ('low' scenario) and 24.7 million ('high' scenario), indicating that 'sustainable business operations will be particularly difficult for small and medium-sized enterprises (SMEs)' Like the OECD **(www.oecd.org/coronavirus/)** the IMF has published several reflections on expected impact and needed policies. In particular, these highlights that the deterioration in services appears much greater compared to the global financial crisis of 2008, this time reflecting the effects of lockdowns and social distancing, especially in urban settings **(Claessens, Laeven, Igan&Ariccia, 2010**). On 14 April, the IMF's World Economic Outlook forecasts a 3 per cent decline in global GDP in 2020, with considerable further downside risk. Several banks and institutes have made significant negative changes to their expected GDP growth by 2020" **(www.db.com/newsroom_news/2020)**.

1.3 Cost of Emi Moratorium

Banks reach out to customers to find out whether they want the loan repayment moratorium announced by the Reserve Bank of India (RBI) to take advantage. Before we go on, readers should know this is merely a grace period, not a loan waiver.

If you don't pay your loan's next two equated monthly payments (EMIs), you won't get blacklisted. However, the bank will charge interest on the unpaid balance. If you skip two payments, you may stretch your loan by 6-10 months or raise the amount of EMI by about 1.5per cent. Although the details vary across banks, lenders are likely to give borrowers three choices (economictimes.indiatimes.com).

Option I: In June, the borrower may make a one-time payment of the interest accruing in 3 months (March, April, and May).

Particulars	Details	Particulars 2	Details
Principal Amount	2000000	Interest during the end of June	82650
Loan Tenure (years)	10	New principal amount(unchanged)	2000000
Interest rate charged	11	New EMI	27550
Monthly EMI	27550	Increase in EMI	0

From the above table, it is clear that if the borrower is making a one-time payment of interest accruing at the end of June for the 3 months of the moratorium, then there will be no change in the increase in EMI value. This option is considered the best to avoid payment of any additional amount.

Option II: The interest is applied to the outstanding debt which will raise the EMI for the remaining months.

Particulars	Details	Particulars 2	Details
Principal Amount	2000000	Interest during three months period	82650
Loan Tenure (years)	10	New principal amount	2082650
Interest rate charged	11	New EMI	28689
Monthly EMI	27550	Increase in EMI	1139

As we can see in the table given above if the borrower does not pay his EMIs during these three months of the moratorium, then the outstanding loan balance will increase, and hence the monthly EMIs will also increase by 1139 (example given above).

Option III: The EMI shall remain unchanged but the lending term shall be extended. The number of additional EMIs will depend upon the lending age.

Particulars	Details	Particulars 2	Details
Principal Amount	2000000	Interest during three months period	82650
Loan Tenure (years)	10	New principal amount	2082650
Interest rate charged	11	New EMI	28689
Monthly EMI	27550	Increase in EMI	1139

In the table given above we can see that the EMI has been kept unchanged by the borrower but he has opted for extending the lending term hence his number of additional EMIs will depend upon the lending age opted by him and also a debt cost will be charged to him.

2. Objective of the study

The present study is an attempt to develop an index to measure the financial empowerment of women. The sub-objectives are as follows:

- To study the debt cost impact of the moratorium period on borrower repayment behavior.
- To study the impact of respondent's demographic, awareness about EMI debt cost, and benefits of moratorium of loans.
- To find out the "significant difference between the opinion of males and females towards the Burden of Debt Servicing for Term Loan on account Of COVID- 19 Pandemic".

3. Research Methodology

- Research Design: Survey Research Method
- Sample Population: Financial institution borrowers from different age groups from the Kota region
- Sampling Method: Convenience Sampling Method
- Sample Size: 45 respondents
- Nature of Data: Primary and secondary data collection methods are used to collect data from financial institution databases.
- Method of Primary - Data Collection: Questionnaire
- Type of Questionnaire: Structured questionnaire with a suitable range.
- Type of Questions: Closed-ended questions.
- Statistical tools used: frequency distribution table and graphs, Levenes test, the test of between subjects' effects analysis
- Software Used: IBM SPSS Statistics 20 Package
- Period of Study: March 2020 to May 2020
- Area of study: Kota Rajasthan.

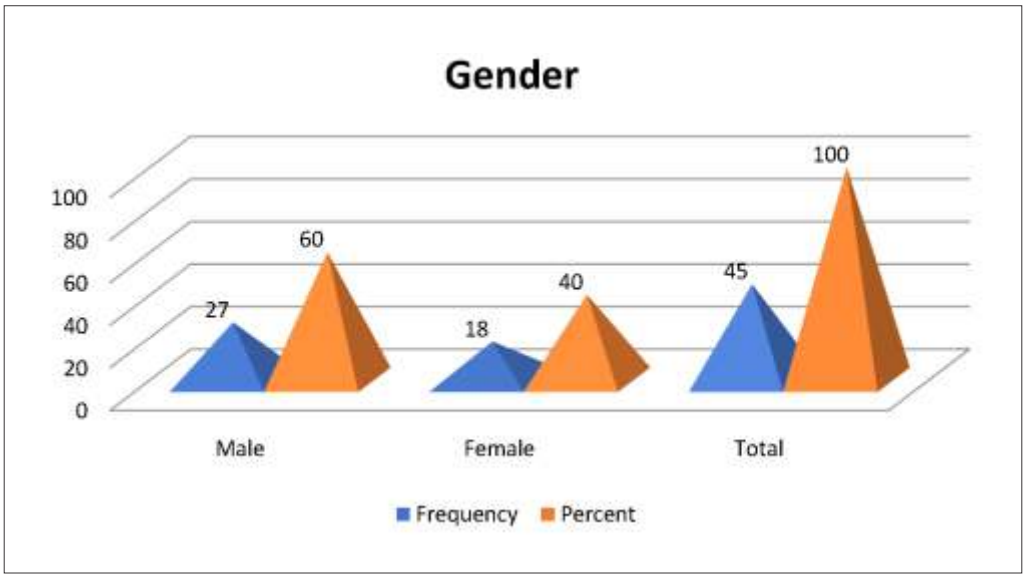
"In this research paper author used a convenient sampling method for selecting the sample. The sample size of the study is kept as 45 respondents (Borrowers). Secondary data was collected from various websites, journals, articles, magazines, reports, and other relevant documents. So far analysis and testing are concerned; Levenes test has been used to test the hypothesis through the SPSS_20 version".

4. Result and Discussion

Table 1: Frequency table of gender class of respondents

Gender				
Valid		Frequency	Percent	Cumulative Percent
	Male	27	60	60
	Female	18	40	100
	Total	45	100	

Figure 1: Frequency of gender class of respondents

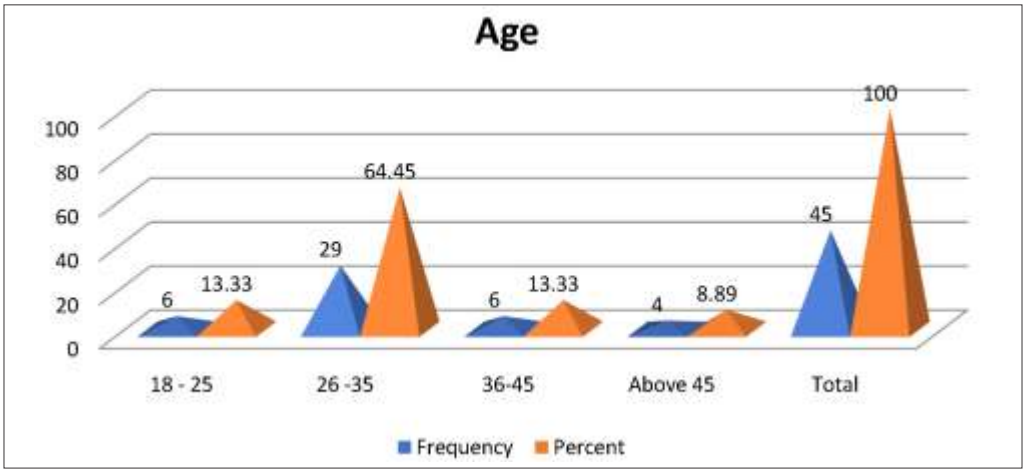


As stated by the above table and figure, 60 per cent of borrowers are male and 40 per cent of borrowers are female. This shows that most male respondents are taking loans. As in most Indian families, males are the only earning members and hence all financial liabilities are to be bear by males only. However, due to modernization working women rate is also increasing in India and hence they are also taking loans as evidenced by the results.

Table 2: Frequency table of an age class of respondents

Age				
Valid	Age	Frequency	Percent	Cumulative Percent
	18 – 25	6	13.33	13.33
	26 -35	29	64.45	77.78
	36-45	6	13.33	91.11
	Above 45	4	8.89	100
	Total	45	100	

Figure 2: Frequency of age class of respondents

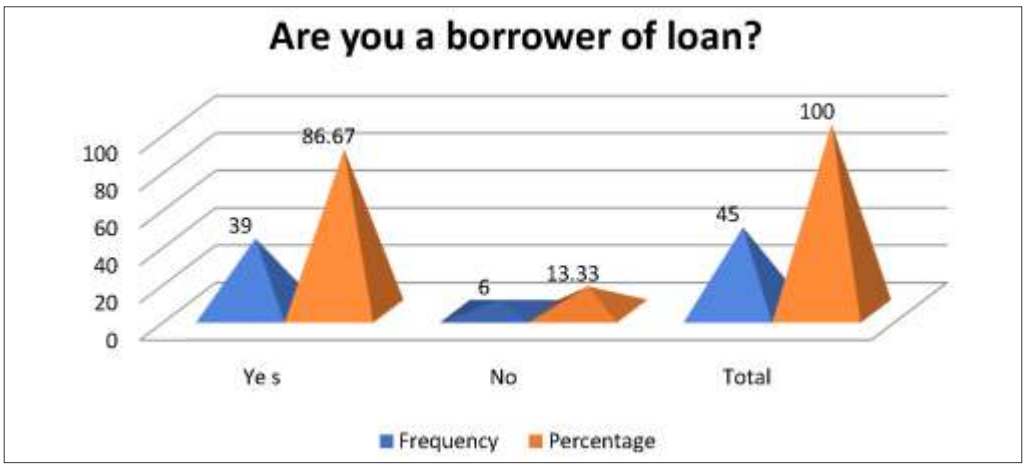


From the above table and figure, 13.33 per cent of borrowers are from the 18-25 year age group, 64.45 per cent of borrowers are falling under the 26-35 year age group, 13.33 per cent of borrowers are from 36-45 year age group and 8.89 per cent borrowers are above 45 years of age. So, we can say that the maximum number of borrowers are young age people. At this age, only people aspire to own assets for which they take loans like housing loans, personal loans, car loans, etc.

Table 3: Number of borrowers of loan

Are you a borrower of a loan?				
Valid	Option	Frequency	Percentage	Cumulative Percentage
	Yes	39	86.67	86.67
	No	6	13.33	100
	Total	45	100	

Figure 3: Number of borrowers of loan

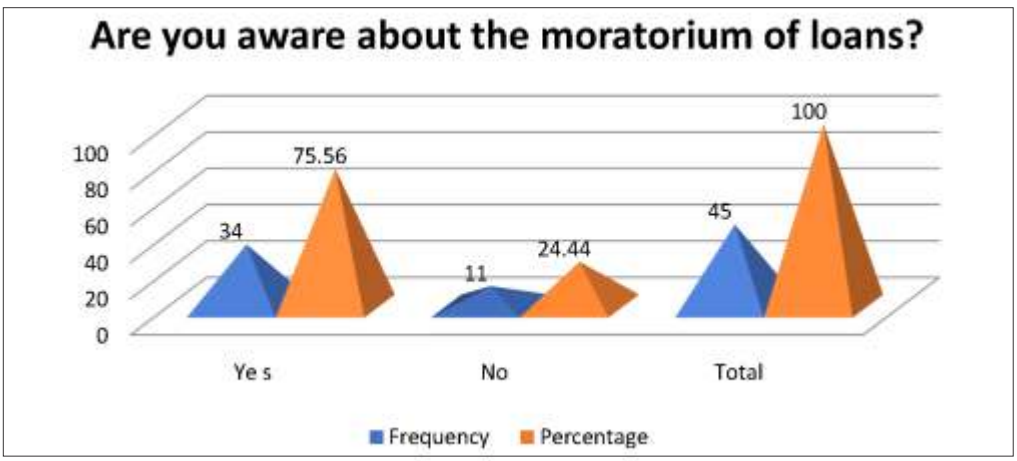


The above table and figure it is showing that from our sample maximum 86.67 per cent of respondents are borrowers during the study period. But there 13.33 per cent of respondents included in this study who is not borrowers, however, taken loans previously. Thus the results will be more accurate.

Table 4: Awareness about the moratorium of loans

Are you aware of the moratorium on loans?				
Valid	Option	Frequency	Percentage	Cumulative percentage
	Yes	34	75.56	75.56
	No	11	24.44	100
	Total	45	100	

Figure 4: Awarenessabout the moratorium of loans

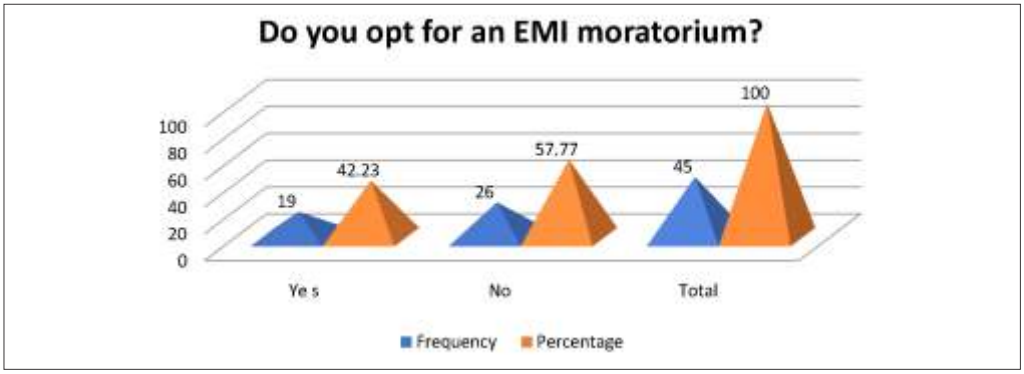


As per the above table, we can say that 75.56 per centof respondents are aware of this moratorium of loans and 24.44per cent are not even known about this moratorium granted till May 2020. So we can say that maximum borrowers are aware of this moratorium and thus they can avail of this benefit provided by the government. But in our study, we also found that 25 per cent of borrowers are unaware of the moratorium which is a bad indicator of financial institutions' services. Financial institutions should strive in the direction of generating greater awareness about the moratorium.

Table 5: Whether opting for an EMI moratorium

Do you opt for an EMI moratorium?				
Valid		Frequency	Percentage	Cumulative Percentage
	Ye s	19	42.23	42.23
	No	26	57.77	100
	Total	45	100	

Figure 5:Whether opting for an EMI moratorium?

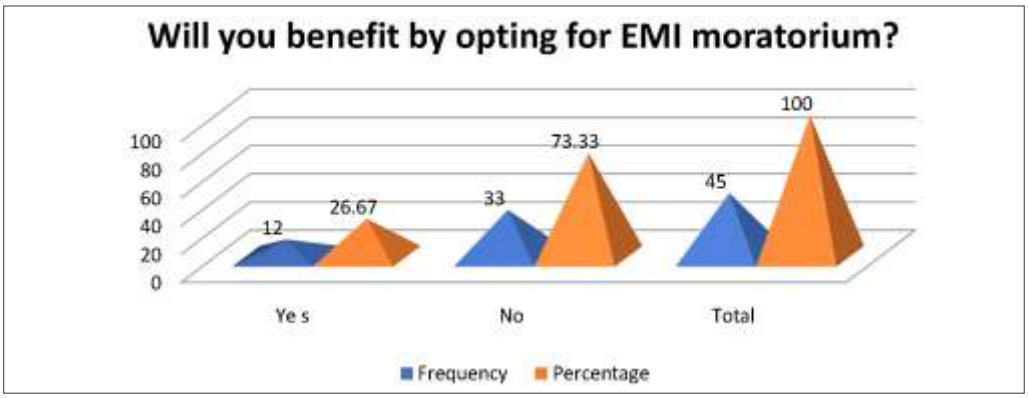


In our collected sample, 57.77 per cent of respondents pay their EMI monthly because some are not aware of the moratorium, some borrowers are taken a loan from those institutions which are not giving any moratorium, some are aware of the drawbacks of a moratorium of loan and some can pay EMI from time to time.

Table 6: Number of respondents who benefited by opting for the EMI moratorium

Will you benefit by opting for EMI moratorium?				
Valid		Frequency	Percentage	Cumulative percentage
	Ye s	12	26.67	26.67
	No	33	73.33	100
	Total	45	100	

Figure 6: Number of respondents who benefited by opting for the EMI moratorium?

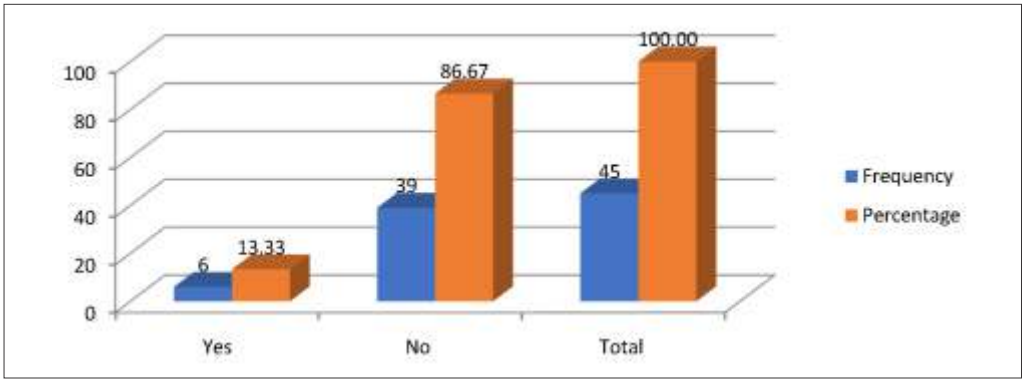


From the above table and figure, only 26.67 per centof respondents are availing the benefit of a moratorium of loan. But 73.33per cent respondents are not availing of this benefit due to several reasons like unawareness, few have borrowed from private sector banks and few being able to give timely payment of EMI.

Table 7: Awareness of the interest cost/ Debt

Do you aware of the interest cost/ Debt				
Valid	Option	Frequency	Percentage	Cumulative Percentage
	Yes	6	13.33	13.33
	No	39	86.67	86.67
	Total	45	100.00	

Figure 7 : Awareness of the interest cost/ Debt



From the above table, it can be viewed that a huge number of the respondents are not aware of the debt cost that is being incurred by them if they opt for the moratorium option provided by RBI. Due to this, they might incur the loss associated with the cost of the moratorium.

Table 8: Information on Interest cost/ Debt

Loan Amount	Period	RoI	EMI	EMI Principal	Interest	Total of EMI not paid for 3 Months	Principal Not paid	Interest Not Paid	Interest paid if Opting Option I	Addl Cost PerMonth if opting Option II or III	Remaining Loan Period	Total Debt Cost Option II & III
1	2	3	4	5	6	7	8	9	10	11	12	13
500000	10 Years	8.35	6109	2680	3429	18477	97640	10437	10437	149	96 Month	14343
1000000	10 Years	8.35	12218	5360	6858	36957	16080	20874	20874	299	96 Month	28686
1500000	10 Years	8.35	18478	8040	10438	55434	24120	31314	31314	448	96 Month	43029
2000000	10 Years	8.35	24637	10720	13917	73911	32160	41751	41751	598	96 Month	57372

From the above table, it becomes clear that irrespective of the loan amount if the borrower opts for a moratorium he will have to incur a total debt cost as shown in the last column of the above table. Let us discuss it in detail;

As it is evident from the above table that whatever the principal amount the additional cost (column 11) is increasing in option II and option III (as discussed above) and so is the total debt cost (column 13).

For option, I the interest to be paid as shown in column 10 will remain the same as that of interest not paid (column 9) and hence no additional cost will be incurred to the borrower. However, the total debt cost is increasing as the principal amount is increasing in the case of options II and III, and hence as far as possible borrowers should avoid taking this scheme of moratorium of loans provided by RBI to avoid this debt cost.

Hypothesis :

At the end to achieve the objectives of the study following hypothesis is formulated;

H01: "There is no significant difference between the opinion of males and females towards the Burden of Debt Servicing for Term Loanson account of COVID- 19 Pandemic".

H11: "There is a significant difference between the opinion of males and females towards the Burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic".

Table 9 : Between-Subjects Factors

Between-Subjects Factors			
		Value Label	N
The burden of Debt Servicing for Term Loan On account Of COVID- 19 Pandemic	1	Strongly agree	2
	2	Agree	32
	3	Can't say	11

The table given above shows the "between subject factors" relationship between the Burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic and the gender of respondents. The table shows that 32 respondents have shown their consensus over the fact that "There is a significant difference between the opinion of males and females towards the Burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic".

Table 10 : Descriptive Statistics

Descriptive Statistics			
The burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic	Mean	Std. Deviation	N
Strongly agree	1.00	.000	2
Agree	1.19	.397	32
Can't say	1.09	.302	11
Total	1.16	.367	45

Above the table, descriptive statistics of the Burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic and gender can be observed. Typically, the mean, standard deviation, and several respondents (N) who participated in the survey are given. "Higher standard deviation shows that wider scope of the study and the column of analysis showing the given response (in number) by the borrowers". The higher mean value represents the wider scope of Burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic and gender.

Table 11:Levene's Test of Equality of Error Variances

Levene's Test of Equality of Error Variancesa			
F	df1	df2	Sig.
2.485	2	42	.051
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.			

According to the table given above, "Levene's Test for Equality of Variance is performed to test the condition that the variances of both samples are equal or not. A high-value results normally in a significant difference and a low-value results normally in a non-significant. Table results present that the dependent variable Burden of Debt Servicing for Term Loan on account Of COVID- 19 Pandemic and gender has high value". This implies that "there is a significant difference between the opinion of male and female towards the Burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic".

Table 10 : Tests of Between-Subjects Effects

Tests of Between-Subjects Effects					
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	.127a	2	.064	.461	.034
Gender*	17.275	1	17.275	125.441	.000
The burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic	.127	2	.064	.461	.034
Error	5.784	42	.138		
Total	66.000	45			
Corrected Total	5.911	44			
a. R Squared = .021 (Adjusted R Squared = -.025)					

The table above shows the Between-subject effect factors between the Burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic and gender is less than 0.05 (p-value). It confirms the results from Levenes test. "This means we have to reject the null hypothesis and accept the alternative hypothesis that "there is a significant difference between the opinion of males and females towards the Burden of Debt Servicing for Term Loan on account of COVID- 19 Pandemic".

5. Conclusion

Due to the COVID-19 pandemic, the nationwide lockdown has impacted the economy of not only India but the global economy to a very large extent. Many developed countries are failing to protect their economy from the adverse impact of lockdowns and India is not an exception. Indian economy is also witnessing a major downfall in this lockdown period. The Indian government has taken several initiatives to protect their countrymen from the negative effects of the lockdown. One such initiative is a moratorium on term loans.

Most of the people or borrowers of financial institutions are facing cash-flow problems as a result of the nationwide lockdown. Intending to care for the customers or borrowers of financial institutions,the government has offered aCOVID-19 relief package to borrowers to reduce their burden of term loan depending on RBI guidelines. Under this RBI has issued a notice to all financial institutions as "COVID-19 Regulatory Package of offering moratorium on payment of installments or deferment of interest". This is done to assist their borrowers who have suffered a blow because of the coronavirus crisis. The lender also recommended their lenders repay their loans under this plan if they are in a condition to do this to reduce the costs involved with the deferment.

Also, from the study, we can say that the maximum borrowers are young age people who are aware of this moratorium and thus they are ready to avail this benefit provided by the government. The study revealed that even after announcing this relief policy most of the customers are paying their EMI monthly, some borrowers are taken a loan from those institutions which are not giving any moratorium, some are aware of the drawbacks of a moratorium of loan, and some can pay EMI from time to time. Also, most of the borrowers are found to be unaware of the debt cost associated with this moratorium scheme. From the results, we have "there is a significant difference between the opinion of males and females towards the Burden of Debt Servicing for Term Loan on account of COVID-19 Pandemic". Male and female customers/borrowers are found to perceive this relief package differently. Also,in the end, the results established that there is a significant amount of debt cost associated with the moratorium period and a borrower should be aware of this hidden cost as it might put a lot of financial burden on him if he opts to take this moratorium loan. Thus,in the end, we can conclude by stating that this moratorium scheme provided due to the COVID-19 pandemic is not mitigating the burden of debt servicing rather it is eventually increasing the burden on a borrower for their term loan.

6. Suggestions

Following are a few suggestions for customers/borrowers and financial institutions for successful implementation of this relief package of the moratorium:

For customers/borrowers:

- Customers should be aware of the fact that deferment of payment will come at a cost.
- Customers should know the pitfalls associated with the policy.
- They should pay the interest or EMI timely if they are in a position to do so.

For Financial institutions:

- Financial institutions should generate awareness among their customers about the COVID-19 relief package and the debt cost associated with it.
- They should appoint separate staff for solving and handling customer problems associated with this package.
- They should assure customers that their credit scores will not be affected for this period.

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An Analysis of States' Indebtedness in India with special reference to Rajasthan and Punjab

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Abstract

India, being a welfare federal nation, needs huge financial resources to meet the ever-soaring intensive as well as extensive activities but due to a low tax base and lack of resources to generate revenue, the successive governments have had to borrow for a long time from internal and external sources. It is especially since the 1980s that public borrowings have been increasing egregiously in this nation because of unceasing public expenditure. India's debt to GDP ratio was 47.94 per cent in 1980-81, which elevated to 68.56 per cent in 2016-17. For a long period, India has been a highly indebted nation compared to most of the emerging economies of the world. So far as the condition of states' indebtedness in this federation is concerned, in all the states, it is rising since the 1980s as the combined debt to GSDP ratio of the states was 17.90 per cent in 1980-81 and it rose to 31.79 per cent in 2003-04. The FRBM Act 2003 played some role and the ratio started declining after its implementation the trend continued till 2014-15 but it again started rising in recent years due to various reasons like growing committed expenditure, farm loan waiver schemes, and rising interest payments and it has reached to the level of one-fourth of GSDP in 2016-17. In this paper, a comparative analysis of Punjab and Rajasthan's Fiscal situation especially in terms of states' indebtedness has been made and it is found that the economy of Rajasthan is more sustainable in the context of public indebtedness whereas Punjab is on the verge of falling into the category of states, which have unsustainable debt. However, both states have failed to achieve the target of maintaining a debt-to-GSDP ratio equal to or less than 25 per cent recommended by the Fourteenth Finance Commission. On the other hand, development expenditure as per cent of GSDP has increased in the state of Rajasthan from 2001 to 2016 whereas this ratio has dropped in the case of Punjab. The non-development expenditure in both states has plunged but the ratio is high in Punjab (6.4 per cent of GSDP) as compared to Rajasthan (4.6 per cent of GSDP).

1. Introduction

India being a welfare federal nation needs a huge number of financial resources for financing revenue and capital expenditure for economic development& sometimes to meet sudden and unforeseen expenditures like war, natural calamities, etc. Among the major sources of revenue, the highly significant source of revenue for the government is taxation which for a long time has not been generating enough resources for the process of development because of lower tax buoyancy & tax elasticity, besides its lower tax base as well as tax coverage is also one of the important reasons. The Indian economy has experienced structural

shifts during the last few decades but most of the population is still dependent on agriculture and the income from agricultural land is exempted from taxes by most of the states whereas huge tax exemptions have been given to the manufacturing sector and there is lesser coverage of services sector under the tax net as the structural composition of the revenue could not be synchronized accordingly. For that reason, the method of public debt stood ineluctable. So, the government has borrowed to meet the shortage of funds (or when the current revenue is less than expenditure) from internal sources like individuals, Non-Banking Financial Institutions, Commercial Banks, and Central Bank as well as external sources like IMF and IBRD. So, the gap between revenue and expenditure has grown tremendously. In India, central government liabilities include debt contracted against the consolidated fund of India under the provision of Article 292 of the constitution.

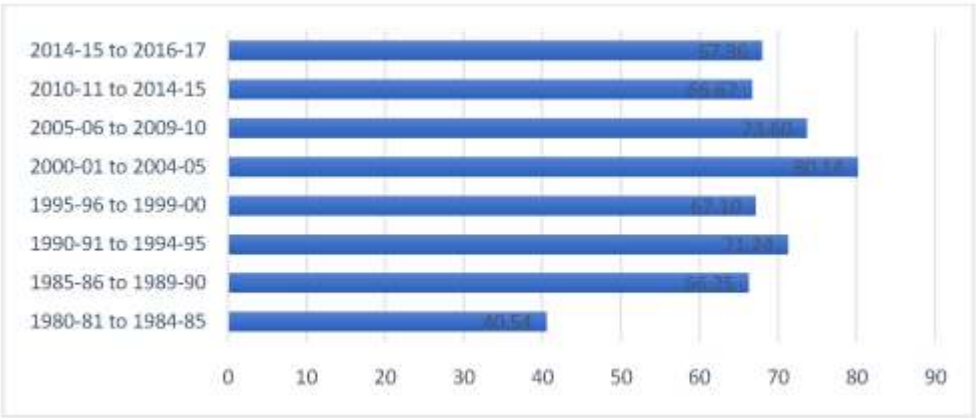
There has been a long-standing debate on public debt and whether it is felicitous for an economy or not. The economists of the late eighteenth, nineteenth, and early twentieth centuries were against the policy of public borrowing. Classical thinkers considered public spending via borrowings as unproductive and popularised the policy of a balanced budget (Singh, 1996). Neo-Classical proponents too considered government borrowings inflationary and misleading (Gupta, 2011) whereas, in Keynes' perspective, more public expenditure via borrowings by the government would help to create effective demand in a period of depression in an economy (Bilan, 2016). However, some modern public finance experts like Musgrave said that the taxes raised to service internal debt impose a burden on the economy (Mukherjee et al, 2008).Many economists believe that deficit financing can bid up real interest rates and lead to a reduction in savings and investment & slowdown capital formation and economic growth (Hyman, 2005). The study by Bal and Rath found that an increase in public debt negatively affected development expenditure and an upward trend in internal debt can push-up interest rates which may lead to crowding out of private investment & therefore negatively affect economic growth. On the other hand, a positive link between public debt and economic growth is established in the study by Mohanty and Mishra using panel data of 14 major non-special category states of India from 1980-81 to 2013-14. The study found that economic growth is significantly and positively affected by public debt & the expansionary debt policy will be helpful for the economy in generating higher economic growth. So, various studies hold different viewpoints. The pros and cons of public debt depend upon the level of borrowings and their proportion to GDP. This paper aims at finding the debt position of Indian states and to make a comparative analysis of Punjab and Rajasthan's Fiscal situation, especially in terms of states' indebtedness.

2. Public Debt in India

Public debt is mounting in India since the 1950s because of expansion in the

expenditure on defence, rural development, and basic industry and a rise in non-plan expenditure. Figure 1 shows the combined outstanding liabilities of the centre and states as per cent of GDP from 1980 onwards which embarked to increase till 1994-95 due to an increase in non-plan revenue expenditure on interest payments and subsidies. The situation again started worsening from 1999-00 and the ratio breached the highest level in 2003-04 i.e. 83.23 per cent. Kaur et al. found that period of 1997-98 to 2003-04 was a phase of sharp deterioration and fiscal stress because of the increase in contingent liabilities of states. The central government is highly indebted as compared to the states and UTs of India. In the Budget speech of 2000-01, Union Finance Minister said that if we will continue to depend upon borrowing instead of raising other resources, then another BOP crisis will occur, prospects for growth will be in danger and there will be inflationary pressure in an economy. Centre as well as the states bore the brunt of rising indebtedness till 2003-04 and 2004-05.

Figure 1: Outstanding Liabilities of Government in India (as per cent of GDP)



Source: RBI Handbook of Statistics on Indian Economy (2017)

Due to the fiscal stress faced by the nation, the government implemented the Fiscal Responsibility and Budget Management Act in 2003 to limit the growing liabilities and deficits. For that reason, the ratio started declining from 2004-05 onwards but in recent years, the combined outstanding liabilities are again escalating particularly due to the rise in the borrowings of state governments. The major reason behind this increase as mentioned in the latest RBI report isthe issuance of Uday bonds, farm loan waivers, and implementation of Pay Commission awards.

3. States' Indebtedness in India

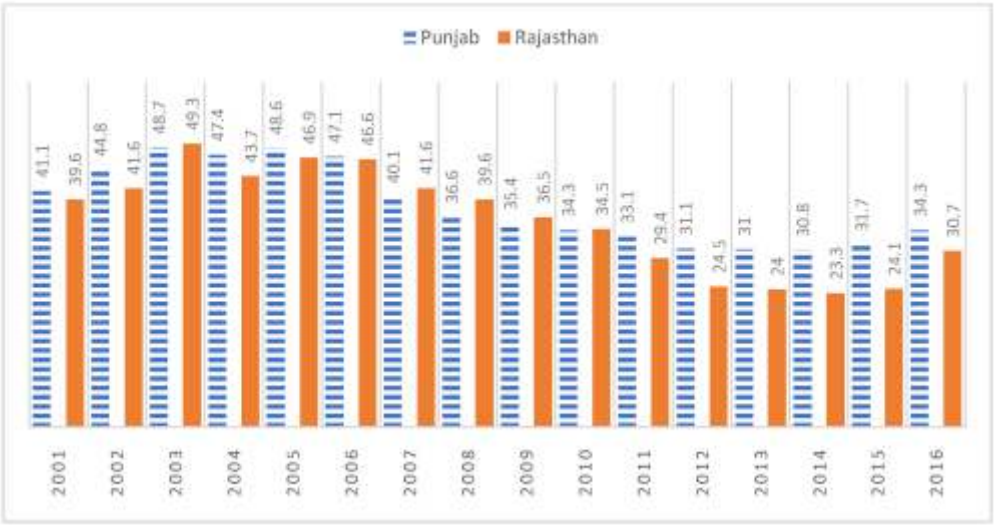
More responsibilities to the state governments in the Indian federation have led them toward fiscal imbalance. So, they resort to the borrowing method to fulfill

the imminent needs of the people as this layer of government have also spent on education, health, infrastructure, etc. States' indebtedness is rising since the 1980s as the debt to GSDP ratio of the states was 17.90 per cent in 1980-81 and it rose to the highest level 31.79 per cent in 2003-04 in India. Various debt reform schemes have been initiated by the central government to alleviate the interest and debt burden of states. To enable the states to prepay the high-cost loans through low-cost market borrowings, the Debt Swap Scheme (2002-03 to 2004-05) played an important role and the Debt Consolidation and Relief Facility(2005-06 to 2009-10) recommended by Twelfth Finance Commission also provided debt relief to the states. In 2003, the enactment of the FRBM Act made the State Governments accountable to ensure fiscal stability through the elimination of revenue deficit, sustainable public debt, and greater transparency in fiscal operations. With the measures taken under the FRBM Act, the debt to GSDP ratio dropped to 21.73 per cent in 2014-15 but it has again started rising in recent years and has reached the level of one-fourth of GSDP in 2016-17 mainly because of growing committed expenditure, farm loan waiver scheme, and rising interest payments. The implementation of the Fiscal Responsibility and Budget Management Act has ameliorated the situation of many Indian states. In 2001, the outstanding liabilities were comparatively higher and remained between 22 per cent to 72 per cent, whereas the ratio ranged from 15 per cent to 47 per cent in 2016. In the year 2001, among non-special category states, Odisha (51.0) & Jharkhand (22.6) had the highest and lowest ratio respectively. The scenario changed in 2016 as Odisha improved its fiscal position & now Punjab (34.3) and U.P. (34.4) are among the states with the highest outstanding liabilities. Because of stagnant tax revenue, the state of Haryana is relying more on borrowing, and it is also borrowing more to repay the old debts (Government of Haryana 2015) but still, its debt to GSDP ratio is lower than most of the states whereas, in Nagaland, losses held by State Public Sector Undertakings adversely effected the non-tax revenue and more spending on non-plan revenue expenditure made the state to depend on other sources like borrowings.

4. Punjab & Rajasthan States' Indebtedness : A Comparison

The debt to GSDP ratio of Punjab and Rajasthan shows a declining trend in both states after the adoption of the FRBM Act but the ratio has remained high in Punjab as compared to Rajasthan. Punjab state adopted the FRBM act in 2003 and after its adoption, the debt to GSDP ratio has started declining. However, the state of Rajasthan has implemented the act in 2005. Both states have failed to achieve the target of maintaining debt to GSDP ratio equal to or less than 25 per cent recommended by the Fourteenth Finance Commission.

Figure 2: Debt to GSDP ratio of Punjab and Rajasthan



Source: RBI State Finances- A Study of Budget (2018)

The debt to GSDP ratio has declined from 41.1 per cent in 2001 to 34.3 per cent in 2016 in Punjab. The ratio has also dropped in the case of Rajasthan from 39.6 per cent in 2000 to 30.7 per cent but it is still high in Punjab (shown in figure 2).

Table 1: Development and Non-Development Expenditure (as per cent of GSDP) in selected states

States	Development expenditure (as per cent of GSDP)		Non-Development expenditure (as per cent of GSDP)	
	2001-02	2015-16	2001-02	2015-16
Punjab	***8.8***	***8.5***	***9.6***	***6.4***
Rajasthan	***11.7***	***19.5***	***7.9***	***4.6***

Source: RBI State Finances- A Study of Budget (2004 & 2018)

More focus on developmental activities can boost the economic growth and welfare of the people and consequently balance the budgetary position. To find out the reasons for variations in growing indebtedness among states, the expenditure pattern is explored. Table 1 represents changes in the expenditure pattern as per cent of GSDP from 2001-02 to 2015-16. The state with high outstanding liabilities concomitant with low developmental expenditure is Punjab as its disbursement on development expenditure as per cent of GSDP declined by 0.3 percentage points whereas, in the state of Rajasthan, development expenditure as per cent of GSDP has increased from 11.7 per cent to 19.5 per cent. Gujarat has seen the highest decline in the ratio of development expenditure as per

cent of GSDP i.e. 5.6 percentage points followed by Goa (3.6 percentage points). On contrary, the state of Arunachal Pradesh made headway as its development expenditure as per cent of GSDP has proliferated from 4.8 per cent to 36.7 per cent. The ratio of non-developmental expenditure as per cent of GSDP has declined for almost all states excluding Nagaland. The state of India viz. Karnataka, Gujarat, and Maharashtra are spending a very low amount of their GSDP on non-developmental activities on the other hand Bihar and Nagaland have the highest share of non-development expenditure in GSDP among non-special and special category states respectively in the financial year 2015-16.

Odisha and Chhattisgarh states are spending more on developmental activities and have the lowest debt-to-GSDP ratio as compared to other states. The level of outstanding liabilities was high in Rajasthan (30.7 per cent of GSDP) and Punjab (34.3 per cent of GSDP) in 2016 but the state of Rajasthan (19.5) is utilizing more funds on the developmental areas as compared to Punjab (8.8). The end use of debt is crucial as a borrowed amount not used for productive purposes can be a matter of concern.

5. Sustainability of State's Indebtedness

Debt sustainability is considered a situation in which the debtor is capable of continuing its debt service with no unrealistically large balance correction for income and spending (Postole, 2013).Accumulation of public debt if become uncontrollable can pose a serious threat to the fiscal stability of a nation or its regions. Thus, government borrowings would have to be solvent and should not hinder the growth process of an economy or a region. In this paper, to examine the debt sustainability of Indian states, their respective growth rate of GSDP is compared with the growth rate of outstanding liabilities of governments and the growth rate of interest payments from the time period 2001 to 2016. A higher growth rate of borrowings as compared to the growth rate in GSDP shows vulnerability as it can eventually lead to or further aggravate the financial crisis. Tremendously rising public borrowings will increase the share of interest payments and debt servicing in the expenditure side of the budget leaving fewer financial resources for development purposes. So, the sustainability of public debt should be ensured by the respective state to avoid any adverse consequences in the future.

Thus, the state-wise picture regarding the growth rate of GSDP, outstanding liabilities, and interest rate is analyzed. Almost all the states of the Indian economy are sustainable in the context of public indebtedness except a few that are Haryana and Nagaland. Their Outstanding liabilities are growing at a faster pace than the GSDP which shows the alarming condition of these states. Hence, they have to be more cautious. Among non-special category states, Bihar, Odisha, and Chhattisgarh remained successful in sustaining their debt levels as these states have the highest differentials in the growth rate of outstanding liabilities

and GSDP. Odisha's outstanding liabilities grew at a very less rate i.e. 2.04 per cent and its GSDP growth rate is 8.83 per cent. Among special category states, Sikkim has the highest differential between the growth rate in GSDP and growth rate in outstanding liabilities i.e. 7.89 per cent points. Table 2 unveils that the economy of Rajasthan is more sustainable in the context of public indebtedness. States like Punjab, Andhra Pradesh, and Madhya Pradesh are on the verge of falling into the category of states which have unsustainable debt. Punjab state is facing a paucity of financial resources because of rising committed expenditure, a growing amount of power subsidies, and a recently announced farm loan waiver scheme putting additional pressure on the government. Growth in the outstanding liabilities is directly linked with the growth in interest payments as the more the government borrows, the more will be the deployment of financial resources on the interest payments and debt servicing. The state which has the highest growth rate in outstanding liabilities i.e. 11.22 per cent also has the highest interest rate growth (7.54 per cent) as compared to other states is Uttarakhand and the state with the lowest growth rate in borrowing is Maharashtra which has a negative growth rate in interest payments. After Uttarakhand, Interest payments in Haryana (6.48) and Tamil Nadu (6.27) grew at a faster pace.

The states should follow a sustainable fiscal path to avert the happening of the financial crisis. They should efficiently disburse the scanty resources and avoid the debt incurring for unproductive purposes as it will not generate enough resources to redeem the existing debtand the government has to borrow again for the same. Eventually, it will push the economy into a debt trap. So, there should be a proper examination of the use of the funds by the governments. States should keep a check on the growth of outstanding liabilities and their proportion to GSDP to maintain debt sustainability.

Table 2: Growth rate in GSDP, Outstanding Liabilities, and Interest Payments (at constant pricesin Punjab and Rajasthan

States	2001 to 2016 (in per cent)		
	Growth in GSDP	Growth in Outstanding Liabilities	Growth in Interest Payments
Punjab	6.22	5.37	2.95
Rajasthan	9.20	7.52	3.00

Source: Calculated by Researchers using the data given in the reports of RBI State Finances- A Study of Budget (2004 & 2018) and RBI Handbook of Statistics on Indian States(2017)

6. Conclusion

The states of India had been passing through a major fiscal crunch since the 1980s mainly because of rising expenditure on interest payments, salaries, pensions, and subsidies that lead to the implementation of many debt relief schemes and enactment in the legislation. With the implementation of the FRBM Act, states started curtailing their expenditure and the situation improved for almost every state till 2014-15 after that it again started rising. The debt to GSDP ratio has declined for all the states from 2001 to 2016 except for Haryana, Nagaland, and Jharkhand. The composition of liabilities of state government has seen a major change as the proportion of loans from the center declined and internal debt (particularly market borrowings) has increased in the fifteen years. The state which is disbursing the highest resources on development expenditure as compared to other states is Arunachal Pradesh in 2015-16. Development expenditure as per cent of GSDP has declined in Punjab, Maharashtra, and Karnataka and non-development expenditure as per cent of GSDP reduced from 2001 to 2016 in each state apart from Nagaland. The debt sustainability analysis founds thatthe state which is highly sustainable in the context of public indebtedness is Odisha. The states like Punjab, Andhra Pradesh, and Madhya Pradesh moving towards an unsustainable path. The states of Haryana and Nagaland are borrowing in an unsustainable manner as their growth rate in GSDP is less than the growth in outstanding liabilities. The state of Rajasthan is more sustainable and spends more on developmental activities & less on non-developmental areas as compared to Punjab state. However, both states failed to meet the target given by Fourteenth Finance Commission. So, these states should take special measures to redeem the debt burden and interest payments as early as possible and should not resort to the method of fresh borrowings to meet the non-developmental activities to escape from the situation of the unsustainability of debt and debt trap.

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The Inter relationship between the Twin Deficits in India : During UPA Regimes

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1. Introduction

It is well known that when it comes to describing the macroeconomic fundamentals of any economy, two major indicators are the *current account (im)balance* and the extent of the *budget deficit* or rather the *fiscal deficit*. The interrelationship between these two components of "twin deficits" has always received much attention both from academic researchers and policy practitioners.

Our study is confined to exploring this interlinkage between the current account deficit (CAD) and fiscal deficit (FD) in the context of the Indian economy over the last one and a half decades or so. The *twin deficit hypothesis* argues that *budget deficit causes the trade deficit* and hence in the context of an open economy these two deficits are twins[1]. It is, therefore, suspected that soaring budget deficits and deteriorating trade balances are closely and perhaps *causally* related. Since government borrowing decreases the availability of domestic supply of funds to finance new investment projects, the subsequent increase in the rate of interest will attract an inflow of funds from overseas and this will affect the current account balance due to the appreciation of the currency by adversely affecting the exports while imports will increase. Such a theoretical intuition, therefore, raises several concerns regarding the efficacy of fiscal policy; for instance, to what extent one can attribute the current trade deficit of India to her budget deficit. It is argued that an unprecedented increase in fiscal deficit is one of the major factors that can cause economic crises in the external sector. Most of the developing countries have continued to face current account imbalances and, in many cases, it has worsened; World Development Indicators (2017), World Bank.

In particular, for India, she had witnessed a massive BOP crisis in the early years of the 1990s that took the Indian economy initially into a moribund state. The twin deficits have more or less stayed at the core of macro-level policymaking. The balance of payments difficulties always had dominating nature in the macroeconomic crises of India. The crisis of 1957-58, 1965-67, 1980-81, and 1991 were all primarily the balance of payments crises. In recent times also, increasing the Current Account Deficit is the main concern **o**f policymakers. India's current account deficit was US$ 13.0 billion (1.9 per cent of GDP) in the fourth quarter Oct.-Dec. 2017, increased from US$ 2.6 billion (0.4 per cent of

1. *The Ricardian equivalence hypothesis (REH) however, contradicts the twin deficit hypothesis and claims that increase in government expenditure is absorbed by rise in private savings and thereby causing no external sector deficit, thus according to REH these two deficits are neutral and not twins. It is by now well known that the REH came under heavy attacks from empirical researchers using data from both developed and less developed countries; see for instance Ghatak and Ghatak (1996).*

GDP) in the quarter that ended with Dec. 2016, according to the preliminary data released by the Reserve Bank of India on June 13th, 2018. The very recent depreciation of the rupee accompanied bya high current account deficit has further increased India's borrowing cost from overseas. The increasing trade deficit also indicates that domestic producers are not enough competitive with the rest of the world as imported goods are being most consumed by domestic consumers. However, the bludgeoning CAD is not the only concern, but with a high fiscal deficit, it strongly affects the rupee. If we look at the trend of fiscal deficit in India it is decreasing as it was 4.1 per cent of GDP in 2014-15 and fell gradually to 3.9 per cent, to 3.5 per cent, and then to 3.2 per cent in 2015-16, 2016-17 and 2017-18, respectively.

In this report, we primarily focus on the earlier regimes of the UPA Government,i.e., UPA I [2004-2009] and UPA II [2009-2014].

1.1 Current Account Balance and Fiscal Deficit During UPA Regimes

It can be seen from Table 1 that during 2004-09 the CAD was gradually increasing: in 2004 it was 0.3 per cent of GDP and jumped up to 1.2 per cent in 2005-06 and after a minor dip in 2006-07, it increased further to 2.3 per cent of GDP in 2008-09. And for the next few years, there was no relief on India's trade deficit front as the CAD continued to increase more rapidly and it touched 4.8 per cent of GDP in 2013. Such a steady increase in CAD was mainly because of the increase in imports as in 2004 total imports of India were 16.5 per cent of GDP increased slowly but in 2013 there was a sharp increase in imports, and it has become 27.5 per cent of GDP in 2013. With the increase in imports export also increased but at a slower rate. As it increases 17.0 per cent of GDP in 2012 followed by 13.4 per cent of GDP in 2010 and 15.0 per cent of GDP in 2011. After the continued increase in 2013, there was a little reduction in exports as it has become 16.8 per cent of GDP in 2013. It is observed that manufacturing goods was a major part of India's exports, but it has declined during the subsequent years. The rise in imports was mainly due to petroleum, oil, and lubricants have been a substantial component in imports from India. On the other hand, if we focus on the fiscal performance of India, the fiscal deficit was 3.9 per cent of GDP in 2004-05, 4.0 per cent of GDP in 2005-06, and started declining afterward as it has become 2.5 per cent of GDP in 2007-08. But there was a sharp increase in the fiscal deficit of India as it came to 6.5 per cent of GDP in 2009-10 followed by 6.0 per cent of GDP in 2008-09. This sudden increase in fiscal deficit was mainly because of an increase in the revenue expenditure of the government of India as it was 11.85 per cent of GDP in 2004-05 and increased to 14.08 per cent in 2009-10, followed by 14.10 per cent of GDP in 2008-09. As a result of which, the fiscal

2. *The adoption of foreign exchange budgeting was led by the crisis of 1957-58. The main reason for the crisis of 1965-67 was two consecutive droughts because of which there was a huge increase in the imports and reduction in the exports. The World Bank and the US government pressurized the Indian government for the devaluation of the rupee because of both factors. 1980-81 again led to the devaluation of the rupee because of hike in borrowing from the IMF. See, Joshi and Little (1996, Ch.2) for details.*

deficit of India remained high hovering around 4.5 per cent to 6 per cent during 2010-11 to 2013-14.

Table1: Major Macro Economic Indicators During UPA I and UPA II

	Year	*FD* (% GDP)	*RE* (%GDP)	*Cap-Ex* (% GDP)	*CAD* (% GDP)	*Exports* (% GDP)	*Imports* (% GDP)	*Ex. Rate*
UPA I	2004-05	3.88	11.85	3.5	0.3	11.8	16.5	45.38
	2005-06	3.96	11.9	1.8	1.2	12.6	18.8	44.1
	2006-07	3.32	11.98	1.6	1	13.6	20.1	45.3
	2007-08	2.54	11.92	2.37	1.3	13.4	20.8	41.34
	2008-09	5.99	14.1	1.6	2.3	15.4	25.2	43.5
UPA II	2009-10	6.46	14.08	1.74	2.8	13.4	22	48.4
	2010-11	4.8	13.37	2.0	2.8	15	22.4	45.72
	2011-12	5.91	13.12	1.82	4.2	17	27.4	46.67
	2012-13	4.93	12.51	1.68	4.8	16.8	27.5	53.43
	2013-14	4.48	12.21	1.67	1.7	17.2	25.1	58.59

Source: Handbook of Statistics (2016-17). *RBI*

FD: Fiscal Deficit; *RE*: Revenue Expenditure; *Cap-Ex*: Capital Expenditure; *CAD*: Current Account Deficit

Joshi and Little (1996) argued that although the current account adjustment mostly blames the exchange rate policy real reason behind the worsening CAD is the mismanaged fiscal adjustments. However, if we see the case of India there are somewhat mixed pieces of evidence observed. For instance, it can be seen from Table1 that in 2005-06 there is a rise in both the fiscal deficit and the current account deficit as both rose to 3.96 per cent and 1.2 per cent respectively in 2005-06 from 3.88 per cent and 0.3 per cent respectively in 2004-05. In 2006-07 also both the deficits showed a similar trend as there is a reduction in both. But in 2007-08 there is a reduction in the fiscal deficit from 3.32 per cent in 2006-07 to 2.54 per cent in 2007-08, on the other hand, the current account deficit increased from 1.0 per cent in 2006-07 to 1.3 per cent in 2007-08. Again in 2008-09 and 2009-10, there can be seen a similar trend as both the deficit was increased, however, in 2010-11 fiscal deficit reduced to 4.8 per cent from 6.46 per cent in 2009-10 and current account deficit remained same on 2.8 per cent in both the years. In 2011-12 again both the deficits increased simultaneously but in 2012-13 fiscal deficit reduced to 4.93 per cent from 5.91 per cent in 2011-12 despite the CAD increasing to 4.8 per cent in 2012-13 from 4.2 per cent in 2011-12. In 2013-14 also both the deficit moved in the same direction but the reduction in the fiscal deficit is very mild as compared to the CAD and the reason for this can be the exchange rate of the rupee in terms of US$ also increased to 53.43 Rs. in 2012-13 from 46.67 Rs. in 2011-12.

3. *The gross fiscal deficit (GFD) is the excess of total expenditure including loans net of recovery over revenue receipts (including external grants) and non-debt capital receipts. Here total expenditure includes revenue expenditure and capital expenditure; Manual on Financial and Banking Statistics (2007), RBI.*

In the short run, macroeconomic stability is the main task for the government, but the sustainability of the fiscal deficit is the prime requirement of government in the medium and long run. Among other things, in an emerging economy like India, the Government would want to manoeuvre the trade and fiscal policies for maintaining macroeconomic stabilization in both the external and domestic sectors. And some policymakers argue that fiscal policy is the most important tool to maintain the stability of the external sector. The financial year 2015-16 has started as a new era of "cooperative federalism with shared responsibilities" in India following the recommendations of the 14th Finance Commission. The budget also indicated that govt. is on the way to reducing the fiscal deficit with the target of 3 per cent of GDP by one year, from 2016-17 to 2017-18. Govt. must be in a strong position in the future to repay the debts it is acquiring today because of the fiscal deficit. In the 1980s, the wider fiscal deficit turned into a wider current account deficit and there was very small crowding out of the private investment. But after the 1991 govt. concentrated on the reduction of both the fiscal deficit and the current account deficit as a part of the stabilization plan. In 1996-97 the fiscal deficit bottomed out but could not be sustained after it started to climb again and was at its higher point of 6.5 per cent of GDP in 2009-10. On the other hand, at that time current account deficit was very low or even there was a surplus in the current account.

In India, especially after the external crisis in the early 1990s, the twin deficit relationship came under notice at that time a large current account deficit was accompanied bya high fiscal deficit. An increase in fiscal deficit leads to an increase in income and aggregate demand because of which there is over absorption of output in the economy, and it leads to an increase in imports. On the other side financing of fiscal deficit can be done through money creation which results in the appreciation of the rupee and leads to a fall in exports and again rises in imports. In 1991-92 government adopted a macroeconomic stabilization policy to beat the crisis which was for external and internal stabilities through maintaining the external balance and fiscal balance. The rupee was devalued by 19 per cent for the credit squeeze and fiscal compression. In 1993 the rupee was made fully convertible which included a further 9.2 per cent devaluation. Today also govt. is working on the reduction in fiscal deficit as the current account deficit is increasing continuously.

Here we are trying to show the fiscal performance of UPA I from 2004 to 2009 and UPA II from 2009 to 2014. Quarterly data have been considered and we attempt to show the trends in the FD & CAD of India.

Figure 1: Fiscal Deficit During UPA I

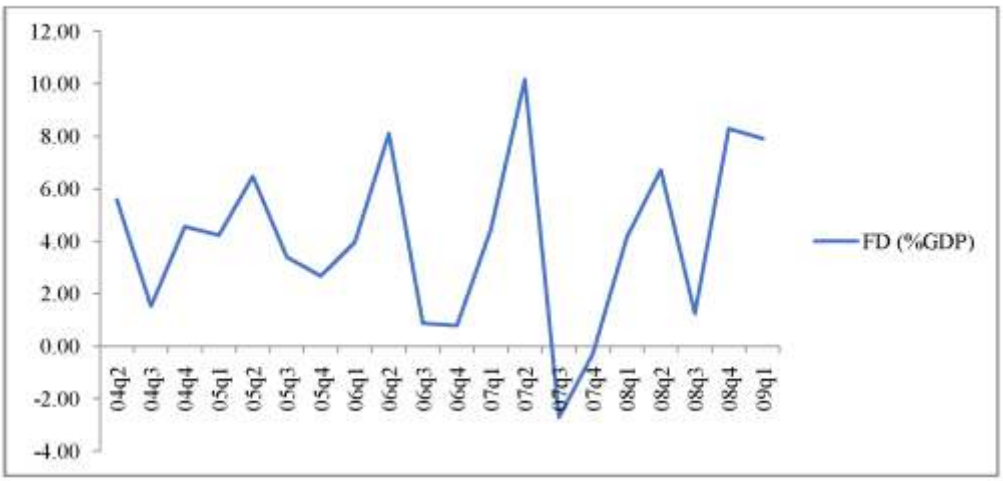


Figure 2: CAD During UPA I

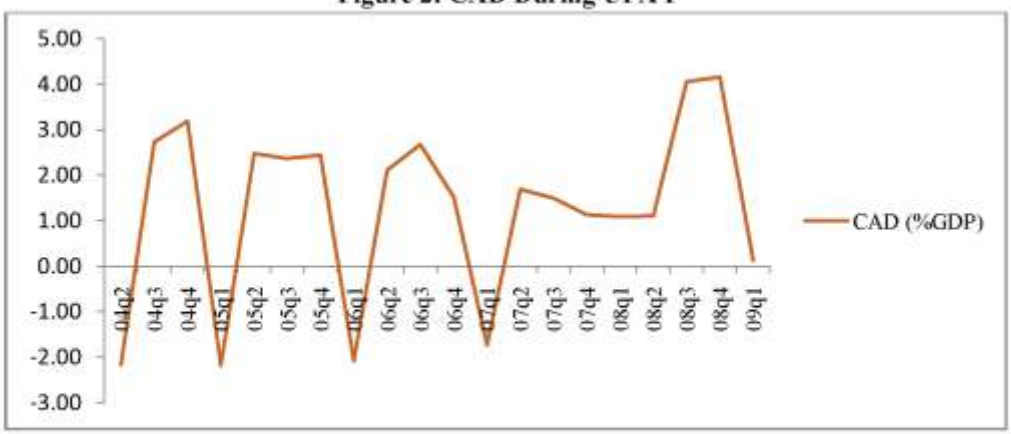


Figure 3: Fiscal Deficit During UPA II

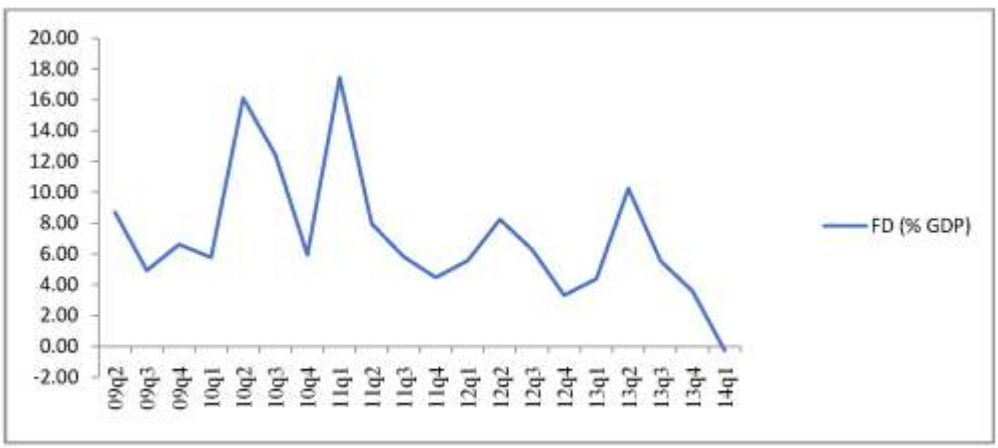
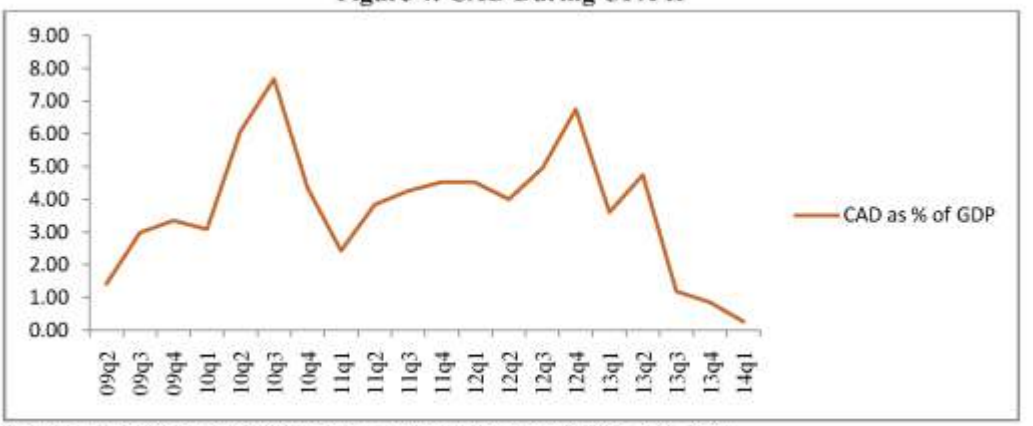


Figure 4: CAD During UPA II



Source: Handbook of Statistics on Indian Economy (2016-17), *RBI*

2. Theoretical Background

The twin deficit hypothesis, states that there is a positive relationship between BD and CAD but the Ricardian Equivalence hypothesis (REH) rejects this type of relationship. According to the Twin deficit hypothesis, BD affects CAD through two channels, directly by affecting the rate of interest and indirectly by aggregate demand (AD). The national income identity of an open economy is

$$Y = C(Y_d) + I(i) + G + (X - M) \qquad (1)$$

Notations carry their conventional meanings.

The above equation describes the composition of aggregate demand in the goods market.

By definition, $Y_d = Y + TR - TA$ (2)

Y_d is disposable income, TR is transfer payments and TA is taxes.

From (1) and (2) we eventually obtain

$$(S - I) = (G + TR - TA) + (X - M) \qquad (3)$$

(G + TR - TA) is the budget deficit and (X - M) is the trade balance (current account balance in the narrow sense).

Many macro variables which affect the two deficits are the rate of interest, exchange rate, economic growth, investment, saving, consumption, and disposable income. Based on these variables we will find if FD affects CAD or CAD affects FD or if both affect each other.

3. Literature Review

Using the data for the period 1994-2001, Mallick (2003) tried to find the relationship between both deficits in India by using VAR modelling. He found that fiscal deficit influences the current account deficit. In Nigeria Egwaikhide (1997) conducted a study on the time series data of 1973-1993. According to this

study relationship between the two deficits depends on the financing of the budget deficit and the budget can serve as an effective instrument to establish the current account balance. Examining time series data of the United States and its five largest trading partners during the period 1960-1984 Bernheim (1988) found that there is a strong positive relationship between fiscal deficit and private consumption. Basu and Datta (2005) investigated two alternative hypotheses: the Twin Deficit Hypothesis and the Ricardian Equivalence Hypothesis regarding the relationship between the budget deficit and the trade deficit. This study rejects any kind of relationship between the two deficits in India during 1985-2003.

4. Data Variables and Econometric Methods

We extracted the time series data from the Handbook of Statistics on Indian Economy, RBI (2016-17). We obtained monthly data of fiscal deficit from 2004-05 to 2013-14 and take its average over three months' time period to calculate the quarterly data since quarterly data is not explicitly available however data for CAD is available quarterly. We used quarterly data because of the high frequency as our study period is short. Unit Root Test has been used to check the stationarity of the series followed by VAR modelling and the Granger Causality Test.

5. Econometric Results Analysis

From Table 2; we can see that both variables are stationary. We also applied the same test once with the trend and once with drift, and in doing so we find that the results remain unchanged qualitatively; see Table 3 and Table 4.

Table2: ADF Unit Root Test without Trend and Drift term

	Test Statistics	1% critical value	5% critical value	10% critical value
FD	-4.579	-3.655	-2.961	-2.613
CAD	-4.245	-3.655	-2.961	-2.613

Table3: ADF Unit Root Test with Trend term

	Test Statistics	1% critical value	5% critical value	10% critical value
FD	-4.705	-4.251	-3.544	-3.206
CAD	-4.508	-4.251	-3.544	-3.206

4. *In case of India as per the RBI Handbook of Statistics 2006, "BD has lost its relevance since April 1, 1997." So we are using data of FD in this report.*

5. CAD = TB + NFI + NCT

CAD is current account deficit, TB is the Trade Balance, NFI is the Net Factor Income from abroad and NCT is the current transfers.

Table4: Unit Root Test with Drift term

	Test Statistics	1% critical value	5% critical value	10% critical value
FD	-4.579	-2.431	-1.687	-1.305
CAD	-4 245	-2.431	-1 687	-1.305

After checking the stationarity of the variables, a VAR analysis has been done to find the bi-variate Granger Causality between the FD and the CAD, the results of which can be seen in Table 5

Table5: VAR Analysis to Find Granger Causality

Hypothesis	P value	Result
FD Granger Causes CAD	0 38	Accepted
CAD Granger Causes FD	0 03	Rejected

From our VAR analysis, there is unidirectional causality between FD and CAD, CAD is influenced by FD but FD is not get affected by CAD

6. Conclusion

This study examined the effect of fiscal deficit on the current account balance in India during the period 2004-2014, the ruling period of UPA I and UPA II. Quarterly data have been considered and we attempt to show trends in the FD & CAD of India. The study is based on VAR analysis and Granger Causality Test and we have done a bivariate causality test between the FD and the CAD of India for the period of 2004-2014. Analysis of time series data for this period shows unidirectional causality from FD to CAD. The other variables like inflation, growth rate, exchange rate, and private savings also affect the relationship between the two deficits, which we are planning to consider in our further study because the twin deficits have stayed at the core of macro-level policymaking. The balance of payments difficulties always had dominating nature in macroeconomic crises and the policymakers need to find the interlinkages among major macroeconomic variables and effectively use them to reduce the twin deficit problem.

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Age of Deglobalization: Scenario, Winners, and Opportunities

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Abstract

With the recession of 2008, an era of deglobalization in terms of the flow of immigrants, capital, and trade across borders has initiated. Trade rose more than 50 per cent until the shock of the 2008 downswing turned several countries inward since the 1970s. As they start raising new tariffs and NTBs by the 100s, global trade has fallen back, and as a result of that, the whole world is worse off which was realized at the end of the day.

But as trade flows reduced, they also began to divert. China's share of world manufacturing exports recorded more than 17 per cent growth in 2014 and began to fall, particularly in cheap, labor-intensive sectors like apparel. China's loss acted as gains to those nations with the most advantageous labor and regulatory issues but unfortunately does not benefit much to India. But, through a favorable policy environment, India could materialize this deglobalization era for a job-led manufacturing sector.

This paper aims at analyzing the shifts of supply chains of global to other Asian nations and the opportunities for India amid burgeoning trade differences between two economic giants i.e. U.S. and China.

Keywords : *Deglobalization, Exports, Tech-clash, Competitive, Tariffs, Imports.*

1. Review of Literature

The consequences of the US-China trade war could lead to better trade lines between India and the U.SA US-China trade war give signals of opportunities for India's job-led manufacturing sector, although it requires a favorable policy environment to reap the same. The necessity of investment makes it relevant for India to showcase its competitive advantages with incentives.

The US-China trade war could intensify on products like soya where India has an opportunity to specialize in and enhance its production as well as processing infrastructure.

As Chinese exports to the US became more expensive due to higher tariffs, US companies would go for import alternatives from other countries, such as textiles, garments, and electronics from Vietnam. According to the General Statistics Office (GSO), Vietnam's exports to the US reached nearly $35 billion in September 2018, up by 12.5 percent from last year. In particular, exports of mobile phones and accessories increased by 46 per cent while exports of textiles, leather, and footwear increased by more than 12 percent.

2. Methodology of the Study

The study is based on secondary data. It includes available published literature such as books, journals, newspapers, and relevant government websites.

3. Scenario

Deglobalization has been a process of diminishing economic interdependence and integration between states. Consequently, the term is widely used to describe several historical periods, when the flows of foreign direct investment (FDI) and the capacity of international trade were declining due to the consequences of regional or global economic crises.

Figure 1: Trade as a per cent of Global GDP

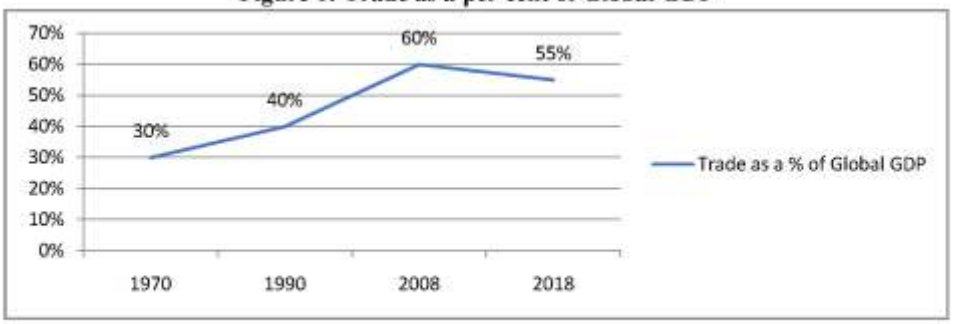


Table 1: Scenario Description

SCENARIO	SCENARIO DESCRIPTION	ADDITIONAL TARIFF RATES
1. The US imposed tariffs on Chinese steel and aluminum imports.	• *The US erects a 25% additional tariff on steel imports and 10% on aluminum.*	• *0.007% increase in Chinese manufacturing imports.*
2. China's retaliatory tariffs on selected US agriculture products.	• *With respect to 128 US export products with tariff rates of either 15% or 25%.* • *The list mainly contains agricultural products.*	• *Meat products:25%* • *Vegetables and fruits: 15%* • *Beverages and Tobacco:15%* • *Manufacturing:0.0023%*

4. Impact Assessment between US and China

Figure 2: Farmers Income V/S GDP Growth

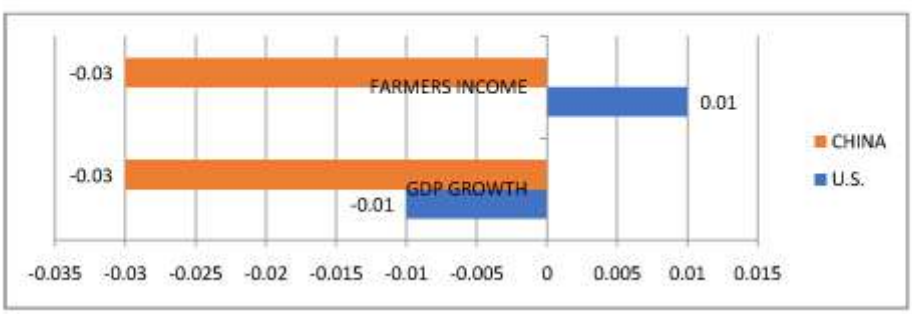


Table 2: Top 20 Tech Companies in The World

U. S.	China
11	9

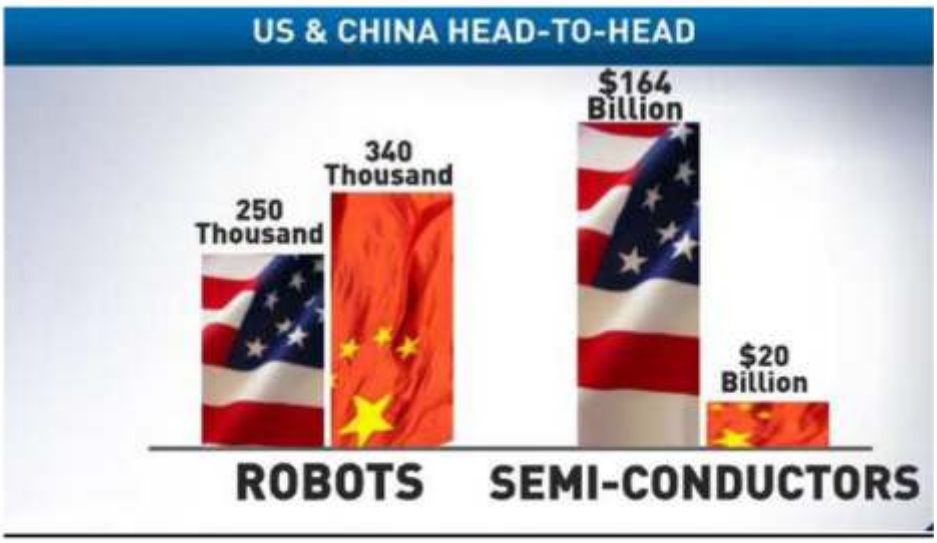
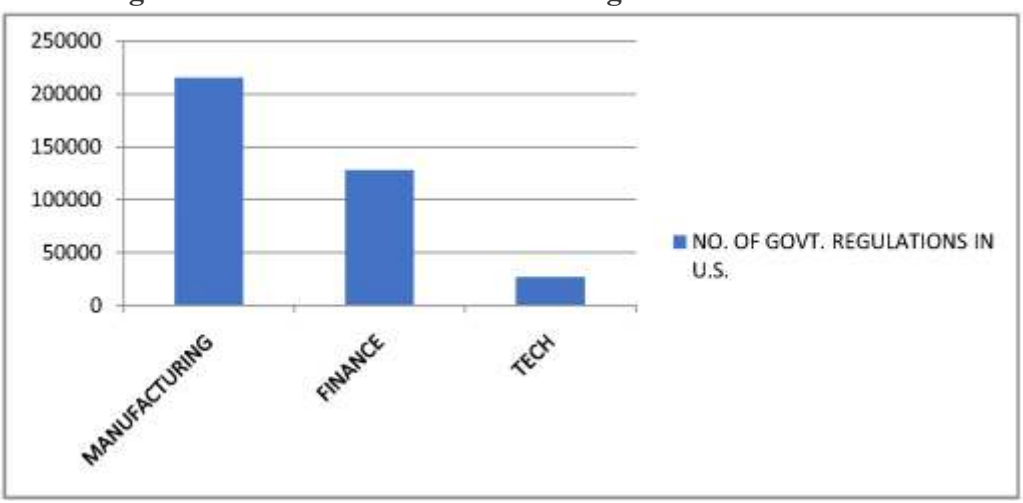


Figure 3: Number of Government Regulations in US

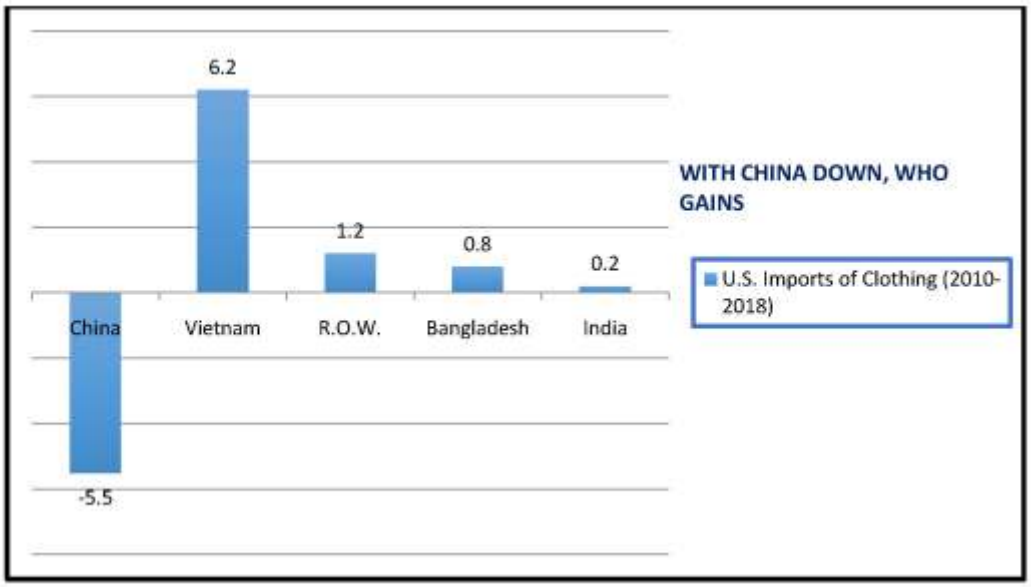


Around 2,15,000 regulations in the Manufacturing sector, while only 27000 in the technology sector.

5. Vietnam Emerged as a Key Beneficiary of the US-China Trade War

Amid the US-China trade war, Vietnam holds a slew of comparative advantages over its rivals on the grounds of competitiveness. Vietnam ranked as the No.1 manufacturing destination among 7 emerging Asian countries in the study by Natrixis SA, which includes factors like demographics, wages, and other costs as well as ease of doing business.

Figure 4: U.S. Imports of Clothing (2010-2018)

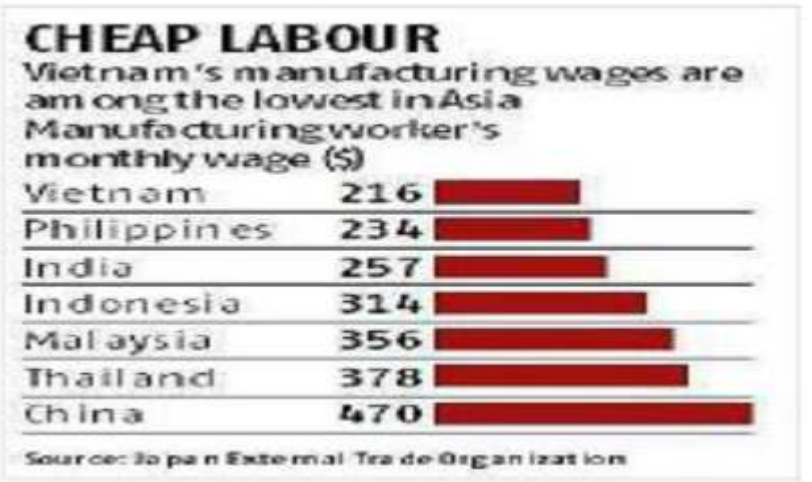


According to the General Statistics Office (GSO), Vietnam's exports to the US reached nearly $35 billion in September 2018, up by 12.5 percent from last year. In particular, exports of mobile phones and accessories increased by 46 per cent while exports of textiles, leather, and footwear increased by more than 12 percent. As global businesses divert a significant part of their production from China Vietnam could take benefit from this supply chain shift. In the last 3 years, multinational companies had already been shifting business operations to Vietnam due to the rising costs and risks of doing business in China wherein the US-China trade war raised the pace of this transformation. The advantages of the US-Vietnam Bilateral Trade Agreement (BTA), 12 established free trade agreements (FTAs), and important agreements awaiting ratification such as the EU-Vietnam FTA and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) make Vietnam winsome to multinational companies after the trade conflicts escalate, and major global manufacturers such as Intel, Foxconn, LG, and Samsung are already relocating their factories to Vietnam.

At the same time, Chinese business houses are shifting their manufacturing outputs affected by higher tariffs to partners in Vietnam. Some Chinese producers may increase investment in Vietnam or cooperate with companies in Vietnam to fulfill orders for their partners in the US market.

5.1 What makes Vietnam favourable to foreign investors:

1. Cost Efficiency: Workers in the manufacturing sectors in Vietnam are paid an average of $216 a month, less than half what their peers get in China. Govt. subsidies, electricity is also cheaper at 7US cents per kilowatt hour compared with 10cents for Indonesia and 19cents for the Philippines. It also has one of the largest labor forces in South Asia at 57.5 million.

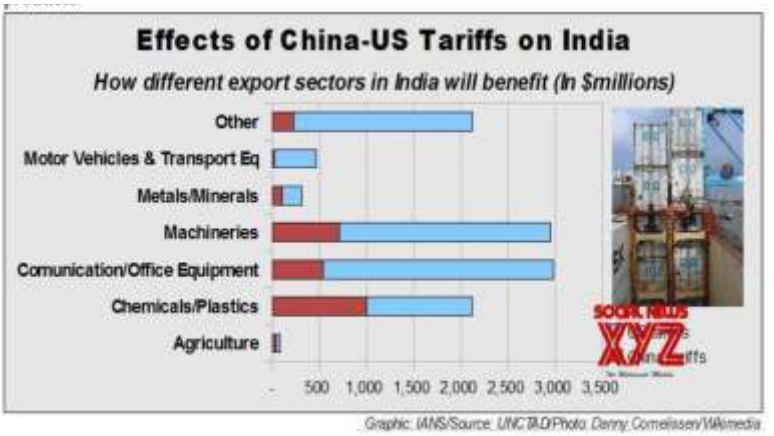


2. Rise in Foreign Investment: FDI in Vietnam is expected to be 22.50 USD Billion by the end of this quarter, while projected to trend around 27 USD Billion in 2020. FDI in Vietnam averaged 6.50 USD Billion from 1991 to 2019, **reaching an all-time high of 19.10 USD Billion in December 2018.**
3. Geography: Vietnam's adjacency to China also adds to its advantage. The two share a land border, compared with countries like Indonesia, and the Philippines which are farther away. Chinese companies which require raw materials or any other product parts from the U.S. would find a convenient and easy way out to acquire these goods via Vietnam. As China's largest trading partner in Southeast Asia Vietnam become more central in each other's production chains.
4. Stability: Vietnam boasts one of the world's fastest-growing economies, forecast to expand at about 7 per cent this year. The dong was more or less stable in 2018, compared with other currencies in Asia.

5.2 US-China Trade War Opportunities for India

1. U.S. businesses are aware of India's expanding consumption patterns and increasing integration into the global economy. As India aspires to become Asia's biggest manufacturing hub, additional investment and modern technology from foreign countries will help create jobs for its enormous workforce. The need for investment makes it relevant for India to showcase its competitive advantages and send positive signals to prospective investors. Few policy quick-fixes and a set of reforms especially labor market reforms would boost the confidence of investors who are eager to shift their manufacturing units to India.
2. As U.S. levied up to 25 per cent on $ 250 billion in Chinese supplies in two phases, which could make Indian products more competitive than Chinese in the U.S. market. The first round of higher duties on $50-billion Chinese goods has created the space for India to tap the export houses in close to three dozen items with potential annual supplies of $2.1billion.

   Similarly, in the items imposed with duty after the second round of tariffs, India has the scope to drive up exports in 135-171 items, with potential outbound shipments of $5-6.6 billion a year. These items of Chinese manufacturing units face an additional US tariff of 10 per cent up to the end of December, after which it will be raised to 25 per cent. The US is India's largest merchandise export destination, with $48 billion worth of exports in 2017-18.
3. Of the Chinese imports from the US on which Beijing has imposed extra duties in the range of 15-25 per cent, India can supply 44 items without much difficulty, because in the present context India has access to the Chinese market in these products. With the U.S. imposing an additional duty on imports worth $34 billion from China, India can focus on several goods for expanding its exports to the U.S. and China mainly pumps, parts of military aircraft, parts of electro-diagnostic apparatus, plastics, and rubber products.



Graphic: IANS/Source: UNCTAD/Photo: Danny Cornelissen/Wikimedia

4. Chemicals and plastics will be the sector benefiting most from Chinese tariffs on the US, gaining about $1 billion, while on the US side it will be communications and office equipment with a gain for India of $2.44 billion. India's machinery export is expected to go up by $2.4 billion because of US tariffs, and only $714 million because of China's tariffs. In various other areas, India's exports are likely to go up by $1.9 billion from US tariffs and $222 million because of China.

6. SOYA, where India must take an advantage

As the US producing 110 million tonnes (MT) which is almost the 2/3rd of the world's total production of soya, followed by 86 MT grown in Brazil and 53 MT in Argentina. With a production of 12.2 MT and 10.3 MT China and India be the 4th and 5th largest producers of Soya beans in the world. Although Asia is processing and consuming 2/3rd of the world's Soya beans produced, China is the biggest consumer. In the global markets, China is the world's largest processed food exporter. Presently, China has not been cropping soya beans but adding value to it where the margins are huge and the product applications almost infinite.

Focusing on the processed food market has another advantage. Unlike the US, China is reluctant to grow the GM crop (soya bean) as it involves high maintenance costs. Well, it could import GM soya beans from the US for processing. The emergence of the soya products industry also helps China control the processed food export markets while feeding its population with low-cost protein-rich food.

Soya bean imports from the US to China fell by 14 per cent,for the first time in a decade, to 5.82 million tonnes in January this year. "Thus, for Indian agriculture, Soya bean could be the win-win situation.

- *India produces GM-free soya beans, which has a suitable advantage in the global market.*
- *Soya crop requires a moderate amount of water, less than what is consumed by paddy.*
- *Soya bean isa vegetarian diet it also has huge domestic market potential.*

6.1 Indian Scenario:

- Just 30 per cent of the soya bean produced in the country is processed into milk and tofu. Worse, there is just one Indian manufacturer in the organized soy processing sector.
- India faces a high import bill to fulfil the domestic edible oil requirement.
- Policy measures of the Government are directed towards the development of the domestic crushing industry and supporting Indian farmers and do not promote the import or export of soybean

6.2 "Crude" Benefit for India

The imposition of a 25 per cent import tariff on US crude may lead to import demand by Chinese refiners. Considering India's growing demands for oil India could provide the best alternative market to China for the US. India also has due bargaining capacity in this situation and imports more crude oil and natural gas from the US at a reduced rate.

- India's import of crude oil from the US has already taken a quantum jump. During April-June 2018 US crude crossed the $450 million mark compared to $609 million in FY 2017-18.
- At the same time, India's swelling import of US crude sends a strong signal to OPEC for revisiting its 'Asia Premium' policy. India for a long time, has been arguing for more "responsible pricing" by OPEC which so far has met limited success. A subtle switching of suppliers to protect its economic, social, and diplomatic interests may send the right signals. Besides, over-dependence on a single supplier country for a long period is not in the nation's long-term interests.

7. Conclusion

History suggests that no one wins a trade war, and lessons claims for creating a more inclusive world. Unfulfilled compliances and dissatisfaction from the open economy growth strategies pursued by nations have led to a rise of protectionism and anti-globalization sentiments, leading to Brexit, and similar right-wing sentiments in other countries. India's approach to the WTO has been branded a hardliner with a "defensive strategy". India expends disproportionate energy in pursuing objectives, only to assert its position as a leader of the developing world. Has India gained as much as it has invested, or anticipated? Perhaps it's an opportune time to evaluate its past approach and perhaps change track to adopt a more cautious approach in the negotiations to create a level playing field. True, we need to enhance the competitiveness of the domestic industry and promote flagship progress, such as Make in India. Similarly, it is required to balance the interests of our trading partners, as an all-out trade war is a zero-sum game.

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Analysis of Micro Finance in India

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Abstract

Banking system is plagued by contaminated credit culture which made the institutional loans inaccessible to poor and illiterate people. Many of the rural poor without assets remained to be excluded from the formal banking system after nationalization, despite the geographic expansion of the rural banking system and a significant rise in lending by banks. The micro finance movement is an innovative idea which links group members with formal financial services. The present study attempts to assess the performance of micro finance programe, particularly the SHG Bank Linkage programmes in the six regions of India, namely the Northern Region, North Eastern Region, Eastern Region, Central Region, Western Region, and Southern Region. The study indicates a marked increase in the amount of savings made by SHGs with the banking sector and the amount of loans given to SHGs. However, agency-wise analysis of SHG savings and disbursed loans suggest that Commercial banks lead in obtaining SHG savings and disbursed loans, followed by Regional Rural Banks and Co-operative banks. Despite the impressive progress, there has been skewed growth geographically in country. There is huge regional disparity in the terms of savings of SHGs, disbursed loans, outstanding loans and non-performing assets. The performance of this programme has been incredibly well in the Southern region while the North, West and Eastern regions are lagging behind. The outreach of micro finance programme needs to be extended to cover every needy person.

Keywords : SHG-Bank Linkage Programme, NABARD, Regional disparity.

1. Introduction

Rural India, especially its farming class, remains trapped in an unbreakable debt cycle as they approach to money-lenders and sahukarin the need of money. The rural poor have highly been dependent on moneylenders as they provide hassle-free services at minimal formal guarantees but charge exorbitant interest rates. Many of the rural poor without assets remained to be excluded from the formal banking system after nationalization, despite the geographic expansion of the rural banking system and a significant rise in lending by banks. In order to understand why this was happening, NABARD employed Mysore Resettlement and Development Agency (MYRADA) to conduct an action research programme. This programme revealed gaps between the products the banking system was offering and the demands of its low-income customers.

The Self-Help Group (SHG)-Bank Linkage Programme is an initiative in India that aims to provide credit and other financial services to women in rural and semi-urban areas who are excluded from formal financial institutions. The pilot study of this programme was launched in 1992 with the aim of connecting 500 SHGs by the end of 1994. The program is implemented through a partnership between commercial banks and non-governmental organizations (NGOs) or microfinance institutions (MFIs), who facilitate the formation of SHGs and act as intermediaries between the banks and the SHGs. The program involves providing small loans to low-income individuals, typically women, who use the funds to start or expand small businesses. Shared groups that are typically economically homogeneous are created through a process of self-selection based on the shared interests of its members. Those from the lower socioeconomic groups made up the majority of SHG members. SHGs adhere to set rules and bylaws, hold regular meetings, keep accurate records, and practice good credit and savings habits. SHGs are self-managed organizations that emphasize the group decision-making and participation.

Astudy of literature on the performance evaluation of the Self-Help Group (SHG)-Bank Linkage Programme reveals that the there has been a significant change in the rural economy after its implementation since 1990s. A study conducted by the National Bank for Agriculture and Rural Development (NABARD) found that the program has contributed significantly to poverty reduction in India. The study found that the program has led to an increase in household income and asset accumulation, which has improved the standard of living of SHG members. The study also found that the program has created employment opportunities and helped in the development of local markets. Another study conducted by the International Food Policy Research Institute (IFPRI) found that the SHG-Bank Linkage Programme has a positive impact on the consumption patterns of SHG members. The study found that SHG members have increased their spending on food and healthcare, which has improved their overall health and nutrition status.

2. Methodology and Data

This study is an attempt for evaluation of progress of Savings Linked SHGs with banks in the six regions of India, namely the Central Region, Western Region, Northern Region, Eastern Region, North Eastern Region and Southern Region. The progress of SHG-Bank linkage programme has been evaluated in terms growth of savings of SHGs with banks, bank loans disbursed to SHGs and growth of SHGs linked with banks. For this, the required data has been collected from National Bank for Agriculture and Rural Development (NABARD) and analyzed by using the basic statistical techniques like percentage analysis, averages and ANOVA.

3. Analysis and Discussion

3.1 Progress of SHG Bank Linkage Programme

The growth of the SHG linkage programme was impressive, with the number of SHGs linked to banks increasing from 500 in 1994 to over 9 million in 2019. The cumulative savings balance of these SHGs was over Rs. 314 billion, and they had availed loans worth over Rs. 3.7 trillion. The SHG-BLP programme included more than 31,000 rural locations outlets of more than 500 banks by 2002, and it had a loan portfolio of more than 2,000 crore. By delivering micro credit to 116 lakh very poor households through 7.17 lakh SHGs run by more than 2,800 partners, the formal banking system had reached their doorsteps. With more than 79.60 lakh savings-linked SHGs serving over 10.3 crore poor households as of 31 March 2012, the SHGBank linkage programme has matured into a strong structure by the end of the second decade. These SHGs saved a total of 6,551.41 crore in savings. There were 43.54 lakh credit-linked SHGs participating in the programme.The total number of SHGs saving linked with banks during 2020-21 was 112.23 lakh and the amount Rs. 37477.61 crore (table 1). Out of this 97.25 lakh SHGs were exclusively for women. It is evident that around 90 percent of SHGs (table 2) have been for women under this programme. The Commercial Banks, RRBs (Regional Rural Banks), and Cooperative Banks play an important role in providing savings and credit services to Self-Help Groups (SHGs) in the SHG Bank Linkage Programme. As of March 31, 2021, Commercial Banks have the highest number of SHGs with savings accounts at over 61.28 lakh, accounting for 54.6% of SHGs saving with banks. RRBs have 35.97 lakh SHGs saving with them, accounting for 32.05% of SHGs saving with banks, while Cooperative Banks have 14.98 lakh SHGs saving with them, accounting for 13.35% of SHGs saving with banks. A significant portion of loans made and disbursed to SHGs are made by commercial banks as is evident from the table 6which lists the banks in which loans were made to SHGs and loans still owed against SHGs.

The SHG-Bank Linkage Programme provides credit to women to start or expand their businesses, which in turn generates income and creates employment opportunities. In addition to credit, the program provides financial literacy and business training to the SHG members, which helps them manage their finances and businesses effectively. The SHG linkage programme received support from the Reserve Bank of India (RBI), which provided policy guidance and encouraged banks to open savings accounts in the names of SHGs. The RBI also made it mandatory for banks to allocate a certain percentage of their lending to the priority sector, which included lending to SHGs. This helped to establish SHG linkage as a regular lending activity by banks.

Savings Linked SHGs are effective as they encourage members to save a portion of their earnings regularly, which can then be used for various purposes, including investment in small businesses, education, and health care. Apart from the financial benefits, SHGs have also been instrumental in promoting social

empowerment and gender equality. Women who were previously excluded from decision-making processes are now able to participate actively in the development of their communities. They have also been able to challenge traditional gender roles and norms, leading to greater respect for women's rights and dignity. Overall, the success of Savings Linked SHGs in the region is a testament to the power of community-based approaches to development. It highlights the importance of investing in women's empowerment and promoting gender equality as a key driver of sustainable development.The program's sustainability depends on the financial viability of the SHGs and the banks' ability to recover the loans. The SHG-Bank Linkage Programme is a demand-driven program, and the SHGs' viability depends on their ability to generate income and repay the loans. The banks' viability depends on the recovery of the loans and the profitability of the program. Several studies have examined the sustainability of the SHG-Bank Linkage Programme. It is discernible from the analysis of data that the program is financially sustainable.

3.2 Region-wise comparison of performance of SHG-Bank Linkage Programme

The Savings Linked Self-Help Groups (SHGs) with banks is an initiative in India that aims to provide financial services to women in rural and semi-urban areas. Under this program, SHGs are linked with banks, and they receive credit and other financial services to start or expand their businesses. In addition to credit, the program also emphasizes savings, and SHGs are encouraged to save regularly. However, there has huge been variation across the region in their progress. The Eastern Region of India which comprises the states of Bihar, Jharkhand, West Bengal, Odisha, and Chhattisgarh has 6.1 million Savings Linked SHGs in the region, with a total membership of over 76 million women. The SHGs in the region have saved over Rs.20,000crore (approximately USD 2.7 billion) and have taken loans worth over Rs. 78,000 crore (approximately USD 10.6 billion) from banks. The region has shown significant progress in terms of SHG formation and credit uptake. The Central Region of India comprises the states of Madhya Pradesh and Uttar Pradesh. In addition to providing financial services, the microfinance institutions in the Central Region also provide training and capacity building to their members which have helped them to improve their financial literacy and business management skills, which in turn increased the success of their businesses.However, the position of central region is not satisfactory as its share in total saving is merely 5.65 percent (table 3). In the Eastern region SHG members were able to increase their income, accumulate assets and develop of local markets to sell their products collectively, thereby increasing their bargaining power and market access. There was increase in the SHG members, particularly women, who were able to start their own businesses or find employment in the collective enterprises established by the SHGs. The program has improved the standard of living of SHG members by enabling them to invest in education, health, and housing. However, more than one third loan amount is

outstanding in the Eastern region (table 10). Overall, the Savings Linked SHG program has been successful in promoting economic and social empowerment of SHG members in the eastern region of India.

The North Eastern Region of India comprises the states of Assam, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, and Sikkim. There are over 1.1 million Savings Linked SHGs in the region, with a total membership of over 14 million women (on 31st March, 2021). The SHGs in the region have saved over Rs. 2,600 crore (approximately USD 355 million) and have taken loans worth over Rs. 9,000 crore (approximately USD 1.2 billion) from banks. The region has shown significant progress in terms of SHG formation, but credit uptake is relatively low compared to other regions. The Western Region of India comprises the states of Rajasthan, Gujarat, Maharashtra, and Goa. According to the latest data available, there are over 3.7 million Savings Linked SHGs in the region, with a total membership of over 47 million women. The SHGs in the region have saved overRs12,000 crore (approximately USD 1.6 billion) and have taken loans worth over Rs 45,000 crore (approximately USD 6.1 billion). The amount of loan outstanding has been very large.

During the 2020-21 the highest amount of credit disbursement went to the Southern Region, totaling Rs. 37860.63 crore and benefiting 13.37 lakh SHGs (self-help groups). The southern region has been a leader in the promotion of micro-entrepreneurship and small and medium-sized enterprise (SME) development. Micro-credit programs in the region have focused on providing credit and support for SMEs, particularly in the areas of agriculture, food processing, and handicrafts. The micro-credit programs in the southern region have contributed to job creation and poverty reduction in the region. This is in contrast to the Northern Region, which received the lowest disbursement of Rs. 940.45 crore, benefiting only 0.68 lakh SHGs. The Southern (-31%) and Eastern (-16.67%) regions witnessed a decrease in loan disbursement over the previous year, while the Northern, North Eastern, and Central regions registered an increase.This disparity in credit disbursement may be attributed to various factors such as regional economic activity, government policies, and the impact of the pandemic.There was a dramatic fall in credit disbursement in a many states like Chhattisgarh, West Bengal, Himachal Pradesh, Jammu & Kashmir, Andhra Pradesh, Karnataka, and Maharashtra which may be caused by the epidemic. A comparison of the credit linkage of SHGs by area during the past three years (2018-19 to 2020-21) is shown in table 5 which may be useful in identifying trends and patterns in credit disbursement and SHG development.

The study of micro finance programe reveals that there was a sharp increase in credit linkage during 2019-20, but in 2020-21, it returned to levels similar to those in 2018-19. This may be attributed to the impact of COVID lockdown. Regional variations revealed a reduction in the proportion of credit-linked SHGs in all areas excluding the Northern and North Eastern ones. The Eastern region outperformed

the Southern region in terms of the proportion of SHGs credit connected in 2020-21, despite a 4% decrease. Yet, this is because of a 10.6% fall in the latter. In the Northern, North Eastern, Central, and Western regions, the percentage of credit-linked SHGs remained below 12%.This information may be useful in identifying areas for improvement in credit disbursement and SHG development in these regions.

A glance at the table 8 reveals that the distribution of SHGs members across the country has been heavily skewed. Only 5% of SHG members are in the northern region and the almost the picture can be seen in the northern eastern region. On the other hand, the southern region has a high SHG membership rate. The performance of SHGs' savings linkage by region is shown in table 5 in terms of both absolute numbers and percentage share 2020-21.It is discernible from the table that during 2020-21, the southern area (56.82%) followed by the eastern region (20.68%) and the western region (9.98%) have the high percentage of SHGs that have savings linked to banks, while the north–eastern region (2.22%) followed by the northern region (4.65%) and the central region (5.65%), have very low share.

The central region has seen a mixed performance in micro-credit programs. The micro finance institutions in Madhya Pradesh have achieved high repayment rates; the programs have not been as effective in promoting financial inclusion and reaching the poorest communities in the state. However, there are examples of successful micro-credit programs in the region, such as the Chhattisgarh Gramin Bank's micro finance program, which has been successful in promoting entrepreneurship and improving the economic status of women in the state. Overall, the performance of micro-credit programs in India varies by region and program, with some regions seeing greater success than others. However, micro finance programs have played an important role in promoting financial inclusion, entrepreneurship, and poverty reduction in the country. The SHG-BLP programme has been instrumental for bringing the social, economic, and financial empowerment to the rural poor, particularly women. The table 2 provides the details of SHGs including those under NRLM and NULM.

Around 9.8 lakh savings-related SHGs were added during 2020-21, representing a rise of 9.5% when compared to 2.3 in 2019-20. Comparative data by region shows that during 2020-21, positive growth was observed in every region in terms of the number of SHG savings associated with banks. In comparison to the Central Area, which saw a growth of 19%, the Western Region witnessed the lowest growth of 5%.Six States/UTs-Uttarakhand, Nagaland, Chandigarh, New Delhi, Karnataka, Daman & Diu-recorded negative growth. While 19 States/UTs experienced growth rates that were higher than the national average. The strength of SHG is revealed by cumulative savings that reflects the thrift discipline among the SHG members which is essential to meet members' emergency or life-cycle demands. Savings are an important source of leverage when applying for a bank

loan or loan from another financial institution. The amount of savings still outstanding for SHGs as of March 31, 2021, grew from Rs. 26152.05 crore to an all-time high of Rs. 37477.61 crore, representing a considerable growth of 43% over the 2019-20 financial year with positive growth across all regions.

Tables 5, 6, and 7 provide comparative view of bank loans made to SHGs for the three financial years (2018-19 to 2020-21). Banks distributed a total of Rs. 58070.68 crore to 28.87 lakh SHGs in 2020–21, compared to Rs. 77659.34 crore to 31.46 lakh SHGs in 2019–20. As a result, the amount disbursed and the loans disbursed to SHGs both exhibited negative growth of 8.22% and 25.22 percent, respectively. There were 57.80 lakh SHGs with credit links to banks as of March 31, 2021 and there were loans outstanding totaling Rs. 103289.71 crore (table 10). With 72.12% of the total SHGs with loans outstanding, the Eastern area leads the Southern region, which has 64.10%. When compared to these top two locations, other regions do noticeably worse. The Southern (43.93%) and Eastern (38.06%) regions account for the majority of SHGs with loans outstanding as of March 31, 2021, while the Northern (2.48%) and North Eastern (2.84%) regions are far behind. This information may be useful in identifying areas for improvement in credit disbursement and SHG development in the Northern and North Eastern regions. Eight states, as of March 31, 2021 had a credit linkage percentage higher than the national average of 51.5%. With 85.7% of its SHGs having outstanding loans, Bihar has the highest credit linkage percentage, followed by West Bengal (85.6%) and Telangana (79.6%). The Southern states dominated the list of top-performing states, which were primarily from the Northern, Eastern, and Southern regions. The state-wise position of bank loans outstanding with SHGs as of March 31, 2021, may be useful in identifying high-performing states and best practices that could be replicated in other regions to improve credit disbursement and SHG development.

As on 31st March 2021, the non-performing assets (NPAs) under bank loans to Self-Help Groups (SHGs) were 4.73%, which is a slight decrease from 4.92% as of 31stMarch2020 (table 11) which indicates that the quality of loans provided to SHGs has improved slightly over the past year. A decrease in NPAs is seen across regions, except for the Eastern region, where it has marginally gone up. It indicates that the Eastern region is facing some challenges in managing its loans to SHGs. Additionally, the absolute level of NPAs has decreased from 5321.70 crore in 2019-20 to 4889.21 crore in 2020-21, which is a positive development. This trend is also seen in most regions, except for the North Eastern and Eastern regions. The decrease in absolute NPAs is a positive development and may indicate that efforts to improve loan quality and manage risk are paying off. The total loan outstanding under SHG-BLP for all banks was Rs. 103289.71 crore, and the Non-Performing Assets (NPAs) were at 4.73%. The NPAs for Commercial Banks have marginally increased, while they have reduced for RRBs and Cooperative Banks. Table (11)shows the agencies' comparative three-year NPA

position. The aggregate NPA for the Banks has reduced from 4.92% of loans outstanding as of March 31, 2020, to 4.73% as of March 31, 2021, a decrease of 19 basis points. The NPA position in the SHG-BLP suggests that overall NPAs have reduced across agencies, with Commercial Banks having a marginal increase in NPAs, while RRBs and Cooperative Banks have reduced their NPAs. The overall NPA for all Banks has also reduced from the previous year. The study observes that while there has been a slight improvement in the quality of loans provided to SHGs, there are still some challenges that need to be addressed in certain regions.

4. Conclusion

There is a wide regional variation in terms of savings with the banking sector, the disbursement of bank loans, outstanding loans and non-performing assets in the country. The performance of micro-credit programs in India varies by region and program, with some regions seeing greater success than others. The southern region has been a leader in the promotion of micro-entrepreneurship and small and medium-sized enterprise (SME) development. Micro-credit programs in the region have focused on providing credit and support for SMEs, particularly in the areas of agriculture, food processing, and handicrafts. Despite the growth of micro finance programs in India, accessibility remains a challenge, particularly in remote areas where the demand for credit is high. The outreach of micro finance programme needs to be extended to every needy person.

However, micro finance programs have played an important role in promoting financial inclusion, entrepreneurship, and poverty reduction in the country. By bringing women together in collective, micro-credit programs provide them with a platform to pool their resources, access credit, and engage in income-generating activities. This, in turn, leads to greater economic empowerment, as women are able to generate income and improve their standard of living. The micro-credit programs also provide women with opportunities for political empowerment, as they are able to participate in decision-making processes and advocate for their rights and interests. Through SHGs, women are able to build social networks and gain social support, which can help to improve their overall social standing and reduce social isolation. Overall, SHGs have become powerful conduits for incubating and empowering women to move from subsistence to sustainability, by providing them with the skills, resources, and support they need to become active participants in the economy and society. It is concluded that SHG linkage programme in India has been a success story, providing financial services to millions of women in rural areas and contributing to poverty reduction and women's empowerment. The programme's success depends on SHG approach, policy support from the RBI, the involvement of NGOs and MFIs, and the strong social capital that exists in rural communities.

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Appendix

Table 1: Current Scenario of SHG-BLP Highlights 2020-21

S. N.	Particulars	Total	
		Physical (No. in Lakh)	Financial (Rs. in crore)
.	Total number of SHGs saving linked with banks	1.2 23	37477.61
(i)	Out of total SHGs - exclusive Women SHGs	97.25	32,686 08
(ii)	Out of total SHGs- under NRLM/SGSY	64.78	19553.79
(iii)	Out of total SHGs -under NULM/SJSRY	5.29	1954.09
2	Total number of SHGs credit linked during the year 2020-21	28.87	58070.68
(i)	Out of total SHGs - exclusive Women SHGs	25.90	54423.13
(ii)	Out of total SHGs – under NRLM/SGSY	15.61	29643.04
(iii)	Out of total SHGs – under NULM/SJSRY	1 13	2..12.04
3	Total number of SHGs having loans outstanding as on 31 March 2021	57.80	103289.7
(i)	Out of total SHGs - exclusive Women SHGs	52.11	98596.60
(ii)	Out of total SHGs – under NRLM/SGSY	33.78	57236.62
(iii)	Out of total SHGs – under NULM/SJSRY	2.23	4056.45
4	Average loan amount outstanding/SHG as on 31 March, 2021		.78691.37
5	Average loan amount disbursed/SHG during 2020-21 (in ')		201117.96
6	Estimated number of families covered upto 31 March, 2021	1388	
7	No of Banks and Financial Institutions submitted MIS	390	
8	Data on Joint Liability Groups		
(i)	Joint Liability Group promoted during the year 2020-21	41.27	
(ii)	Loan disbursed to Joint Liability Groups (JLGs)		5831.78
(iii)	Cumulative Joint Liability Groups promoted and loans outstanding as on 31 March, 2021	133 83	2.3164.87
9	Support from NABARD		
(i)	Capacity building for partner institutions Under SHG-BLP and JLGs		
	Number of participants covered during 2020-21 (in lakh)	17.	
	Cumulativenumberofparticipantstrainedupto31March2021(inlakh)	43.17	
	Number of programmes conducted during 2020-21 (in no. only)	1156	
	Number of participants covered during 2020-21 (in lakh)	0 81	
(ii)	Refinance Support		
	Refinance to banks during 2020-21		12227.16
	Cumulative refinance released upto 31 March 2021		90821.81

Source: NABARD

Table 2: Analysis of Performance under SHG-Bank Linkage Programme

(Number in lakh/Rs. in crore)

	Particular	2018-19		2019-20		2020-21	
		No. of SHGs	Amount	No. of SHGs	Amount	No. of SHGs	Amount
SHG Savings with Banks	Total SHG Nos.	100.14 (14.52)	23324.48 (19.05)	102.43 (2.29)	26152.05 (12.12)	112.23 (9.57)	37477.61 (43.31)
	All women SHGs	85.31 (15.44)	20473.55 (17.01)	88.32 (3.53)	23320.55 (13.91)	97.25 (10.11)	32686.08 (40.16)
	Percentage of Women	85.19	7.78	86.22	89.17	86.65	87.21
	Of which NRLM/SGSY	55.8 (33.37)	12867.18 (23.32)	57.89 (3.75)	14312.7 (11.23)	64.78 (11.9)	19353.7 (35.22)
	OfwhichNRLM/SGSYGroupstoTotal	55.72	5.17	56.52	54.73	57.72	51.64
	Of which NULM/SJSRY	4.39 (3.29)	1614.42 (19.52)	4.69 (6.83)	1523.57 (-5.63)	5.29 (12.79)	1954.09 (28.26)
	of which NULM/SJSRY Groups to Total	4.38	.92	4.58	5.83	4.71	5.21
Loans Disbursedto SHGsduring theyear	TotalNo.ofSHGsextendedloans	26.98 (19.33)	58317.63 (23.59)	31.46 (16.60)	77659.35 (33.17)	28.87 (-8.23)	58070.68 (-25.22)
	All women SHGs	23.65 (13.98)	53254.04 (19.51)	28.84 (21.95)	73297.56 (37.64)	25.9 (-10.19)	54423.13 (-25.75)
	Percentage of Women Groups	87.66	91.32	91.67	94.38	89.71	93.72
	Of which NRLM/SGSY	16.49 (29.84)	33398.93 (33.30)	20.49 (24.26)	52183.73 (56.24)	15.84 (-22.69)	29643.04 (-43.19)
	Of whichNRLM/SGSYGroupstoTotal	61.12	57.27	65.13	67.20	54.87	51.05
	Of which NULM/SJSRY	1.29 (21.70)	3419.58 (41.07)	1.59 (23.26)	3406.22 (-0.39)	1.13 (-28.93)	2112.04 (-37.99)
	of which NULM/SJSRY Groups to Total	4.78	5.86	5.05	4.39	3.91	3.63
Loans Outstanding against SHGs	Total No. of SHGs linked	50.77 (1.14)	87098.15 (15.21)	56.77 (11.82)	108075.07 (24.08)	57.8 (1.81)	103289.71 (-4.43)
	No. of all Women SHGs linked	44.61 (-1.93)	79231.98 (12.54)	51.12 (14.59)	100620.71 (27.00)	53.11 (3.89)	96596.6 (-4)
	Percentage of Women SHGs	87.87	90.97	90.05	93.10	91.89	93.52
	Of which NRLM/SGSY	32.85 (17.62)	54320.91 (42.11)	36.89 (12.30)	67717.07 (24.66)	33.78 (-8.43)	57336.62 (-15.33)
	ofNRLM/SGSYGroupsto Total	64.7	62.37	64.98	62.66	58.44	55.51
	Of which NULM/SJSRY	2.25 (-22.41)	4110.73 (-23.17)	2.67 (18.67)	5466.87 (32.99)	2.23 (-16.48)	4056.45 (-25.8)
	of which NULM/SJSRY Groups to Total	4.43	4.72	4.70	5.06	3.86	3.93

Source: NABARD

Table 3: Progress of Savings Linked SHGs with Banks (2018-19 to 2020-21)

(Amount Rs. in lakh)

	2018-19		2019-20		2020-21		
Region	No. of SHGs	Savings Amount	No. of SHGs	Savings Amount	No. of SHGs	Savings Amount	% Share of saving
Northern Region	548524	62453	577122	90550	628808	174345	4.65
North Eastern Region	523465	40407	556899	48241	633714	83126	2.22
Eastern Region	2654358	601155	2811120	664332	3122424	774912	20.68
Central Region	1062759	133230	1135083	171217	1345575	211870	5.65
Western Region	1388615	205275	1475853	291889	1550176	374023	9.98
Southern Region	3825418	1286978	3689225	1470085	3681703	2129485	56.82
Total	10014243	2332448	10243323	2615205	11223400	3747761	100.00

Source: NABARD

Table4: Summary Statistics No. of SHGs and amount of savings

Method	Value	Probability
Anova F-test	8.062153	0.0118
Welch F-test*	6.898890	0.0328

* Test allows for unequal cell variances

Analysis of Variance

Source of Variation	Sum of Sq.	Mean Sq.
Between	1.01E+13	5.05E+12
Within	1.25E+13	8.32E+11
Total	2.26E+13	1.33E+12

Category Statistics

Variable	Count	Mean	Std. Dev	Std. Err. of Mean
Saving amount	6	824628.6	776702.1	317087.3
No. of SHGs	6	1870567	1373609	560879.7

	Saving Amount	No. of SHGs
Skewness	1.437886	0.594135
Kurtosis	3.487904	1.787251
Jarque-Bera	2.127029	0.720687
Probability	0.345240	0.697437

Source: Authors' own calculations

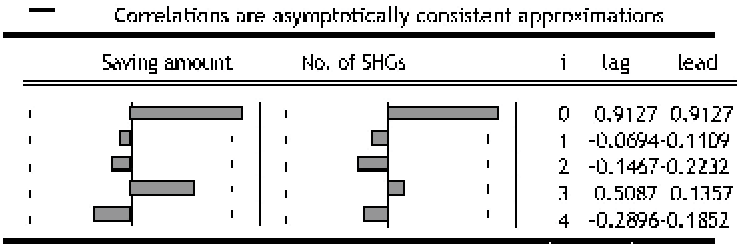

Table 5:Region-wise Status of Bank Loan Disbursed to SHGs during 2018-19 to 2020-21

(Total loan disbursed in ` Lakh/ Average loan disbursed in ` per SHG)

	2018-19			2019-20			2020-21		
	No. of SHGs	Total Loans Disbursed	Average Loan Disbursed	No. of SHGs	Total Loans Disbursed	Average Loan Disbursed	No. of SHGs	Total Loans Disbursed	Average Loan Disbursed
Northern	55922	62664	112056	62905	84694	134637	67658	94045	139001
North Eastern	27086	29001	107070	37807	57893	153128	68,116	103651	152168
Eastern	909375	1,97079	131638	1123517	1765975	156863	1124578	1487551	132276
Central	85135	72189	84805	111074	104249	93856	128617	105428	81971
Western	146674	187565	125833	174218	240327	113112	161159	230331	117921
Southern	1474208	4286256	290750	1696481	5484966	335152	1337266	3786063	283120
Total	2698400	5831763	216119	3146002	7765935	246851	2887394	5807068	201118

Table 6: Agency-wise Average savings, Loan Disbursement and Loan Outstanding (per SHG)

	Average Savings of SHGs with Banks			Average Loans distributed to SHGs by Banks			Average Outstanding Banks Loans against SHGs		
	2020-21	2019-20	Change (%)	2020-21	2019-20	Change (%)	2020-21	2019-20	Change (%)
Commercial Banks	36872	28613	28.86	191806	268646	-28.87	185768	216156	-14.06
Regional Rural Banks	26475	23947	10.43	206742	221539	-6.58	176734	163966	7.78
Cooperative Banks	35838	17767	101.71	229278	195054	17.52	143248	122622	16.82
Total	33392	25531	30.79	201118	246851	-18.53	178694	190371	-6.13

Table 7:Agency-wise Average savings, Loan Disbursement and Loan Outstanding (per SHG)

	2019-20		**2020-21**		**Growth (%)**	
	No. of Active Loans	Outstanding Balances	No. of Active Loans	Outstanding Balances	No. of Active Loans	Outstanding Balances
NBFC-MFI	356	72,110	359	79,115	0.9	9.7
Banks	303	81,001	416	1,10,122	37,1	36,0
SFB	168	38,986	163	37,724	-3.0	-3.2
NBFC	84	18,073	78	18,765	-6.7	3.8
Non-profit MFI	8	1,679	11	2,113	17,8	25,8
Total	919	211849	1028	247839	11,8%	17,0%

Table 8:Savings of SHGs with Banks - Region-wise/State-wise/Agency-wise position as on 31 March 2021

(Amount Rs. lakh)

Region		Commercial Banks		Regional Rural Banks		Cooperative Banks		Total	
	Name of the State	No. of SHGs	Savings Amount	No. of SHGs	Savings Amount	No. of SHGs	Savings Amount	No. of SHGs	Savings Amount
Central Region	Chhattisgarh	133136	24854.03	251424	24511.55	18916	2199.22	403476	51564.80
	M. P.	203837	43611.60	195147	35322.65	8168	890.41	407152	79824.66
	Uttarakhand	26248	4823.76	27746	5627.79	11665	2531.34	65659	12982.89
	Uttar Pradesh	222807	49020.81	238085	17223.49	8396	1253.12	469288	67497.42
Central Region Total		**586028**	**122310.20**	**712402**	**82685.48**	**47145**	**6874.09**	**1345575**	**211869.77**
Eastern Region	Andaman & Nicobar	1124	235.13	-	-	5815	1376.22	6939	1611.35
	Bihar	431434	103375.15	486682	46409.87	35	3.43	918151	149788.45
	Jharkhand	174457	33587.24	105463	4857.00	2261	132.88	282181	38577.12
	Odisha	438306	117710.27	277090	57324.87	94043	11141.66	809439	186176.80
	West Bengal	600569	168262.00	303819	156181.89	201326	74314.75	1105714	398758.64
Eastern Region Total:		**1645890**	**423169.79**	**1173054**	**264773.63**	**303480**	**86968.94**	**3122424**	**774912.36**
North Eastern Region	Arunachal Pradesh	3290	486.01	3507	679.71	-	-	6797	1165.72
	Assam	172102	23372.11	296269	30253.20	26499	287.35	494870	53912.66
	Manipur	8473	656.38	2729	124.09	1829	72.88	13031	853.35
	Meghalaya	5052	786.50	27980	4808.11	6921	1609.36	39953	7203.97
	Mizoram	1073	352.94	11999	1878.57	1020	142.41	14092	2373.92
	Nagaland	6733	1012.94	-	-	-	-	6733	1012.94
	Sikkim	4949	1956.46	-	-	1567	446.70	6516	2403.16
	Tripura	10687	2902.24	38164	6716.34	2871	4581.73	51722	14200.31
North Eastern Region Total		**212359**	**31525.58**	**380648**	**44460.02**	**40707**	**7140.43**	**633714**	**83126.03**
Northern Region	Chandigarh	398	65.80	-	-	50	5.59	448	71.39
	Haryana	39891	5584.11	25381	3173.72	4622	671.61	69894	9429.44
	Himachal Pradesh	21268	3133.62	11960	2216.24	27065	3059.13	60293	8408.99
	J & K	2204	199.20	3969	651.64	929	36.46	7102	887.30
	New Delhi	3305	1632.32			255	80.88	3560	1713.20
	Punjab	30737	109563.09	15283	1033.81	7962	689.53	53982	111286.43
	Rajasthan	178734	21453.29	155839	16585.91	79956	4508.85	414529	42548.05
Northern Region Total		**276537**	**141631.43**	**212432**	**23661.32**	**120839**	**9052.05**	**609808**	**174344.80**

Table 9:Savings of SHGs with Banks - Region-wise/State-wise/Agency-wise position as on 31 March 2021

(Amount `lakh)

Region	Name of the State	Commercial Banks		Regional Rural Banks		Cooperative Banks		Total	
		No. of SHGs	Savings Amount	No. of SHGs	Savings Amount	No. of SHGs	Savings Amount	No. of SHGs	Savings Amount
Southern Region	Andhra Pradesh	801848	759403.02	236758	187755.65	19447	146146.28	1058053	1093304.95
	Karnataka	309873	111243.54	209927	16746.05	265015	52503.59	784815	180493.18
	Kerala	328570	154957.14	65025	16351.46	65767	10342.25	459362	181650.85
	Lakshadweep UT	674	102.61	-	-	-	-	674	102.61
	Puducherry	19336	11407.77	6328	1214.66	1015	340.08	26679	12962.51
	Tamil Nadu	22866	90137.55	6594	451.66	83642	9926.26	03102	28515.47
	Telangana	394891	153667.41	323189	275185.98	10938	3602.23	729018	432455.62
Southern Region Total		**2478058**	**1380919.04**	**937821**	**505705.46**	**545824**	**242860.69**	**3961703**	**2129485.19**
Western Region	Daman&Diu UT	144	45.20	-	-	-	-	144	45.20
	D&NHaveliUT	1250	367.97	-	-	-	-	1250	367.97
	Goa	5558	2904.99	-	-	3874	1152.96	9432	4057.95
	Gujarat	223187	27252.91	63419	8640.52	39651	4110.20	326257	40003.63
	Maharashtra	699376	129505.89	116955	21242.02	396762	178800.56	1213093	329548.47
Western Region		**929515**	**160076.96**	**180374**	**29882.54**	**440287**	**184063.72**	**1550176**	**374023.22**
Grand (India)		**6128387**	**2259633.00**	**3596731**	**951168.45**	**1498282**	**536959.92**	**11223400**	**3747761.37**

Table 10: Region-wise Comparison ofOutstanding Loan (as on 31 March 2021)

Regions	Total number of SHGs	% Share of members	No. of SHGs having loan Outstanding	SHGs having loan Outstanding (%)	% Share of distribution
Northern Region	609808	5.43	143275	23.50	2.48
NorthEasternRegion	633714	5.65	164421	25.95	2.84
Eastern Region	3122424	27.82	2252039	72.12	38.96
Central Region	1345575	11.99	368271	27.37	6.37
Western Region	1550176	13.81	312913	20.19	5.41
Southern Region	3961703	35.30	2539325	64.10	43.93
Total	11223400	100.00	5780244	51.50	100.00

Source: NABARD

Table11: Comparison ofNPA during 2019-20 and 2020-21

	2019-20		2020-21	
Regions	Amount of Gross NPAs (` Lakh)	NPA as % to Loan Outstanding	Amount of Gross NPAs (` Lakh)	NPA as % to Loan Outstanding
Northern Region	21266.57	17.35	17133.33	3.93
N e Region	26914.18	26.08	28366.44	20.07
Eastern Region	101495.28	4.46	1.5888.80	4.47
Central Region	56812.58	25.15	5255[illegible]6	20.83
Western Region	33564.56	1..07	32913.18	20..
Southern Region	292376.97	3.76	242994.13	3.52
Total	532170,42	4,92	488921,34	4,73

Source: NABARD

Table 12: Regression Results for Northern and North Eastern Region

Variable	Coefficient	Std.Error	t-Statistic	Prob.
Loan amount	0.194337	0.047694	4.074636	0.0267*
Saving amount	0.104950	0.121780	-0.861794	0.0522*
No. of SHG received loans in the year	0.045227	0.124511	0.363236	0.0405*
Loans Disbursed in that year	0.127676	0.146364	0.872317	0.0472*
Loan amount outstanding against SHGs	-63171.66	25976.60	-2.431876	0.0132*

R-Squared	0.927570	Mean dependent var	32541.97
Adjusted R-Squared	0.830966	S.D. dependent var	24596.83
S.E.ofregression	10100.67	Akaikeinfocriterion	21.54776
Sumsquaredresid	3.061E 08	Schwarz criterion	21.59741
Loglikelihood	-81.19105	Hannan-Quinncriter.	21.21289
F-statistic	9.604799	Durbin-Watsonstat	1.350952
Prob(F-statistic)	0.046615		

Source: Authors' own calculations

Note:Dependent variable-NPA. *, ** represent the 5% and 1% significance level, respectively

Table 13:Regression Results for Easternand Central Region

Variable	Coefficient	Std.Error	t-Statistic	Prob.
Loan amount	0,182037	0,237537	0,766352	0.0445*
Saving amount	0.09265	0.14815	0.62538	0.0378*
No. of SHG received loans in the year	0,032927	0,088427	0,372364	0.0513'
Loans Disbursed in that year	0.115376	0.170876	0.675203	0.0286*
Loan amount outstanding against SHGs	514.9877	715.0432	0.720219	0.0477*

R-Squared	0.896589	Mean dependent var	32211.11
Adjusted R-Squared	0.812770	S.D. dependent var	264982.52
S.E.ofregression	10033.81	Akaikeinfocriterion	17.765533
Sumsquaredresid	3.121E107	Schwarz criterion	20.773790
Loglikelihood	-84.3456	Hannan-Quinncriter.	17.789533
F-statistic	7.345917	Durbin-Watsonstat	1.2457521
Prob(F-statistic)	0,036534		

Source: Authors' own calculations.

Note: Dependent variable- NPA. *represent the 5% significance level

Table 14: Regression Results for Western and Southern Region

Variable	Coefficient	Std.Error	t-Statistic	Prob.
Loan amount	0.296024	0.117124	2.527441	0.0172**
Saving amount	0.206637	0.127737	1.617675	0.0485*
No. of SHG received loans in the year	0.146914	0.73199	0.638277	0.0213*
Loans Disbursed in that year	0.229363	0.150463	1.524381	0.0362*
Loan amount outstanding against SHGs	645.1017	514.9228	1.252812	0.0521*

R-Squared	0.931754	Mean dependent var	341032.44
Adjusted R-Squared	0.849032	S.D. dependent var	27112.69
S.E. of regression	123633.84	Akaike info criterion	17.32468
Sum squared resid	3.24E+10	Schwarz criterion	18.697452
Log likelihood	-82.6783	Hannan-Quinn criter.	16.534234
F-statistic	6.467912	Durbin-Watson stat	1.266459
Prob(F-statistic)	0.051254		

Note:Dependent variable-NPA. *, ** represent the 5% and 1% significance level. respectively

Table 15: Correlation between NPA and other variables for the all Regions

Correlation with NPA	SHG	Saving amount	No. of SHG received loans in the year	Loans Disbursed in that year	Loan amount outstanding against SHGs
Overall (2011-14)	0.59931	0.31075	-0.24914	0.59395	0.89881
2015-18	0.99853	0.99958	0.73592	0.97150	0.92810
2019-21	-0.98409	0.05030	0.32336	0.29351	0.47346

Governance Dimensions and Growth: An Assessment of Indian States

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Abstract

The quality of Governance in different States of India have had differential impact on economic growth, Gender Empowerment, Poverty Reduction (PRT) and Social Justice, implying that there is great potential to improve Human Wellbeing (HDI), Gender Parity(GPI) and Social Equity (SEI). In this back drop, the article deals with construction of quality of governance index wrt Essential Infrastructure, Fiscal Management, Human Support, Women & Child Welfare, Social Protection Prog., Environmental Sustainability, Law & Order Index, Ease of Doing Business, Governance Effectiveness, Transparency & Accountability, E-preparedness. The article examines how the dimensions (indicators) of Governance impacts growth, Human Wellbeing, Gender Empowerment, Poverty Reduction and Social Equity. Using data of 20 states of India for the period 2016-2020, an empirical study wasted to assess the association between the CGI and the 5out come variable viz PC-NSDP, HDI, GPI, PRT and SEI.

The empirical findings confirm that higher quality of governance (CGI) wrt 12 selected governance Dimensions boosts PC-NSDP, HDI, GPI and SEI substantiality. The policy implication here is that by improving quality of various governance dimensions. States can achieve higher growth & higher Human Wellbeing. The enhanced Quality of governance also enhances Gender Parity and Social Equity.

1. Introduction

The notion of good governance should be conceptualised as 'a goal' as well as 'a process' that accelerates growth, equity and human development. According to the UNDP Report (2010), the result of good governance is development that gives priority to poor, advances the cause of women, sustains the environment and creates needed opportunity for employment and other livelihoods.

One aspect of good governance could be respect for human rights and democracy; transparency in decision making and Rule of law, another aspect of governance[1] is the elimination of corruption. As the markets do not work efficiently on their own, there is need for government to regulate the market forces & provide for of incentives compatible to market. Moreover, the ability to provide social services to build up human capital, provision of physical

1. *The factors, which lead to gradual deterioration in governance at the legislative and executive level other, interalia include, fractured polity, deficiency in the electoral system, inefficiency of the administrative apparatus and widespread corruption at the various levels of governance. At the district level, the much lamented spread of indiscipline, non-performance, un accountability and corruption have eroded the efficiency of governance at the cutting edge level.*

infrastructure and economic management are all within the framework of governance. To address these issues, this article examines various dimensions of governance.

Governance is defined primarily in terms of process, however, we need to differentiate between governance input indicators[2] and governance process indicators. Process indicators refer to the quality of governance in terms of governance effectiveness-15 achieve out comes.

Layout of the article is as follows. Section 2 deals with discourse on how to measure various governance input & governance process indicators. Section 3 deals with construction of Composite Quality of Governance which includes 12 governance Dimensions. (Both input indicators & process indicators). Section 4 makes an assessment of association between quality of governance (CGI) on the one hand, and growth, Human Development, Gender Empowerment, Poverty reduction and social Equity on the other. Finally Section 5 gives with summery with conclusions. Appendix I provides data wrt 12 governance indicators of 20 States of India during 2016-2020.

2. The status of Input and Process Indicators in Indian States:

Various studies have identified certain variables, which influence the pace and pattern of economic growth, in the following paras we have described 12 such governance indicators which affect. Human Development Index. Gender Disparity Index, and Social Equity including Poverty Reduction. We examine as to how indicators of governance input as well is process indicators have been constructed wrt to 20 States of India for the period 2016-20.

(i) Essential Infrastructure Index:

Provision of essential infrastructure including roads, power, communication and marketing mechanism enables state governments as also the Pvt. players to carryout various development works. It is seen that the states where availability of industrial infrastructure is better, they are achieving higher growth in per capita income.

Essential infrastructure index has been constructed by using 4 input indicatorsviz road length per square km, power availability per capita, supply of tape water per capita and availability of fossil fuel per capita.(See Appendix Table A6.1).

Analysis: The Leading States in Essential Infrastructure are Punjab, Haryana, Himachal, Gujarat, TN and Andhra. The below average states in essential intra structure are Odisha, Assam, Jharkhand, MP, Bihar, and Chhattisgarh. Maharashtra, Karnataka and Kerala have improved their relative position while Telangana, UP and Uttrakhand have gone down over the period.

(ii) Fiscal Management Index:

Management of the supply side of resources vastly depends on capability of the government to mobilise domestic resources. Moreover strengthening of

institutions including, those of public finance management, can help in better mobilisation of resources. Using both the Ratio of Own Tax Revenue and Debit Ratio, we have constructed fiscal management Index. (See Appendix Table A6.2).

Analysis: States like Assam, Jharkhand, and Chhattisgarh are the leading States in terms of fiscal management. States having average performance in FMI include: UP, MP, Karnataka, TN & Kerala. The poor performing States include: Himachal, Andhra, Maharashtra, Haryana, West Bengal and Gujarat.

(iii) Human Support Index:

The level of public and private investment on education and Health facilities coupled with effectiveness of utilization of these funds have been used to construct Human Support Index.(See Appendix Table A6.3).

Analysis: States like Kerala, Himachal, Punjab, Karnataka, Uttrakhand and Tamil Nadu have improved their education & Heath achievements. On the other hand, Bihar, MP, UP, Jharkhand, Chhattisgarh & Assam have remained at the bottom of the ranking, The states which have made relative improvement in their rank included Maharashtra and Bengal.

(iv) Women and child welfare Index:

Women participation in labour force, and in the public offices can enhance their empowerment and voice. Focus on development & education of child results in better skilled labour force to the economy. Improved sex ratio, literacy rate & life expediency of women also lead to higher women empowerment. The variables used to construct the index included woman's participation in managerial position and budgeting allocation for welfare of woman and children. (See Appendix Table A6.4).

Analysis: The states like Kerala, Himachal, Tamil Nadu, Assam and Andhra have maintained their leading, position. Odisha, WB, Karnataka, Chhattisgarh have improved their position. Maharashtra & Haryana have slipped down in their ranks. The states, which have remained bottom states over the period include; Jharkhand, Bihar, Rajasthan, UP, MP, Gujarat.

(v) Social Protection Index:

Programmes aimed at support to weaker sections including provision of food under PDS help in better quality of labour to economy. Similarly prog aimed at improving life of minority help in growth of skilled labour. Various state governments have launched special social protection prgrammes to strengthen / empower socially weaker sections (SC, ST & OBC) and minorities. Provisions wrt college admissions, govt. jobs and govt. have been used to arrive at social protection index. (See Appendix Table A6.5).

Analysis: The states who have maintained lead position include; West Bengal,

Kerala, Himachal and Tamil Nadu. The states who have improved their relative ranking include Uttrakhand, Odisha and Assam. Whereas the states which have slipped down in SPI index includes Karnataka, MP, Rajasthan, UP and Maharashtra. The bottom states include; Bihar, Haryana, Telangana, Punjab, Gujrat.

(vi) Environmental Sustainability Index:

Increase in forest cover, tree plantation & enhanced sources of renewable energy help in sustaining environmental balance. Control on pollution and carbon production keeps environment clean. To measure environmental sustainability, we used indicators like increase in forest cover, production of renewable energy, use of clean cooking gas and increase in air quality, (See Appendix Table A6.6).

Analysis: The states showing better environmental management include HP, TN, Karnataka, Gujarat, Kerala, Odisha and Himachal. The states where environmental depravation is alarming include; Jharkhand, Chhattisgarh, Bihar, Uttrakhand, UP. The remaining states viz Maharashtra, Andhra, Telangana, Assam, Punjab and Rajasthan are the middle ranking states.

(vii) Law and Order Index:

Lack of peace discourages private investment and in turn dampens employment prospects. Efficient implementation of various government projects becomes well-nigh impossible due to disturbed law & order. Criminal elements and Mafias extort money from contractors, which increases project costs and erodes quality of projects.

We have used; (i) Ratio of violent crimes as percentage of total IPC crimes (ii) no of policeman per lac population (iii) charge sheeting ratio and (iv)conviction rate to measure law & order quality.(See Appendix Table A6.7).

Analysis: TN, Himachal, Gujarat and Punjab are the leading states on the other hand states with poor LOI are Haryana, Jharkhand, Odisha, MP, UP, and Assam. The states which have improved their LOI include, Maharashtra, Andhra, Karnataka and Rajasthan. States like Bihar, Jharkhand, Assam, Haryana, UP, Odisha, Telangana, have shown poor maintenance of low and order.

(viii) Delivery of Justice Index:

Quick disposal of litigations, and fair delivery of justice, pendency of cases and no of judicial officers have been used to construct justice delivery index. (See Appendix Table A6.8)

Analysis: The States having better delivery of justice include Kerala, Tamil Nadu, Uttrakhand, Himachal, Haryana, and Chhattisgarh. The States with poor delivery of justice include Bihar, Orissa, West Bengal, Andhra, Telangana, UP, Karnataka and Jharkhand. States having shown improvement in DJI ranking, are Gujarat, Rajasthan, Punjab and Assam.

(ix) Ease of Doing Business (Economic Freedom Index) :

Prompt clearance of investment projects and efficient distribution of scarce resources can help private sector to set up new units promptly.

Private investors get motivated to take risk into new venture provided ease of doing business and economic freedom is available in adequate measure. Simplification of industrialization process hastens the process of economic growth. To construct economic freedom index, we used indicators like ease of doing business Index, simplification of clearance process and easy grant of credit system by the Banks. (See Appendix Table A6.9).

Analysis: The states where the Ease of Doing Business is better include, Gujarat, Maharashtra, Andhra, Telangana, Tamil Nadu and Rajasthan.

The states which are trying to improve include; Karnataka,UP, Haryana. The states which are consistently low in economic freedom Index are; Bihar, Assam, Uttrakhand, Kerala, Himachal, Odisha, Jharkhand, Chhattisgarh & WB.

(x) Governance Effectiveness Index:

Performance of various States in terms of implementation of various Programmes is assessed by the Ministry of Statistics and Programme Implementation (MoSPI). Overall indexing of the States took into account, both Monthly Progress Report and Annual Review Report. After preparing the scorecard of performance, various States are ranked according to the performance. (See Appendix Table A6.10).

Analysis: Firstly, States like Telangana, Gujarat, Tamil Nadu Punjab, Haryana, Himachal, Karnataka and Andhra Pradesh have consistently maintained their good performance position. Secondly, States like Uttrakhand, Maharashtra, Andhra Pradesh, Rajasthan, Karnataka, and Kerala have been maintaining status of Potential-Performers. Thirdly, low performers including Bihar, West Bengal, Jharkhand, UP, Assam, Orissa, Chhattisgarh & MP.

(xi) Transparency & Accountability Index:

Clear and accessible rules help in making government agencies transparent and accountable. The anti-corruption programmes include, civil service reforms, strengthening the institutions and transparency, formulating ways to monitor corruption and prevention of corruption in government financed projects. Based on various Corruption Studies, we have ranked Indian States. (See Appendix Table A6.11).

Analysis: The states which have consistently maintained lead position in controlling corruption are Karnataka, Chhattisgarh, Maharashtra, and UP. The States which have improved their ranking and have emerged as better states are Tamil Nadu, Haryana, Rajasthan, Andhra and Telangana. The bottom states Uttrakhand, Odisha, Gujarat, Bihar, MP, Jharkhand and West Bengal.

(xii) E-Preparedness Index:

RTI Act passed in 2005 has become a potential tool in the hands of vulnerable sections of society, to secure their rights. Citizens charter promulgated by the union govt. and implemented by the state government has also improved delivery of services.

The Social Accounting Matrix (SAM) apart from being output multipliers, it also works as income multiplier. With the help of income multipliers, we can derive the differential impacts of increase in production at factor cost on different factor services. In addition we used indicators like availability of telephones and internet per lac population and spread of ATMs and digitalized Bank Branches to Measure e-preparedness index.(See Appendix Table A6.12).

Analysis: The States like Kerala, Punjab, Andhra Pradesh, Karnataka, Tamil Nadu and Telangana have remained leaders, States like Gujrat, Haryana, and Odisha and Himachal and have shown improvement. The bottom states with poor– E-preparedness level include, Bihar, West Bengal, Jharkhand. MP, Chhattisgarh and Assam.

3. Composite Quality of Governance Index (CGI)

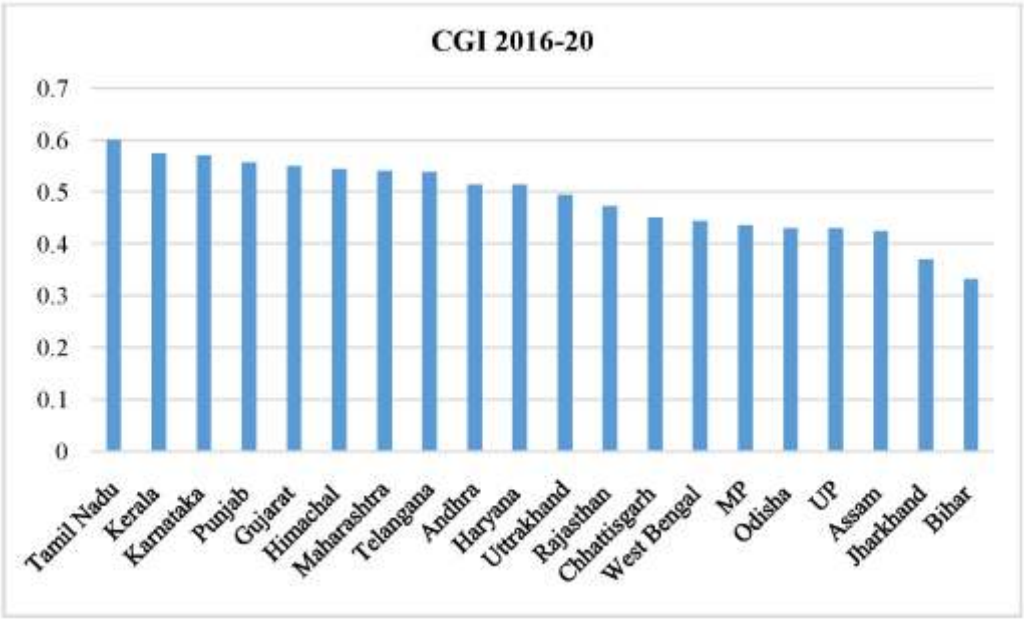
Composite Quality of Governance Index has been constructed by taking simple average of all the 12 governance indicators listed earlier. These 12 governance parameters include both input indicators and the process indicators.Finally the states (20) have been ranked on the basis of average of 5 years (2016-2020).

Table 6.1: Composite Quality of Governance Index (2016-2020)

State	2016	2017	2018	2019	2020	Average	Average Rank
Tamil Nadu	0.54 (1)	0.58 (1)	0.60 (1)	0.63 (1)	0.65 (1)	0.600	1
Kerala	0.53 (2)	0.56 (2)	0.57 (2)	0.59 (3)	0.62 (3)	0.574	2
Karnataka	0.52 (3)	0.55 (3)	0.56 (3)	0.60 (2)	0.62 (2)	0.570	3
Punjab	0.52 (4)	0.54 (4)	0.55 (4)	0.57 (4)	0.60 (4)	0.556	4
Gujarat	0.49 (5)	0.54 (5)	0.55 (5)	0.57 (5)	0.60 (5)	0.550	5
Himachal	0.49 (6)	0.52 (6)	0.54 (7)	0.57 (6)	0.60 (6)	0.544	6
Maharashtra	0.49 (7)	0.52 (7)	0.54 (8)	0.56 (8)	0.59 (8)	0.540	7
Telangana	0.48 (8)	0.50 (8)	0.55 (6)	0.56 (7)	0.60 (7)	0.538	8
Andhra	0.47 (9)	0.49 (9)	0.51 (9)	0.53 (10)	0.57 (10)	0.514	9
Haryana	0.46 (10)	0.49 (10)	0.51 (10)	0.54 (9)	0.57 (9)	0.514	10
Uttrakhand	0.45 (11)	0.49 (11)	0.49 (11)	0.51 (11)	0.53 (11)	0.494	11
Rajasthan	0.42 (12)	0.46 (12)	0.47 (12)	0.49 (12)	0.52 (12)	0.472	12
Chhattisgarh	0.41 (14)	0.43 (14)	0.45 (13)	0.47 (13)	0.49 (13)	0.450	13
West Bengal	0.42 (13)	0.43 (13)	0.43 (14)	0.46 (14)	0.48 (14)	0.444	14
MP	0.40 (15)	0.43 (15)	0.43 (15)	0.45 (15)	0.47 (16)	0.436	15
Odisha	0.39 (16)	0.42 (16)	0.42 (17)	0.44 (18)	0.48 (15)	0.430	16
UP	0.39 (17)	0.42 (17)	0.42 (18)	0.45 (16)	0.47 (17)	0.430	17
Assam	0.38 (18)	0.40 (18)	0.43 (16)	0.44 (17)	0.47 (18)	0.424	18
Jharkhand	0.34 (19)	0.35 (19)	0.37 (19)	0.38 (19)	0.41 (19)	0.370	19
Bihar	0.31 (20)	0.32 (20)	0.33 (20)	0.34 (20)	0.36 (20)	0.332	20

Source: Calculation of scholar based on 12 governance indicators listed above.

Figure 6.1: Interstate Comparison of CGI level (Average -2016-20



Source: Scholar's work based on data in table 6.1 above.

Analysis: An analysis of 5 yearly average based ranks over the period, 2016-2020,suggest that the better governed states who have maintained their high ranking(rank 1 to 7) viz; in the CGI, including 7 states TN, Kerala, Karnataka, Punjab, Gujarat, Himachal and Maharashtra.

On the other hand the bottom 8 states in the aver all governance ranking are Bihar, Jharkhand, Assam, UP, Odisha, MP, Chhattisgarh &West Bengal. Telangana, Andhra, Haryana. Uttrakhand and Rajasthan have shown fluctuating ranking during the period 2016-2020 and are bye and large middle ranking states.

4. Association between Governance and Growth, Human Development, Gender Empowerment, Poverty and Equity

The governance affects growth, human development, gender empowerment, poverty level and social equity level. Table 6.1 shows a variety of such patterns among the states of India. The five patterns of association studied are:

(I) Association between CGI and PC-NSDP

(ii) Association between CGI and Human Development

(iii) Association between CGI and Gender Empowerment

(iv) Association between CGI and Poverty Level.

(v) Association between CGI and Social Equity

Table 6.2 below gives interstate Ranks (average of 2016-2021) of States with respect to their CGI & PCNSDP, HDI, GPI, PRI and EQI respectively.

Table 6.2: Interstate Ranking of States in CGI, HDI, GPI PRI and EQI (2016-20 Average)

State	CGI & PCNSDP	CGI & HDI	CGI & GPI	CGI & PRI	CGI & EQI
Tamil Nadu	(1) (6)	(1) (6)	(1) (4)	(1) (6)	(1) (3)
Kerala	(2) (5)	(2) (1)	(2) (2)	(2) (1)	(2) (1)
Karnataka	(3) (3)	(3) (5)	(3) (6)	(3) (13)	(3) (9)
Punjab	(4) (8)	(4) (8)	(4) (5)	(4) (3)	(4) (4)
Gujarat	(5) (2)	(5) (7)	(5) (15)	(5) (9)	(5) (13)
Himachal	(6) (7)	(6) (3)	(6) (1)	(6) (2)	(6) (2)
Maharashtra	(7) (4)	(7) (4)	(7) (7)	(7) (10)	(7) (12)
Telangana	(8) (11)	(8) (13)	(8) (9)	(8) (11)	(8) (5)
Andhra	(9) (1)	(9) (9)	(9) (10)	(9) (5)	(9) (6)
Haryana	(10) (10)	(10) (10)	(10) (8)	(10) (4)	(10) (11)
Uttrakhand	(11) (9)	(11) (2)	(11) (3)	(11) (7)	(11) (7)
Rajasthan	(12) (13)	(12) (12)	(12) (14)	(12) (8)	(12) (15)
Chhattisgarh	(13) (14)	(13) (18)	(13) (11)	(13) (20)	(13) (20)
West Bengal	(14) (15)	(14) (11)	(14) (13)	(14) (12)	(14) (10)
MP	(15) (17)	(15) (19)	(15) (19)	(15) (15)	(15) (18)
Odisha	(16) (12)	(16) (16)	(16) (16)	(16) (17)	(16) (14)
UP	(17) (16)	(17) (20)	(17) (20)	(17) (14)	(17) (8)
Assam	(18) (18)	(18) (14)	(18) (12)	(18) (16)	(18) (16)
Jharkhand	(19) (19)	(19) (15)	(19) (18)	(19) (19)	(19) (19)
Bihar	(20) (20)	(20) (17)	(20) (17)	(20) (18)	(20) (17)

For the purpose of analysis of the pattern of association, we examine here five types of associations.

4.1 Association between Quality of Governance (CQI) & Growth (PC-NSDP)

As regards the association between CGI and PC-NSDP (see table 6.2 & figure 6.2) the following patterns are discernible. States like Maharashtra, Karnataka, Punjab, Kerala, Gujrat, Himachal, Haryana and Tamil Nadu fall in the High-high category, as the ranks in these two parameters are between 1st and 8th. The states of Telangana, Andhra Pradesh, Uttrakhand, Rajasthan fall in middle – middle category, whose ranks in CGI and PC-NSDP are between 9th to 12th. The states of Madhya Pradesh, Uttar Pradesh, Bihar and Chhatisgarh, West Bengal, Assam, Jharkhand, Bihar and Orissa fall in the Low-Low category. As their ranks in these two parameters range between 13th and 20th rank.

Figure 6.2: Relationship between PC NSDP and CGI (2016-2020)

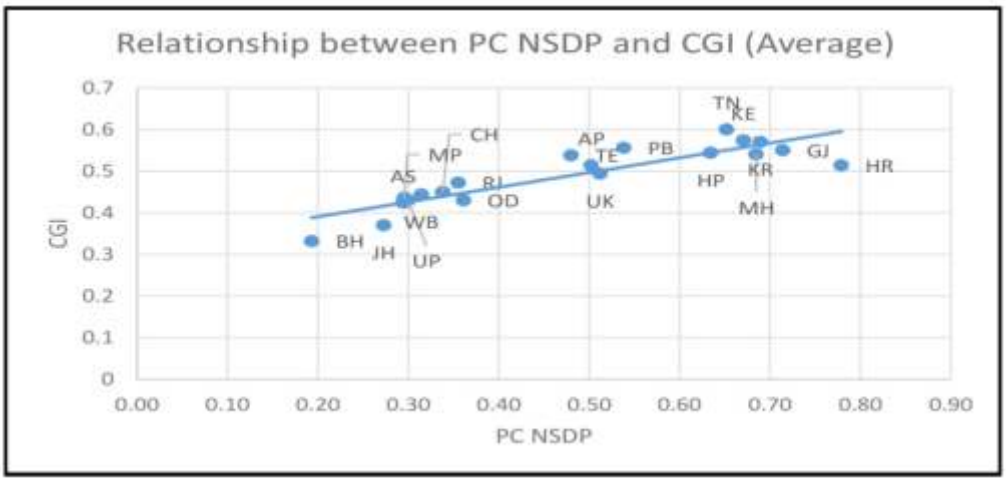


Table 6.3 Performance Matrix - CGI and HDI

	High CGI	Medium CGI	Low CGI
High HDI	Tamil Nadu, Kerala, Karnataka, Himachal, Punjab	-	-
Medium HDI	-	Telangana, Haryana, Andhra, Rajasthan, W.Bengal, Maharashtra, Uttrakhand,Gujarat	-
Low HDI	-	-	Assam, MP, Odisha, Jharkhand, Bihar, UP, Chhattisgarh

Exception cases are of Gujarat, Punjab and Chhattisgarh, Gujarat has high level of CGI but middle level of HDI, same way Punjab has high level of CGI but middle rank is HDI. Reverse case is of Chhattisgarh where HDI level is lower than CGI is level.

4.3 Association between Quality of Governance and Gender Empowerment (GPI)

As regards the association between level of CGI and GPI (see Table 6.2 and figure 6.3) following patterns are discernible. The states of Kerala, TN, Karnataka, Punjab& Himachal are in the High-High category as their ranks in CGI and GPI lies between 1st and 6th rank. The states of Maharashtra, Telangana, Andhra, Haryana, Rajasthan and Chhatisgarh are in the Middle-Middle category. Their

ranks in these two parameters fall in the range of 6th to 14th. The states of Madhya Pradesh, Uttar Pradesh, Bihar, Orissa, Assam, Jharkhand and West Bengal fall in the low-low category as their ranks fall in the range of 13th to 20th rank.

The exception to above pattern, are Gujarat, Himachal & Uttrakhand. Strange enough, Gujarat despite being high ranker in CGI has low GPI. Himachal, though middle ranking in CGI is the top ranker in GPI. Uttrakhand though low in CGI, has high GPI.

Figure 6.3: Association between CGI and GPI (2016-2020)

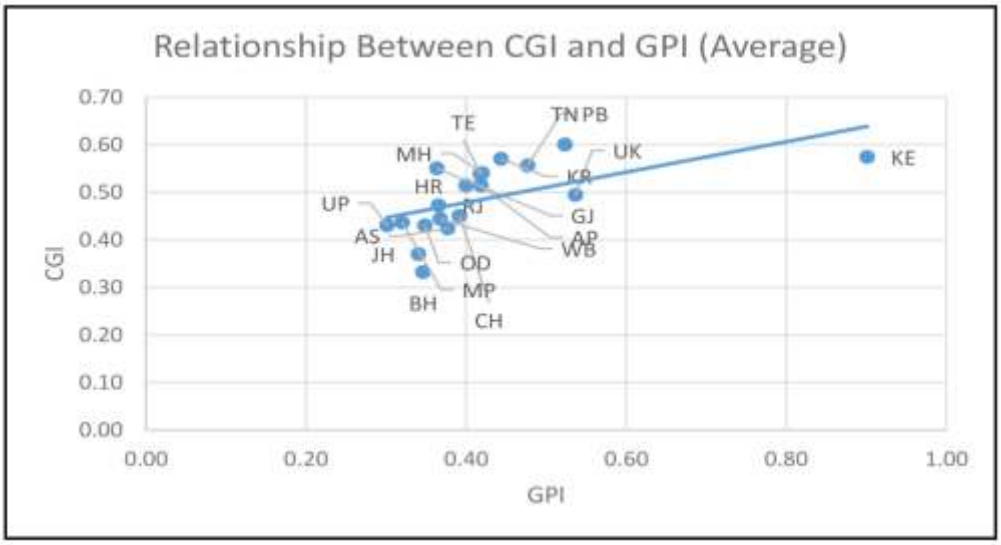


Table 6.4: Performance Matrix - CGI and GPI

	High CGI	Medium CGI	Low CGI
High GPI	Tamil Nadu, Kerala,Karnataka, Punjab	Himachal	Uttrakhand
Medium GPI	-	Maharashtra,Telangana, Andhra, Haryana, Rajasthan,Chhattisgarh	-
Low GPI	Gujarat	-	Assam, MP, Odisha, UP,Jharkhand,Bihar, W. Bengal

4.4 Association between Quality of Governance (CGI) and Poverty Index (PRI)

Analysis of Table 6.2 and figure 6.4 reflecting association between quality of governance (CGI) and Poverty Index (PRI) displays following pattern.

The states high in governance quality as also grater poverty reduction (high PRI means low poverty head count) include Kerala, Tamil Nadu, Himachal and Punjab these states rank between 1st and 6th in CGI and PRI ranks.

The middle rankers in CGI as also the PRI include Gujarat, Karnataka, Telangana and Maharashtra. Though there is variation in the ranks of two parameters Gujarat is high in CGI (5th) but relatively low (9th) in PRI. Karnataka pretty high in CGI (3rd rank) is low is PRI.Same way Maharashtra is high in CGI (7th rank) but low in PRI (10th rank). The states low –low in both CGI and PRI include Chhattisgarh, West Bengal, MP, UP, Odisha, Assam, Jharkhand and Bihar. Their ranks in both the parameters are between 13th and 20th.

The states exception to above pattern are Rajasthan, Uttrakhand, Haryana, Telangana, Maharashtra. Telangana has high CGI but low PRI, where as reverse case is of Andhra, Haryana, Uttrakhand and Rajasthan where CGI rank is low but PRI rank is high.

Figure 6.4: Association of CGI & Poverty Index (2016-2020)

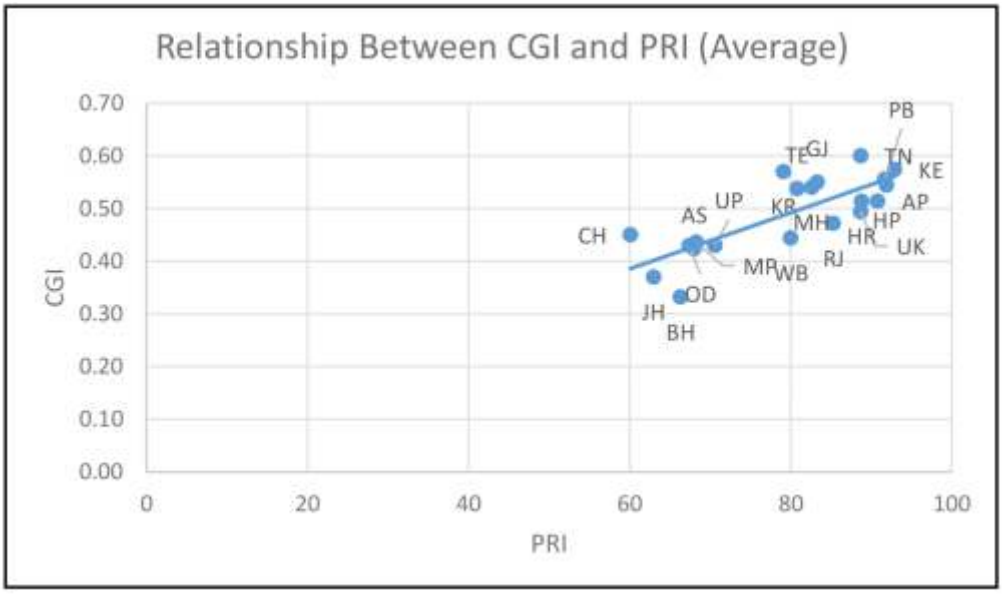


Table 6.5: Performance Matrix - CGI and Poverty Index

	High CGI	Medium CGI	Low CGI
High PRI	Tamil Nadu, Kerala, Punjab, Himachal	-	Andhra, Haryana, Uttrakhand, Rajasthan
Medium PRI	Karnataka, Gujarat	Maharashtra, Telangana,	-
Low PRI	-	-	Chattisgarh, Assam, MP, UP, Odisha, UP, Jharkhand,Bihar, West Bengal

4.5 Association between Quality of Governance (CQI) and the Inequality (EQI)

An analysis of Table 6.2 & figure 6.5, wrt the association between quality of governance (CGI) and the equity level (EQI) has following patterns:-

The states of Tamil Nadu, Kerala, Punjab, Himachal are in High category where ranks in the parameters are between first and fourth. The states of Telangana, Haryana and Uttrakhand rank Middle - Middle in both parameters, where ranks are between 6th to 11th.

The states with Low-Low category are Chhattisgarh, MP, UP, Odisha, Assam, Jharkhand, Bihar where ranks in two parameters are between 13th to 20th.

The states exception to above pattern, are Gujrat (High in CGI but low in EQI), Maharashtra (high in CGI but low in EQI), Andhra (high in CGI but low in EQI), the reverse case is of Uttrakhand (low in CGI but middle in EQI) Telangana (low in CGI but high in EQI).

UP is another exception state where CGI is low but EQI is high.

Figure 6.5: Association of CGI and EQI (2016-2020)

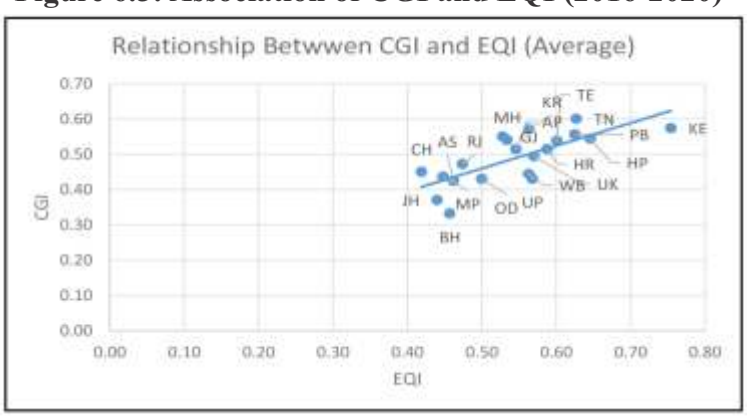


Table 6.5: Performance Matrix - CGI and EQI

	High CGI	Medium CGI	Low CGI
High EQI	Tamil Nadu, Kerala, Punjab, Himachal	Telangana, Haryana, Uttrakhand	Uttrakhand
Medium EQI	Gujarat, Karnataka, Maharashtra, Andhra	West Bengal	UP, Odisha
Low EQI	-	Rajasthan, Chhattisgarh	MP, Jharkhand, Bihar, Assam

5. Summary and Conclusions:

Good governance in all its aspects; including Rule of Law, efficiency and accountability of public sector & tackling of corruption are key to the economic efficiency and growth. Improved management of public resources through sound public distribution system, effective administrative procedures, transparent regulatory environment etc; all lead to economic efficiency.

An analysis of Composite Quality of Governance (CGI) shows that the States who have not only improved their individual level of governance but have also maintained the lead position include TN, Kerala, Karnataka, Punjab, Haryana, Gujrat and H.P. The States in middle ranking category include; Maharashtra, AP, Telangana, Uttrakhand and Rajasthan. The states in bottom ranking include; Bihar, Jharkhand, Assam, UP. Odisha, MP. WB & Chhattisgarh.

An analysis of relation ship between the Composite Quality of Governance (CGI) on the one hand & PC-NSDP, HDI, GPI, & SEI suggest that the states with improved Quality of Governance achieve higher growth in both PC-NSDP & HDI. The same way higher Gender Parity & higher Social Equity can be achieved through improving Quality of Governance, though there are exception to it.

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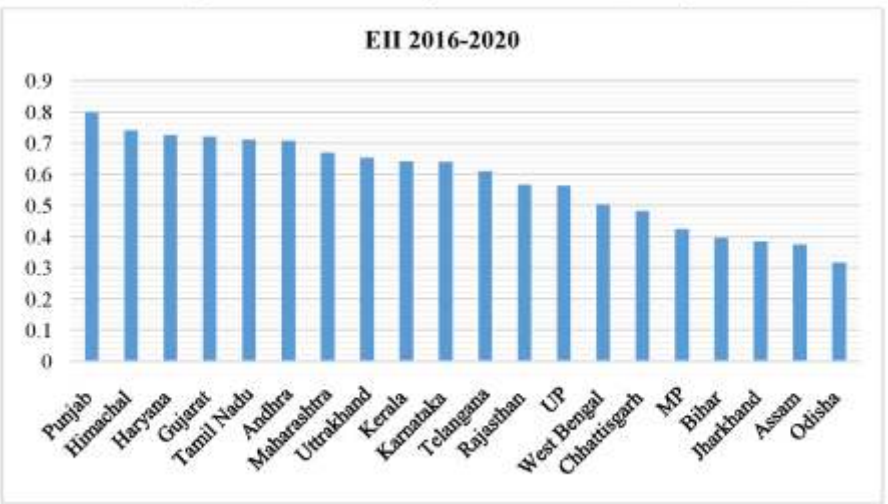
Appendix

Table A6.1: Trends in Essential Infrastructure Index (2016-2020)

State	2016	2017	2018	2019	2020	Average	Average Rank
Punjab	0.711 (1)	0.782 (1)	0.771 (1)	0.846 (1)	0.881 (1)	0.798	1
Himachal	0.655 (3)	0.718 (2)	0.723 (2)	0.786 (2)	0.822 (2)	0.740	2
Haryana	0.657 (2)	0.702 (3)	0.701 (5)	0.765 (4)	0.799 (5)	0.724	3
Gujarat	0.619 (4)	0.691 (4)	0.716 (3)	0.766 (3)	0.808 (3)	0.719	4
Tamil Nadu	0.583 (7)	0.684 (6)	0.716 (4)	0.763 (5)	0.806 (4)	0.710	5
Andhra	0.602 (5)	0.688 (5)	0.699 (6)	0.755 (6)	0.792 (6)	0.707	6
Maharashtra	0.561 (9)	0.638 (8)	0.672 (7)	0.714 (7)	0.756 (7)	0.668	7
Uttrakhand	0.562 (8)	0.651 (7)	0.628 (10)	0.697 (8)	0.722 (10)	0.651	8
Kerala	0.507 (13)	0.592 (11)	0.672 (8)	0.689 (9)	0.742 (8)	0.640	9
Karnataka	0.512 (11)	0.605 (9)	0.659 (9)	0.689 (10)	0.734 (9)	0.639	10
Telangana	0.602 (6)	0.601 (10)	0.561 (12)	0.633 (11)	0.651 (11)	0.609	11
Rajasthan	0.511 (12)	0.531 (13)	0.561 (11)	0.595 (12)	0.631 (12)	0.565	12
UP	0.534 (10)	0.544 (12)	0.536 (13)	0.589 (13)	0.613 (13)	0.563	13
West Bengal	0.433 (14)	0.476 (14)	0.504 (14)	0.534 (14)	0.566 (14)	0.502	14
Chhattisgarh	0.393 (15)	0.447 (15)	0.499 (15)	0.515 (15)	0.552 (15)	0.481	15
MP	0.355 (17)	0.402 (16)	0.427 (16)	0.452 (16)	0.479 (16)	0.423	16
Bihar	0.381 (16)	0.390 (17)	0.369 (19)	0.413 (17)	0.426 (19)	0.395	17
Jharkhand	0.329 (18)	0.358 (18)	0.391 (17)	0.408 (18)	0.436 (17)	0.384	18
Assam	0.291 (19)	0.353 (19)	0.389 (18)	0.404 (19)	0.433 (18)	0.374	19
Odisha	0.219 (20)	0.311 (20)	0.331 (20)	0.349 (20)	0.371 (20)	0.315	20

Source; Annual Progress Card: Implementation of Twenty Point Programme; Ministry of Statistics and Programme Implementation, GOI and Ministry of Road Transport and Highways, NITI Aayog- Infrastructure Statistics- Various Issues.

Figure A6.1: Interstate Comparison of EII Level (Average 2016-2020)



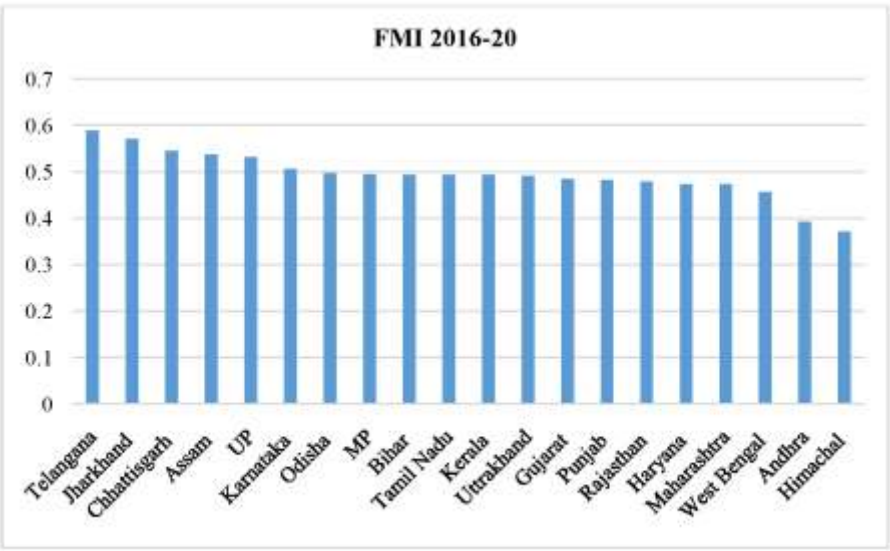
Source: Scholar's work based on data in table 2.1 above.

Table A6.2: Fiscal Management Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Telangana	0.304 (19)	0.522 (5)	0.704 (1)	0.668 (1)	0.747 (1)	0.589	1
Jharkhand	0.443 (3)	0.542 (1)	0.592 (2)	0.618 (2)	0.661 (2)	0.571	2
Chhattisgarh	0.417 (6)	0.531 (2)	0.558 (3)	0.593 (3)	0.627 (3)	0.545	3
Assam	0.45 (2)	0.529 (3)	0.529 (4)	0.577 (4)	0.603 (4)	0.537	4
UP	0.453 (1)	0.525 (4)	0.517 (6)	0.568 (5)	0.592 (5)	0.531	5
Karnataka	0.392 (10)	0.481 (14)	0.524 (5)	0.547 (6)	0.584 (6)	0.505	6
Odisha	0.431 (5)	0.494 (7)	0.481 (14)	0.531 (10)	0.551 (12)	0.497	7
MP	0.413 (8)	0.487 (8)	0.486 (11)	0.531 (11)	0.554 (10)	0.494	8
Bihar	0.434 (4)	0.468 (15)	0.491 (9)	0.523 (13)	0.553 (11)	0.493	9
Tamil Nadu	0.391 (11)	0.495 (6)	0.488 (10)	0.536 (7)	0.558 (8)	0.493	10
Kerala	0.391 (12)	0.481 (11)	0.498 (7)	0.533 (8)	0.562 (7)	0.492	11
Uttrakhand	0.388 (14)	0.486 (9)	0.492 (8)	0.533 (9)	0.558 (9)	0.491	12
Gujarat	0.386 (15)	0.481 (12)	0.481 (13)	0.525 (12)	0.548 (13)	0.484	13
Punjab	0.417 (7)	0.481 (13)	0.465 (16)	0.515 (16)	0.534 (17)	0.482	14
Rajasthan	0.397 (9)	0.484 (10)	0.463 (17)	0.516 (14)	0.534 (16)	0.478	15
Haryana	0.376 (16)	0.458 (18)	0.481 (15)	0.512 (17)	0.541 (15)	0.473	16
Maharashtra	0.361 (17)	0.462 (17)	0.484 (12)	0.515 (15)	0.545 (14)	0.473	17
WB	0.391 (13)	0.465 (16)	0.434 (18)	0.491 (18)	0.503 (18)	0.456	18
Andhra	0.304 (18)	0.377 (19)	0.404 (19)	0.426 (19)	0.452 (19)	0.392	19
Himachal	0.228 (20)	0.371 (20)	0.397 (20)	0.418 (20)	0.444 (20)	0.371	20

Source: Reserve Bank of India 'Handbook of Statistics on State Government Finances' various issues.

Figure A6.2: Interstate Comparison of FMI Level (Average 2016-2020)



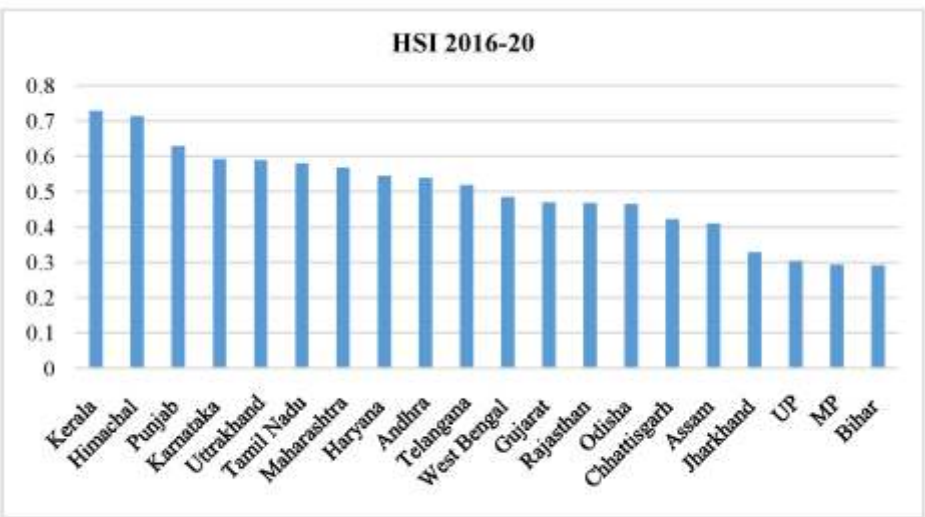
Source: Scholar's work based on data in table 2.2 above.

Table A6.3: Human Support Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Kerala	0.607 (2)	0.697 (1)	0.734 (1)	0.781 (1)	0.825 (1)	0.728	1
Himachal	0.664 (1)	0.688 (2)	0.685 (2)	0.748 (2)	0.781 (2)	0.713	2
Punjab	0.584 (3)	0.615 (3)	0.598 (3)	0.661 (3)	0.687 (3)	0.629	3
Karnataka	0.532 (5)	0.578 (4)	0.571 (5)	0.626 (4)	0.652 (5)	0.591	4
Uttrakhand	0.535 (4)	0.575 (5)	0.565 (6)	0.621 (5)	0.647 (6)	0.588	5
Tamil Nadu	0.506 (6)	0.538 (7)	0.587 (4)	0.613 (6)	0.654 (4)	0.579	6
Maharashtra	0.468 (10)	0.554 (6)	0.564 (7)	0.609 (7)	0.641 (7)	0.567	7
Haryana	0.503 (9)	0.531 (8)	0.521 (9)	0.572 (8)	0.596 (8)	0.544	8
Andhra	0.504 (7)	0.522 (9)	0.513 (10)	0.564 (9)	0.587 (9)	0.538	9
Telangana	0.504 (8)	0.456 (10)	0.522 (8)	0.533 (10)	0.575 (10)	0.518	10
West Bengal	0.385 (14)	0.441 (12)	0.512 (11)	0.521(11)	0.562 (11)	0.484	11
Gujarat	0.395 (13)	0.447 (11)	0.471 (13)	0.500 (12)	0.529 (12)	0.468	12
Rajasthan	0.403 (12)	0.439 (13)	0.472 (12)	0.496 (13)	0.528 (13)	0.467	13
Odisha	0.403 (11)	0.432 (14)	0.471 (14)	0.492 (14)	0.524 (14)	0.464	14
Chhattisgarh	0.359 (16)	0.421 (15)	0.408 (16)	0.452 (15)	0.469 (15)	0.421	15
Assam	0.381 (15)	0.372 (16)	0.411 (15)	0.426 (16)	0.456 (16)	0.409	16
Jharkhand	0.264 (17)	0.325 (17)	0.325 (17)	0.354 (17)	0.371 (17)	0.327	17
UP	0.261 (18)	0.288 (19)	0.303 (18)	0.322 (18)	0.341 (18)	0.302	18
MP	0.244 (19)	0.281 (20)	0.294 (20)	0.313 (20)	0.331 (20)	0.292	19
Bihar	0.202 (20)	0.292 (18)	0.298 (19)	0.322 (19)	0.338 (19)	0.290	20

Source: Ministry of Health and Family Welfare, GOI, Registrar General of India, MHA, GoI, SRS Statistical Report, ORGI, MHA

Figure A6.3: Interstate Comparison of HSI Level (Average 2016-2020)



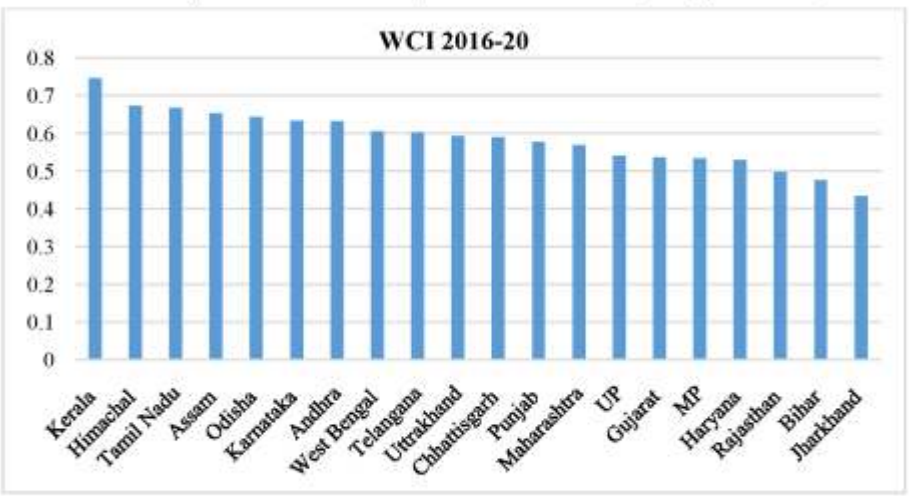
Source: Scholar's work based on data in table 2.3 above.

Table A6.4: Women and Child Welfare Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Kerala	0.601(1)	0.700 (1)	0.773 (1)	0.802 (1)	0.858 (1)	0.746	1
Himachal	0.561 (2)	0.651 (2)	0.672 (3)	0.721 (2)	0.759 (3)	0.672	2
Tamil Nadu	0.558 (3)	0.606 (5)	0.696 (2)	0.710 (3)	0.766 (2)	0.667	3
Assam	0.555 (4)	0.625 (3)	0.654 (5)	0.697 (4)	0.736 (4)	0.653	4
Odisha	0.515 (7)	0.619 (4)	0.654 (6)	0.694 (5)	0.735 (5)	0.643	5
Karnataka	0.513 (8)	0.603 (6)	0.646 (7)	0.680 (6)	0.723 (7)	0.633	6
Andhra	0.541 (5)	0.569 (8)	0.659 (4)	0.669 (7)	0.724 (6)	0.632	7
WB	0.503 (10)	0.560 (9)	0.625 (8)	0.646 (8)	0.692 (8)	0.605	8
Telangana	0.541 (6)	0.557 (10)	0.607 (10)	0.635 (10)	0.677 (10)	0.603	9
Uttrakhand	0.501 (11)	0.581 (7)	0.582 (13)	0.634 (11)	0.663 (11)	0.592	10
Chhattisgarh	0.459 (14)	0.549 (11)	0.619 (9)	0.636 (9)	0.684 (9)	0.589	11
Punjab	0.495 (12)	0.530 (13)	0.594 (11)	0.613 (12)	0.658 (12)	0.578	12
Maharashtra	0.508 (9)	0.514 (15)	0.583 (12)	0.598 (13)	0.643 (13)	0.569	13
UP	0.428 (17)	0.541 (12)	0.535 (15)	0.587 (14)	0.612 (15)	0.540	14
Gujarat	0.433 (16)	0.507 (16)	0.551 (14)	0.577 (15)	0.614 (14)	0.536	15
MP	0.443 (15)	0.519 (14)	0.533 (16)	0.573 (16)	0.603 (16)	0.534	16
Haryana	0.483 (13)	0.490 (17)	0.528 (17)	0.555 (17)	0.590 (17)	0.529	17
Rajasthan	0.401 (18)	0.473 (18)	0.508 (18)	0.535 (18)	0.569 (18)	0.497	18
Bihar	0.371 (19)	0.450 (19)	0.493 (19)	0.514 (19)	0.549 (19)	0.475	19
Jharkhand	0.329 (20)	0.376 (20)	0.482 (20)	0.467 (20)	0.517 (20)	0.434	20

Source: Department of Social Welfare, MHRD, GoI, Health and Family Welfare Ministry, GoI

Figure A6.4: Interstate Comparison of WCI Level (Average 2016-2020)



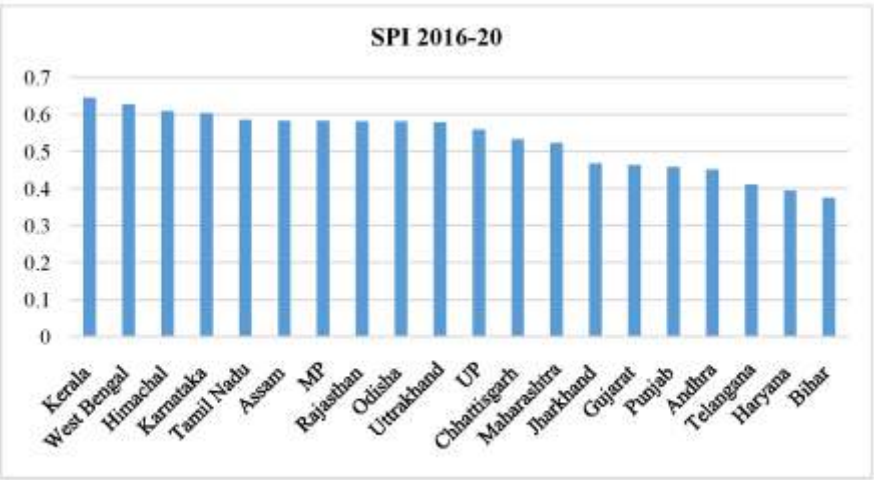
Source: Scholar's work based on data in table 2.4 above.

Table A6.5: Social Protection Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Kerala	0.583 (3)	0.628 (1)	0.623 (1)	0.682 (1)	0.711 (1)	0.645	1
West Bengal	0.596 (2)	0.606 (2)	0.596 (3)	0.655 (2)	0.682 (2)	0.627	2
Himachal	0.55 (5)	0.592 (4)	0.588 (4)	0.643 (3)	0.671 (3)	0.608	3
Karnataka	0.610 (1)	0.601 (3)	0.546 (9)	0.625 (4)	0.638 (8)	0.604	4
Tamil Nadu	0.540 (7)	0.547 (9)	0.577 (5)	0.613 (7)	0.648 (6)	0.585	5
Assam	0.498 (10)	0.564 (7)	0.576 (6)	0.621 (6)	0.653 (5)	0.582	6
MP	0.553 (4)	0.591 (5)	0.531 (11)	0.612 (8)	0.623 (10)	0.582	7
Rajasthan	0.543 (6)	0.573 (6)	0.548 (8)	0.611 (10)	0.632 (9)	0.581	8
Odisha	0.473 (13)	0.536 (11)	0.605 (2)	0.622 (5)	0.669 (4)	0.581	9
Uttrakhand	0.520 (9)	0.557 (8)	0.564 (7)	0.611 (9)	0.640 (7)	0.578	10
UP	0.528 (8)	0.539 (10)	0.533 (10)	0.584 (11)	0.609 (11)	0.558	11
Chhattisgarh	0.476 (12)	0.509 (12)	0.525 (12)	0.563 (12)	0.593 (12)	0.533	12
Maharashtra	0.478 (11)	0.497 (13)	0.513 (13)	0.550 (13)	0.579 (13)	0.523	13
Jharkhand	0.353 (18)	0.414 (14)	0.511 (14)	0.504 (14)	0.553 (14)	0.467	14
Gujarat	0.396 (14)	0.409 (15)	0.490 (16)	0.490 (15)	0.534 (16)	0.463	15
Punjab	0.367 (15)	0.384 (17)	0.508 (15)	0.486 (16)	0.542 (15)	0.457	16
Andhra	0.357 (16)	0.396 (16)	0.490 (17)	0.483 (17)	0.530 (17)	0.451	17
Telangana	0.357 (17)	0.312 (20)	0.469 (18)	0.426 (18)	0.488 (18)	0.410	18
Haryana	0.321 (19)	0.347 (18)	0.423 (19)	0.420 (19)	0.459 (19)	0.394	19
Bihar	0.278 (20)	0.343 (19)	0.403 (20)	0.407 (20)	0.441 (20)	0.374	20

Source: Ministry of Human Resource Development, GoI, Department of Social Welfare of Various State Governments.

Figure A6.5: Interstate Comparison of SPI Level (Average 2016-2020)



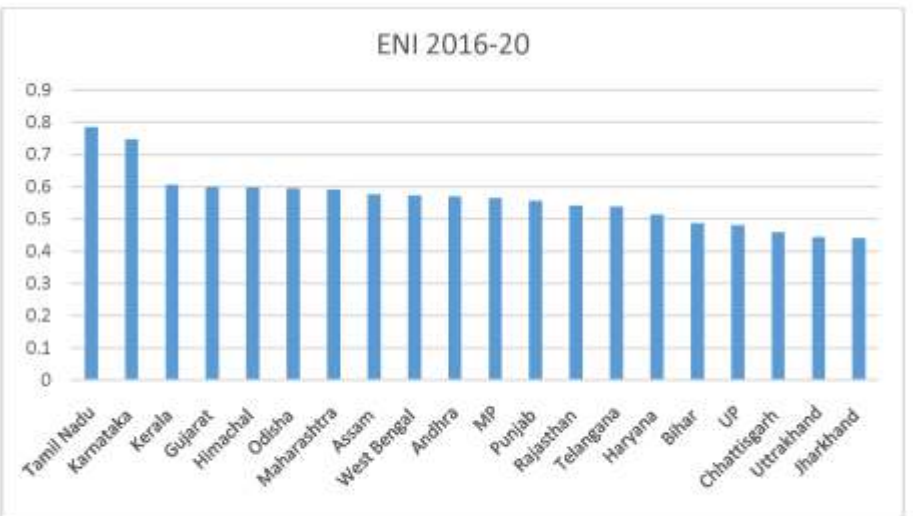
Source: Scholar's work based on data in table 2.5 above.

Table A6.6: Trends Environment Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Tamil Nadu	0.626 (1)	0.793 (1)	0.768 (1)	0.851 (1)	0.882 (1)	0.784	1
Karnataka	0.573 (2)	0.721 (2)	0.767 (2)	0.811 (2)	0.860 (2)	0.746	2
Kerala	0.442 (7)	0.574 (5)	0.64 (3)	0.662 (3)	0.710 (3)	0.605	3
Gujarat	0.456 (4)	0.587 (3)	0.611 (7)	0.653 (4)	0.689 (5)	0.599	4
Himachal	0.456 (5)	0.582 (4)	0.613 (5)	0.651 (5)	0.689 (6)	0.598	5
Odisha	0.441 (8)	0.558 (7)	0.629 (4)	0.647 (6)	0.695 (4)	0.594	6
Maharashtra	0.444 (6)	0.570 (6)	0.613 (6)	0.644 (7)	0.685 (7)	0.591	7
Assam	0.434 (11)	0.552 (9)	0.599 (8)	0.627 (8)	0.668 (8)	0.576	8
WB	0.485 (3)	0.553 (8)	0.571 (11)	0.612 (11)	0.645 (11)	0.573	9
Andhra	0.436 (9)	0.538 (12)	0.596 (9)	0.618 (10)	0.661 (10)	0.569	10
MP	0.397 (14)	0.544 (10)	0.595 (10)	0.620 (9)	0.662 (9)	0.563	11
Punjab	0.433 (12)	0.542 (11)	0.566 (13)	0.603 (12)	0.637 (12)	0.556	12
Rajasthan	0.400 (13)	0.532 (13)	0.554 (14)	0.592 (13)	0.624 (13)	0.540	13
Telangana	0.436 (10)	0.487 (15)	0.567 (12)	0.574 (14)	0.622 (14)	0.537	14
Haryana	0.382 (15)	0.496 (14)	0.531 (15)	0.560 (15)	0.595 (15)	0.512	15
Bihar	0.359 (17)	0.464 (17)	0.511 (16)	0.532 (16)	0.568 (16)	0.486	16
UP	0.364 (16)	0.466 (16)	0.494 (17)	0.523 (17)	0.554 (17)	0.480	17
Chhattisgarh	0.327 (18)	0.435 (18)	0.487 (18)	0.503 (18)	0.539 (18)	0.458	18
Uttrakhand	0.304 (20)	0.407 (19)	0.486 (19)	0.487 (19)	0.530 (19)	0.442	19
Jharkhand	0.315 (19)	0.405 (20)	0.477 (20)	0.480 (20)	0.522 (20)	0.439	20

Source: Ministry of Environment, Forest and Climate Change, GoI

Figure A6.6: Interstate Comparison of ENI Level (Average 2016-2020)



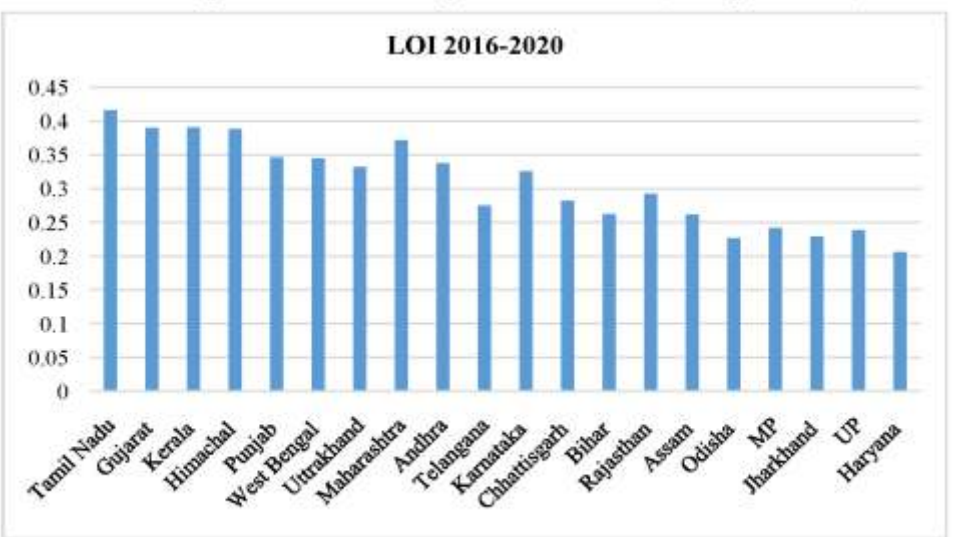
Source: Scholar's work based on data in table 2.6 above.

Table A6.7: Trends in Law & Order Situation Of Indian States (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Tamil Nadu	0.724 (1)	0.434 (1)	0.334 (1)	0.306 (1)	0.281 (1)	0.415	1
Gujarat	0.670 (2)	0.423 (3)	0.310 (5)	0.284 (5)	0.261 (5)	0.389	2
Kerala	0.658 (3)	0.431 (2)	0.314 (3)	0.288 (3)	0.264 (3)	0.391	3
Himachal	0.653 (4)	0.418 (4)	0.315 (2)	0.289 (2)	0.265 (2)	0.388	4
Punjab	0.650 (5)	0.354 (9)	0.264 (7)	0.242 (7)	0.222 (7)	0.346	5
WB	0.641 (6)	0.351 (10)	0.265 (6)	0.243 (6)	0.223 (6)	0.344	6
Uttrakhand	0.632 (7)	0.357 (7)	0.243 (10)	0.223 (10)	0.205 (10)	0.33	7
Maharashtra	0.622 (8)	0.372 (5)	0.313 (4)	0.287 (4)	0.263 (4)	0.371	8
Andhra	0.603 (9)	0.360 (6)	0.263 (8)	0.241 (8)	0.221 (8)	0.337	9
Telangana	0.603 (10)	0.268 (13)	0.183 (15)	0.168 (15)	0.154 (15)	0.275	10
Karnataka	0.597 (11)	0.356 (8)	0.245 (9)	0.225 (9)	0.206 (9)	0.325	11
Chhattisgarh	0.554 (12)	0.299 (12)	0.202 (12)	0.185 (12)	0.170 (12)	0.282	12
Bihar	0.537 (13)	0.241 (16)	0.193 (14)	0.177 (14)	0.162 (14)	0.262	13
Rajasthan	0.536 (14)	0.303 (11)	0.226 (11)	0.207 (11)	0.190 (11)	0.292	14
Assam	0.510 (15)	0.252 (14)	0.198 (13)	0.182 (13)	0.167 (13)	0.261	15
Odisha	0.510 (16)	0.176 (20)	0.162 (18)	0.149 (18)	0.136 (18)	0.226	16
MP	0.499 (17)	0.214 (18)	0.179 (17)	0.164 (17)	0.151 (17)	0.241	17
Jharkhand	0.495 (18)	0.232 (17)	0.152 (19)	0.139 (19)	0.128 (19)	0.229	18
UP	0.441 (19)	0.252 (15)	0.181 (16)	0.166 (16)	0.152 (16)	0.238	19
Haryana	0.406 (20)	0.214 (19)	0.149 (20)	0.137 (20)	0.125 (20)	0.206	20

Source: Crime in India - National Crime Records Bureau, Ministry of Home Affairs, Government of India, Annual booklet- Various Issues

Figure A6.7: Interstate Comparison of LOI Level (Average 2016-2020)



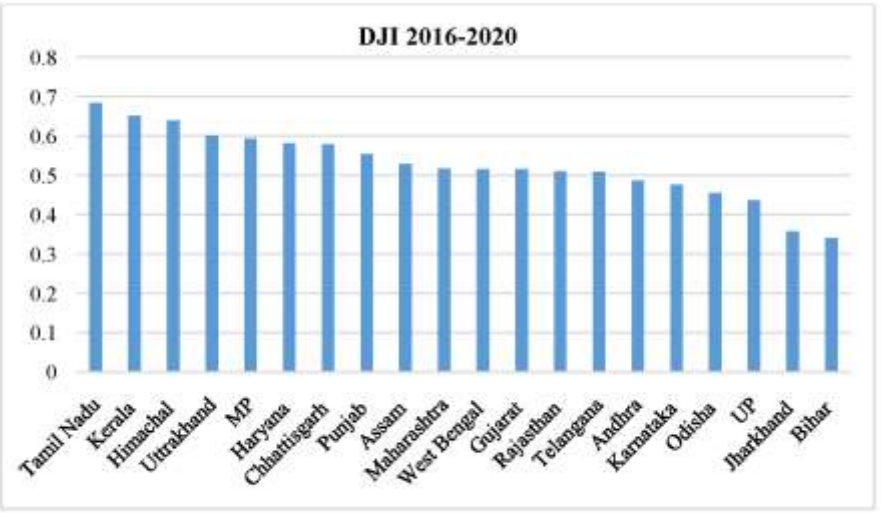
Source: Scholar's work based on data in table 2.7 above.

Table A6.8: Delivery of Justice Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Tamil Nadu	0.485 (2)	0.660 (1)	0.719 (1)	0.751 (1)	0.801 (1)	0.683	1
Kerala	0.518 (1)	0.630 (2)	0.659 (3)	0.703 (3)	0.742 (3)	0.650	2
Himachal	0.421 (6)	0.590 (3)	0.706 (2)	0.706 (2)	0.770 (2)	0.638	3
Uttrakhand	0.456 (3)	0.565 (4)	0.632 (5)	0.652 (4)	0.700 (5)	0.601	4
MP	0.408 (7)	0.539 (6)	0.654 (4)	0.650 (5)	0.711 (4)	0.592	5
Haryana	0.426 (5)	0.553 (5)	0.611 (8)	0.634 (6)	0.679 (6)	0.580	6
Chhattisgarh	0.439 (4)	0.537 (7)	0.613 (6)	0.626 (7)	0.675 (7)	0.578	7
Punjab	0.345 (17)	0.520 (8)	0.612 (7)	0.617 (8)	0.670 (8)	0.552	8
Assam	0.307 (18)	0.485 (10)	0.605 (9)	0.594 (9)	0.654 (9)	0.529	9
Maharashtra	0.406 (9)	0.482 (11)	0.541 (13)	0.558 (13)	0.599 (12)	0.517	10
WB	0.408 (8)	0.510 (9)	0.516 (14)	0.559 (11)	0.586 (14)	0.515	11
Gujarat	0.359 (14)	0.466 (12)	0.568 (10)	0.564 (10)	0.617 (10)	0.514	12
Rajasthan	0.356 (15)	0.464 (13)	0.560 (11)	0.558 (12)	0.609 (11)	0.509	13
Telangana	0.386 (12)	0.463 (14)	0.545 (12)	0.550 (14)	0.597 (13)	0.508	14
Andhra	0.386 (11)	0.443 (16)	0.514 (15)	0.522 (15)	0.564 (15)	0.485	15
Karnataka	0.354 (16)	0.458 (15)	0.495 (16)	0.519 (16)	0.553 (16)	0.475	16
Odisha	0.397 (10)	0.429 (17)	0.456 (17)	0.482 (17)	0.512 (17)	0.455	17
UP	0.361 (13)	0.408 (18)	0.447 (18)	0.466 (18)	0.497 (18)	0.435	18
Jharkhand	0.224 (20)	0.331 (19)	0.398 (19)	0.397 (19)	0.433 (19)	0.356	19
Bihar	0.300 (19)	0.312 (20)	0.346 (20)	0.359 (20)	0.384 (20)	0.340	20

Source: Crimes in India, Annual Publication by NCRB and Department of Justice, Ministry of Law & Justice, GoI

Figure A6.8: Interstate Comparison of DJI Level (Average 2016-2020)



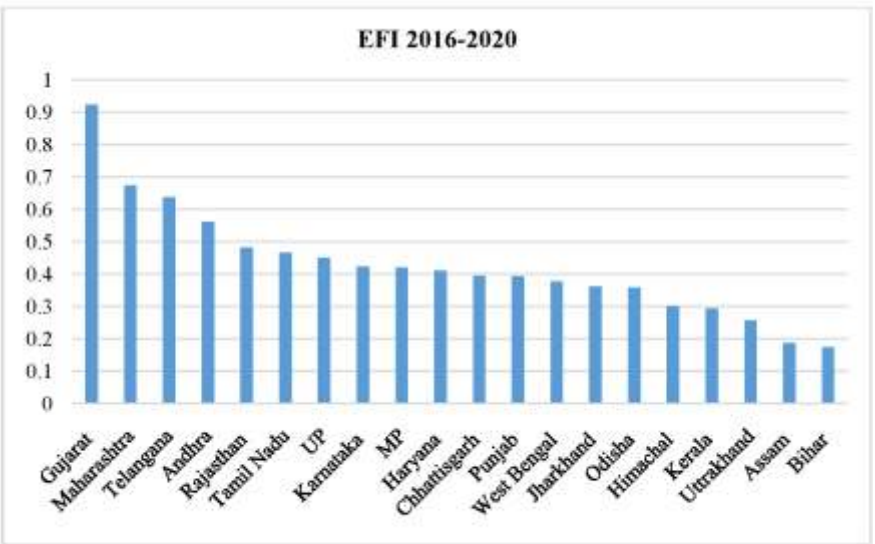
Source: Scholar's work based on data in table 2.8 above.

Table A6.9: Economic Freedom Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Gujarat	0.817 (1)	0.896 (1)	0.898 (1)	0.978 (1)	1.023 (1)	0.922	1
Maharashtra	0.560 (2)	0.628 (2)	0.690 (2)	0.718 (2)	0.768 (2)	0.672	2
Telangana	0.488 (4)	0.614 (3)	0.655 (3)	0.692 (3)	0.734 (3)	0.636	3
Andhra	0.488 (3)	0.541 (4)	0.553 (4)	0.597 (4)	0.627 (4)	0.561	4
Rajasthan	0.400 (6)	0.444 (5)	0.498 (5)	0.514 (5)	0.551 (5)	0.481	5
Tamil Nadu	0.406 (5)	0.435 (6)	0.470 (7)	0.493 (6)	0.524 (7)	0.465	6
UP	0.344 (8)	0.402 (8)	0.487 (6)	0.484 (7)	0.529 (6)	0.449	7
Karnataka	0.328 (10)	0.363 (10)	0.467 (8)	0.452 (8)	0.501 (8)	0.422	8
MP	0.352 (7)	0.411 (7)	0.413 (10)	0.449 (9)	0.470 (10)	0.419	9
Haryana	0.317 (12)	0.347 (12)	0.459 (9)	0.439 (10)	0.489 (9)	0.410	10
Chhattisgarh	0.317 (11)	0.371 (9)	0.406 (12)	0.423 (11)	0.452 (11)	0.393	11
Punjab	0.336 (9)	0.355 (11)	0.409 (11)	0.416 (12)	0.45 (12)	0.393	12
West Bengal	0.309 (13)	0.346 (13)	0.392 (14)	0.402 (13)	0.433 (13)	0.376	13
Jharkhand	0.301 (15)	0.338 (14)	0.370 (15)	0.386 (14)	0.412 (14)	0.361	14
Odisha	0.304 (14)	0.333 (15)	0.363 (16)	0.379 (15)	0.405 (15)	0.356	15
Himachal	0.193 (17)	0.200 (17)	0.395 (13)	0.324 (16)	0.392 (16)	0.300	16
Kerala	0.231 (16)	0.233 (16)	0.336 (18)	0.311 (17)	0.353 (17)	0.292	17
Uttrakhand	0.158 (18)	0.158 (18)	0.348 (17)	0.276 (18)	0.340 (18)	0.256	18
Assam	0.115 (19)	0.129 (19)	0.242 (19)	0.202 (19)	0.242 (19)	0.186	19
Bihar	0.111 (20)	0.123 (20)	0.223 (20)	0.188 (20)	0.224 (20)	0.173	20

Source: Ease of Doing Business Statistics, Department of Industrial Policy & Promotion, GoI.

Figure A6.9: Interstate Comparison of EFI Level (Average 2016-2020)



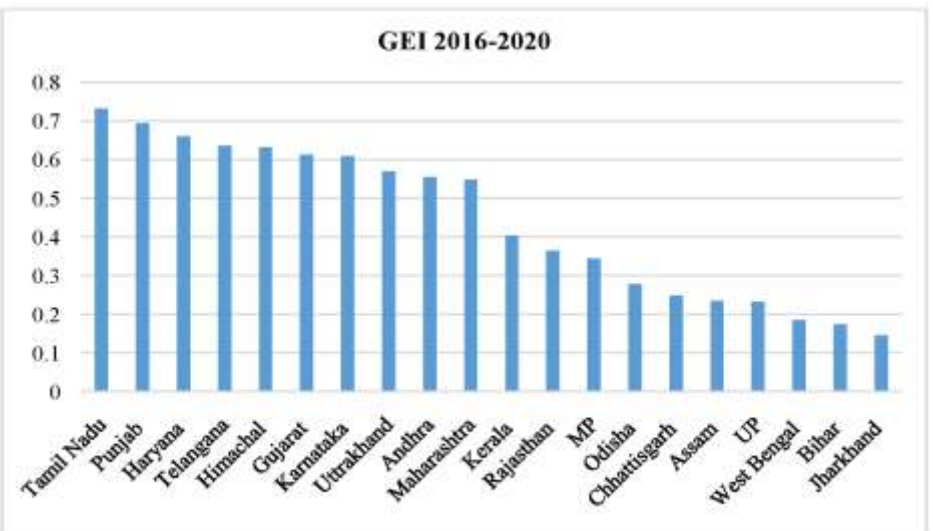
Source: Scholar's work based on data in table 2.9 above.

Table A6.10: Governance Effectiveness Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Tamil Nadu	0.70 (1)	0.72 (1)	0.73 (1)	0.75 (1)	0.76 (2)	0.732	1
Punjab	0.66 (2)	0.67 (2)	0.69 (2)	0.71 (2)	0.74 (4)	0.694	2
Haryana	0.59 (3)	0.62 (3)	0.65 (3)	0.68 (5)	0.76 (3)	0.660	3
Telangana	0.52 (9)	0.56 (6)	0.61 (6)	0.70 (3)	0.79 (1)	0.636	4
Himachal	0.59 (4)	0.61 (4)	0.63 (4)	0.66 (6)	0.67 (6)	0.632	5
Gujarat	0.58 (5)	0.59 (5)	0.62 (5)	0.63 (7)	0.64 (7)	0.612	6
Karnataka	0.53 (7)	0.54 (8)	0.57 (7)	0.69 (4)	0.71 (5)	0.608	7
Uttrakhand	0.54 (6)	0.55 (7)	0.56 (8)	0.59 (8)	0.61 (9)	0.570	8
Andhra	0.50 (10)	0.52 (10)	0.52 (10)	0.59 (9)	0.64 (8)	0.554	9
Maharashtra	0.52 (8)	0.52 (9)	0.53 (9)	0.58 (10)	0.59 (10)	0.548	10
Kerala	0.31 (12)	0.37 (11)	0.41 (11)	0.45 (11)	0.48 (11)	0.404	11
Rajasthan	0.32 (11)	0.32 (12)	0.34 (12)	0.37 (12)	0.47 (12)	0.364	12
MP	0.30 (13)	0.32 (13)	0.34 (13)	0.36 (13)	0.40 (13)	0.344	13
Odisha	0.23 (15)	0.25 (14)	0.28 (14)	0.30 (14)	0.33 (14)	0.278	14
Chhattisgarh	0.24 (14)	0.23 (15)	0.25 (15)	0.25 (15)	0.27 (17)	0.248	15
Assam	0.19 (16)	0.20 (16)	0.22 (16)	0.25 (16)	0.31 (16)	0.234	16
UP	0.18 (17)	0.20 (17)	0.22 (17)	0.24 (17)	0.32 (15)	0.232	17
WB	0.17 (18)	0.17 (18)	0.18 (18)	0.19 (19)	0.21 (19)	0.184	18
Bihar	0.12 (19)	0.15 (19)	0.17 (19)	0.20 (18)	0.23 (18)	0.174	19
Jharkhand	0.08 (20)	0.12 (20)	0.15 (20)	0.17 (20)	0.21 (20)	0.146	20

Source: Ministry of Statistics &Programme Implementation, GoI, 20 PointProgramme Booklets- Various Issues, GoI.

Figure A6.10: Interstate Comparison of GEI Level (Average 2016-2020)



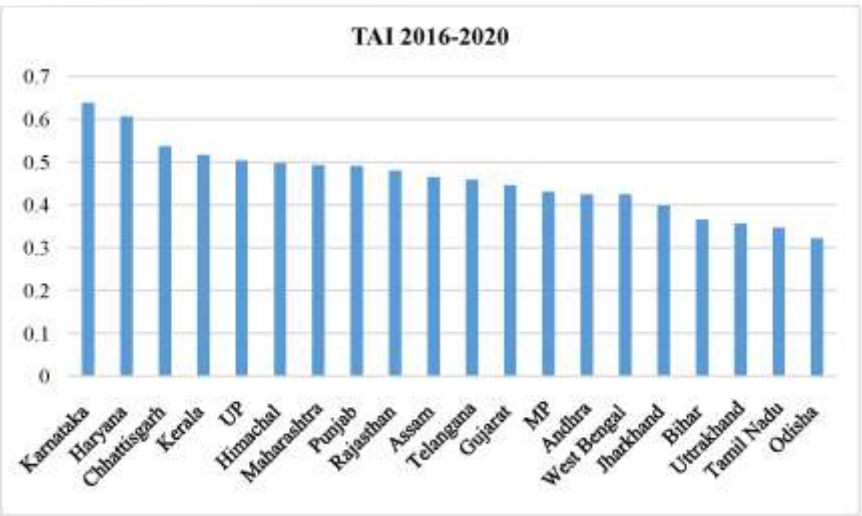
Source: Scholar's work based on data in table 2.10 above.

Table A6.11: Trends in Transparency & Accountability (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Karnataka	0.714 (2)	0.684 (2)	0.650 (1)	0.596 (1)	0.547 (1)	0.638	1
Haryana	0.627 (7)	0.707 (1)	0.615 (2)	0.564 (2)	0.518 (2)	0.606	2
Chhattisgarh	0.694 (3)	0.597 (8)	0.505 (3)	0.463 (3)	0.425 (3)	0.536	3
Kerala	0.757 (1)	0.642 (3)	0.429 (11)	0.394 (11)	0.361 (11)	0.516	4
UP	0.604 (9)	0.616 (4)	0.470 (6)	0.431 (6)	0.396 (6)	0.503	5
Himachal	0.674 (4)	0.604 (6)	0.439 (9)	0.403 (9)	0.369 (9)	0.497	6
Maharashtra	0.609 (8)	0.562 (11)	0.468 (7)	0.429 (7)	0.394 (7)	0.492	7
Punjab	0.663 (5)	0.579 (9)	0.439 (10)	0.403 (10)	0.369 (10)	0.490	8
Rajasthan	0.479 (14)	0.608 (5)	0.475 (5)	0.436 (5)	0.400 (5)	0.479	9
Assam	0.648 (6)	0.533 (14)	0.414 (13)	0.380 (13)	0.348 (13)	0.464	10
Telangana	0.445 (17)	0.537 (13)	0.476 (4)	0.437 (4)	0.401 (4)	0.459	11
Gujarat	0.469 (15)	0.578 (10)	0.429 (12)	0.394 (12)	0.361 (12)	0.446	12
MP	0.571 (12)	0.598 (7)	0.357 (16)	0.328 (16)	0.300 (16)	0.430	13
Andhra	0.445 (16)	0.449 (19)	0.445 (8)	0.408 (8)	0.375 (8)	0.424	14
West Bengal	0.584 (11)	0.491 (18)	0.379 (15)	0.348 (15)	0.319 (15)	0.424	15
Jharkhand	0.602 (10)	0.509 (16)	0.320 (17)	0.294 (17)	0.269 (17)	0.398	16
Bihar	0.513 (13)	0.526 (15)	0.286 (19)	0.262 (19)	0.241 (19)	0.365	17
Uttrakhand	0.423 (19)	0.559 (12)	0.289 (18)	0.265 (18)	0.243 (18)	0.355	18
Tamil Nadu	0.312 (20)	0.364 (20)	0.384 (14)	0.352 (14)	0.323 (14)	0.347	19
Odisha	0.442 (18)	0.506 (17)	0.239 (20)	0.219 (20)	0.201 (20)	0.321	20

Source: TI India-CMS Corruption Studies (2016-20) and National Crime Record Bureau- Annual Statistics - Various Issues

Figure A6.11: Interstate Comparison of TAI Level (Average 2016-2020)



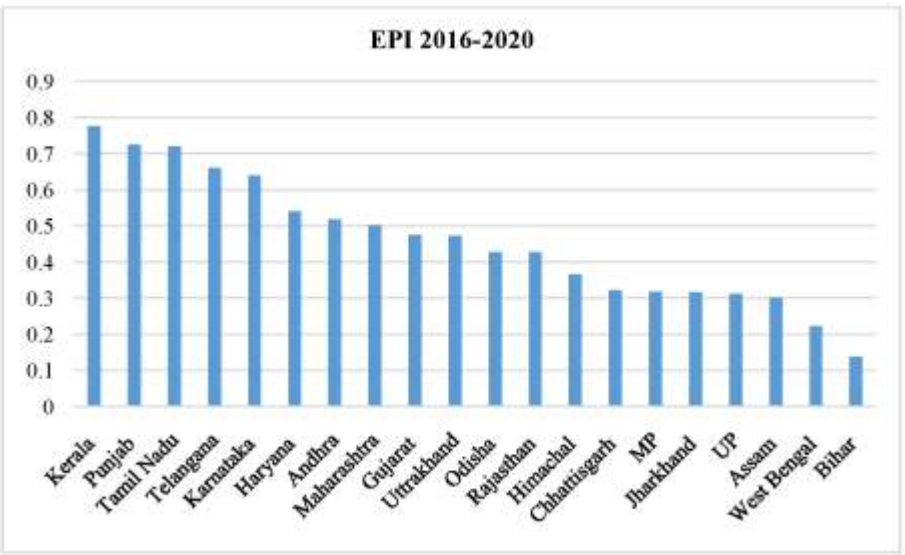
Source: Scholar's work based on data in table 2.11 above.

Table A6.12: Trends in E-Preparedness Index (2016-2020)

Name of State	2016	2017	2018	2019	2020	Average	Average Rank
Kerala	0.72 (1)	0.73 (1)	0.77 (1)	0.80 (1)	0.86 (1)	0.776	1
Punjab	0.60 (3)	0.67 (3)	0.73 (2)	0.76 (3)	0.86 (2)	0.724	2
Tamil Nadu	0.63 (2)	0.67 (2)	0.70 (3)	0.77 (2)	0.83 (3)	0.72	3
Telangana	0.56 (4)	0.65 (4)	0.66 (4)	0.67 (5)	0.76 (4)	0.66	4
Karnataka	0.54 (5)	0.58 (5)	0.63 (5)	0.71 (4)	0.74 (5)	0.64	5
Haryana	0.43 (7)	0.47 (7)	0.51 (7)	0.64 (6)	0.65 (6)	0.54	6
Andhra	0.44 (6)	0.48 (6)	0.51 (6)	0.54 (8)	0.62 (7)	0.518	7
Maharashtra	0.41 (8)	0.47 (8)	0.51 (8)	0.55 (7)	0.57 (10)	0.502	8
Gujarat	0.34 (10)	0.43 (10)	0.51 (9)	0.51 (9)	0.58 (9)	0.474	9
Uttrakhand	0.40 (9)	0.45 (9)	0.49 (10)	0.50 (10)	0.52 (13)	0.472	10
Odisha	0.31 (13)	0.37 (12)	0.40 (12)	0.46 (12)	0.60 (8)	0.428	11
Rajasthan	0.34 (11)	0.37 (11)	0.40 (11)	0.50 (11)	0.53 (12)	0.428	12
Himachal	0.22 (16)	0.27 (14)	0.34 (13)	0.46 (13)	0.54 (11)	0.366	13
Chhattisgarh	0.25 (15)	0.26 (15)	0.31 (15)	0.39 (15)	0.40 (16)	0.322	14
MP	0.26 (14)	0.27 (13)	0.33 (14)	0.34 (17)	0.39 (17)	0.318	15
Jharkhand	0.33 (12)	0.25 (16)	0.27 (18)	0.34 (18)	0.39 (18)	0.316	16
UP	0.16 (18)	0.20 (18)	0.31 (16)	0.42 (14)	0.47 (14)	0.312	17
Assam	0.19 (17)	0.24 (17)	0.29 (17)	0.36 (16)	0.43 (15)	0.302	18
West Bengal	0.14 (19)	0.14 (19)	0.17 (19)	0.31 (19)	0.35 (19)	0.222	19
Bihar	0.11 (20)	0.10 (20)	0.12 (20)	0.17 (20)	0.19 (20)	0.138	20

Source: National Council for Applied Economic Research - E-Readiness Report, 2016-2020 and Office of Registrar General of India, MHA, GoI, Department of Telecommunication, Ministry of Communication, GoI.

Figure A6.12: Interstate Comparison of EPI Level (Average 2016-2020)



Source: Scholar's work based on data in table 2.12 above.

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Dear Sir,

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I affirm that the author(s) have seen and agreed to the submitted version of the manuscript and their inclusion of name(s) as co-author(s).

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FORM IV

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Date: July 2020 Signature