**1. Introduction**

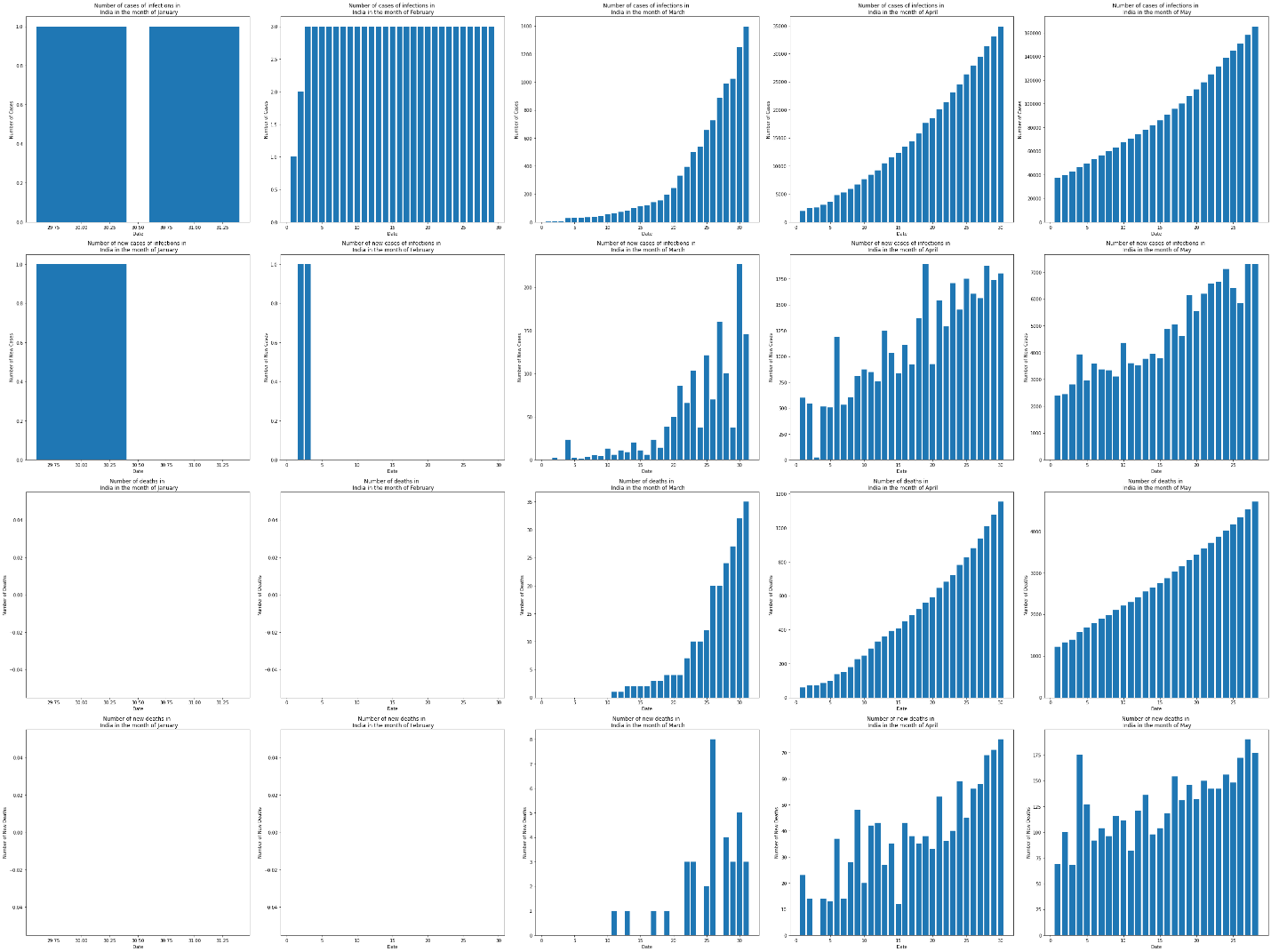
Over the past couple of years, the GDP growth rate has been falling, 2018(6.8%), 2019(4.2%) and was expected to be 4.6% percent in 2020. However, due to the imposed lockdown recent conservative estimates place the growth rate to be 1.8% while extreme estimates suggest that the growth rate might be in negative territory (for the first time since 1979).

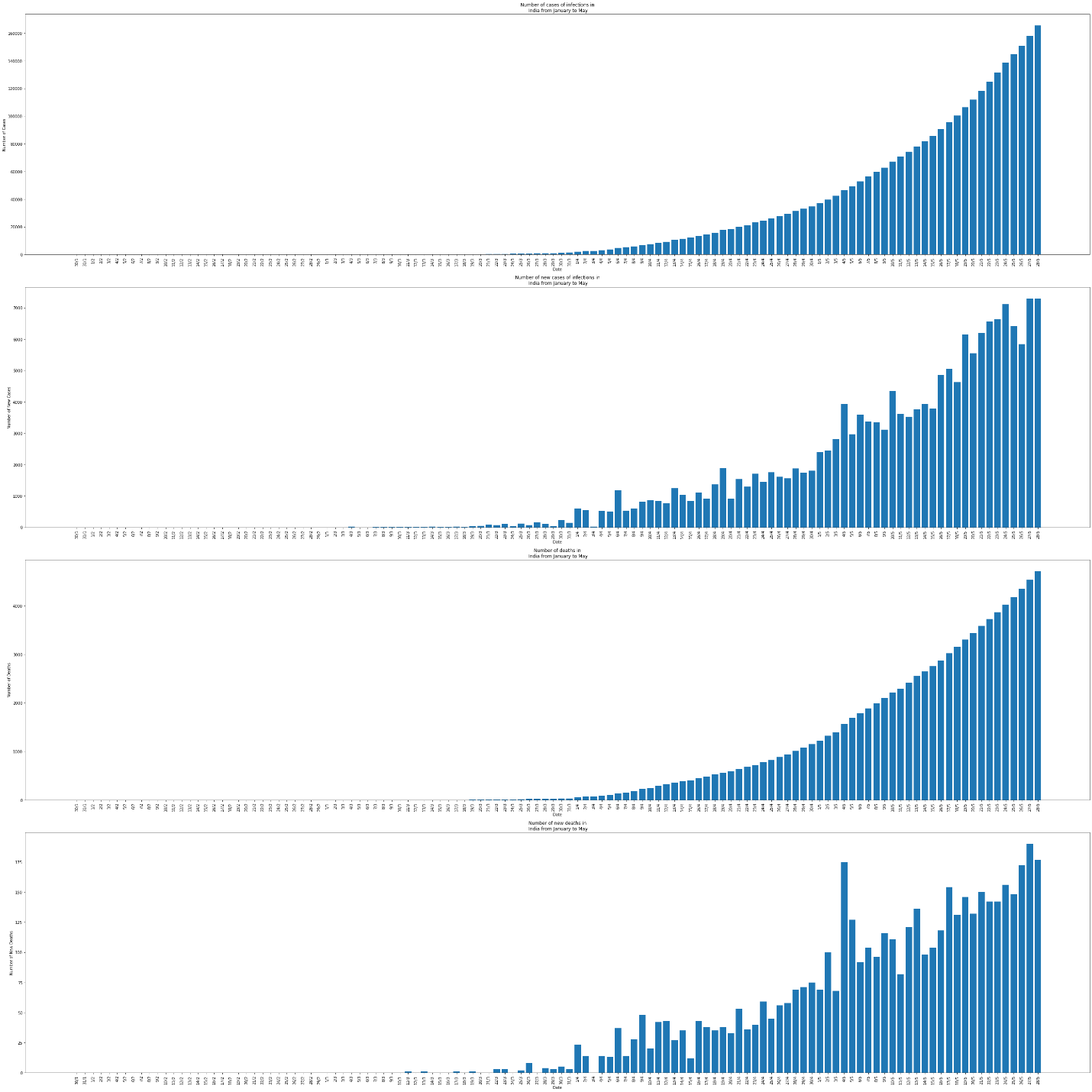
Due to extreme contagious nature of the COVID-19 virus, the Government of India has had to implement several restrictions to curb the outbreak. The brunt of the economic consequences of the restrictions has been faced majorly by the aviation, tourism and hospitality sector. Since the lockdown allows only the essential sectors to continue to function, the spending of disposable income is expected to reduce drastically. The impact of this would be seen in the volume and amount of the several of methods of payments such as UPI, NEFT, RTGS and so on.

This report presents the extent to which COVID-19 and the subsequent nationwide lockdown has impacted the financial transactions of the nation.

**2. India’s COVID-19 situation**

The first case of COVID-19 was reported in January end. While the number of cases remained low in the month of February, there was a steep rise in the number of cases in the month of March which led the government to implement a nationwide lockdown in the country. The current mortality rate of COVID-19 in India stands at 5.63% while the recovery rate is at 41%. The number of new cases is constantly increasing as can be seen in the graphs below.





**3. Impact of COVID on these 9 payment systems**

**3.1. RTGS**

The Volume of transactions of RTGS has remained generally constant for the past two fiscal years up until the month of February 2020, however, it fell by almost more than 10% in the month of March 2020. This drop may be attributed to the week-long nationwide lockdown as a precautionary measure against COVID-19 in the last week of the month of March.

A contrasting trend is observed in the amount of RTGS transactions. Since July 2019 there has been a downward trend in the amount of transactions for RTGS which could have been the result of the economic slowdown of India since the 2nd quarter of the current fiscal year (2019-20).

**3.2. NEFT**

A continuous upward trend has been observed in the volume of NEFT transactions for the past two fiscal year and it is seen that there has been no impact of the lockdown in the month of March on the volume of transactions.

A similar effect is observed in the amount of NEFT transactions, where the almost stagnant trend over the past two fiscal years experienced an almost 15% increase in the amount of NEFT transactions.

**3.3. IMPS**

A constant upward trend has been noticed in the volume of IMPS transactions; however, a downfall is experienced since the month of January. A 8% fall was experienced in the month of February, this drop was further accentuated in the months of March (14%) and April (42%).

Similarly, the amount of NEFT transactions experienced a upward trend until January 2020 and then experienced drops in the months of February (4%), March (15%) and April (40%).

**3.4. UPI**

Like the other payment methods, the volume of UPI transactions experienced a constant upward trend followed by a steep downfall in the months of March and April. A moderate 5% fall in March followed by a steep 20% downturn in the month of April.

Similarly, the amount of UPI transactions experienced a upward trend until February 2020 and then experienced drops in the months of March (6%) and April (27%).

**3.5. NACH**

Over the past two fiscal years volatility in the volume of UPI transactions has been experienced. However, the total volume increased in the month of March showing no effect of the COVID-19 lockdown.

Similarly, the amount of NACH transactions experienced an unusual rise of 30% in the month of March in contrast to the COVID-19 lockdown.

**3.6. Credit Cards**

The volume of Credit card usage at ATMs has been increasing slowly over the last two fiscal years, however it fell steeply in the month of March 2020 and stands just a little above the May 2018 level. Similarly, the amount of Credit card usage at ATMs fell in March 2020 by 5% and stands almost at par with May 2018.

The volume of Credit card usage at POS and the amount of Credit card usage at POS experienced a steep downfall in the month of March 2020 of 12% and 20% respectively.

**3.7. Debit Cards**

The volume of transactions of Debit Cards at ATMs has remained constant from April 2018 until October 2019 after which it has been in a downward trend. The volume fell by 12% in the month of March 2020. Similarly, the amount of transactions of Debit Cards at ATMs has suffered a 11% setback in March 2020.

The volume of transactions of Debit Cards at POS has been increasing gradually until February 2020 and since then has been falling. The fall in February might be a result of a slowdown in economy while the near 11% fall in March 2020 could have resulted from the lockdown. Similarly, the gradual growth of the amount of transactions of Debit Cards at POS has been dealt a 17% fall in March 2020.

**3.8. Wallets**

The upward trend in the volume of PPI wallets transactions has been marked with a 12% decrease in the month of March 2020 which could be attributed to the lockdown due to COVID-19. Similarly, the amount of PPI wallets transactions fell by 7% in March 2020.

**3.9. CTS**

The volume of CTS transactions saw a downfall in the month of March 2020 of 12% accompanied by a fall of 14% in the amount of CTS transactions in the month of March 2020.

**4. Conclusion**

**5. State-wise NPA**

As discussed in the Introduction (section 1), COVID has negatively impacted our economy. According to a survey by global advisory firm Willis Towers Watson, about 57 percent of organizations in India expect a moderate to large negative impact on their businesses in the next six months while 46 percent expect the effects of COVID-19 pandemic to last over 12 months. This will, in turn, affect the payment of loans in the next 6 to 12 months.

In this section, we study which states would be relatively affected the most in terms of paying the loans, taking into account the factors like the current population of the state as well as the number of confirmed cases in that state.

We have taken 13 states - Maharashtra, Tamil Nadu, Delhi, Gujarat, Rajasthan, Madhya Pradesh, Uttar Pradesh, West Bengal, Andhra Pradesh, Bihar, Kerala, Telangana and Karnataka. These states, as of 4th June 2020, have 90 percent of the total confirmed COVID cases in India and accounted for 87.12% of the total bank credit in the last quarter (2019-20: Q3).

**5.1 State-wise bank credit trend and prediction if there was no COVID**

The following graphs depict the trend for the last 11 quarters (2017-18: Q1 to 2019-20: Q3) as well as the predicted values for the next two quarters if there was no COVID (2019-20: Q4 and 2020-21: Q1).

The bank credit values for the next two quarters were estimated doing a simple time-series analysis on the previous 11 quarters.

**5.1.1 Maharashtra (35.09% of the total confirmed COVID cases in India)**

Maharashtra has the highest number of confirmed COVID cases as well as the highest bank credit in all states.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 5.35 percent and then slightly decreases in the first quarter of 2020-21 by 0.6 percent.

**5.1.2 Tamil Nadu (12.19% of the total confirmed COVID cases in India)**

Tamil Nadu has the 2nd highest number of confirmed COVID cases and ranks 3rd bank credit wise.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 2.7 percent and then slightly increases in the first quarter of 2020-21 by 0.9 percent.

**5.1.3 Delhi (10.29% of the total confirmed COVID cases in India)**

Delhi has the 3rd highest number of confirmed COVID cases and ranks 2nd bank credit wise.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 11.68 percent and then decreases in the first quarter of 2020-21 by 2.9 percent.

**5.1.4 Gujarat (8.71% of the total confirmed COVID cases in India)**

Gujarat has the 4th highest number of confirmed COVID cases and ranks 5th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 7.05 percent and then slightly decreases in the first quarter of 2020-21 by 0.75 percent.

**5.1.5 Rajasthan (4.66% of the total confirmed COVID cases in India)**

Rajasthan has the 5th highest number of confirmed COVID cases and ranks 11th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 7.6 percent and then again slightly increases in the first quarter of 2020-21 by 0.72 percent.

**5.1.6 Madhya Pradesh (4.2% of the total confirmed COVID cases in India)**

Madhya Pradesh has the 6th highest number of confirmed COVID cases and ranks 13th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 2.46 percent and then again increases in the first quarter of 2020-21 by 2 percent.

**5.1.7 Uttar Pradesh (4.19% of the total confirmed COVID cases in India)**

Uttar Pradesh has the 7th highest number of confirmed COVID cases and ranks 7th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 5.6 percent and then again slightly increases in the first quarter of 2020-21 by 0.55 percent.

**5.1.8 West Bengal (2.85% of the total confirmed COVID cases in India)**

West Bengal has the 8th highest number of confirmed COVID cases and ranks 8th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 2.36 percent and then slightly decreases in the first quarter of 2020-21 by 0.97 percent.

**5.1.9 Bihar (2% of the total confirmed COVID cases in India)**

Bihar has the 9th highest number of confirmed COVID cases and ranks 16th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 4.52 percent and then again increases in the first quarter of 2020-21 by 2.3 percent.

**5.1.10 Andhra Pradesh (1.91% of the total confirmed COVID cases in India)**

Andhra Pradesh has the 10th highest number of confirmed COVID cases and ranks 9th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 7.34 percent and then again slightly increases in the first quarter of 2020-21 by 0.47 percent.

**5.1.11 Karnataka (1.77% of the total confirmed COVID cases in India)**

Karnataka has the 11th highest number of confirmed COVID cases and ranks 4th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 3.63 percent and then again increases in the first quarter of 2020-21 by 1.04 percent.

**5.1.12 Telangana (1.54% of the total confirmed COVID cases in India)**

Telangana has the 13th highest number of confirmed COVID cases and ranks 6th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 3 percent and then slightly decreases in the first quarter of 2020-21 by 0.5 percent.

**5.1.13 Kerala (0.7% of the total confirmed COVID cases in India)**

Kerala has the 18th highest number of confirmed COVID cases and ranks 10th bank credit wise in the country.

If there was no COVID, we would have expected a similar trend as last year – the bank credit increases in the last quarter of 2019-20 by 4.19 percent and then again slightly increases in the first quarter of 2020-21 by 0.38 percent.

**5.2 Factors taken into account to study impact of COVID on non-payment of bank credit**

The two factors that we have taken into account to study the impact of COVID on non-payment of bank credit is the total number of confirmed COVID cases and the population in each of the 13 states.

Using the total number of confirmed COVID cases in each state, we found the percentage of cases in each of the 13 states that contributes to the total number of confirmed cases. Using the following formula,

Then we found out the percentage of COVID affected population in each state.

Finally, to study the relative impact we added the % COVID affected population of the 13 states and calculated the percentage contribution of each state in it.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| State | Confirmed COVID cases | Population | %COVID cases in the state | % COVID affected population | % Contribution of the state to the total % COVID affected population |
| MAHARASHTRA | 67655 | 123144223 | 38.95% | 0.0549 | 20.11% |
| TAMIL NADU | 23495 | 77841267 | 13.53% | 0.0302 | 11.05% |
| DELHI | 19844 | 18710922 | 11.43% | 0.1061 | 38.82% |
| GUJARAT | 16794 | 63872399 | 9.67% | 0.0263 | 9.63% |
| RAJASTHAN | 8980 | 81032689 | 5.17% | 0.0111 | 4.06% |
| MADHYA PRADESH | 8089 | 85358965 | 4.66% | 0.0095 | 3.47% |
| UTTAR PRADESH | 8075 | 237882725 | 4.65% | 0.0034 | 1.24% |
| WEST BENGAL | 5501 | 99609303 | 3.17% | 0.0055 | 2.02% |
| ANDHRA PRADESH | 3676 | 53903393 | 2.12% | 0.0068 | 2.50% |
| BIHAR | 3872 | 124799926 | 2.23% | 0.0031 | 1.14% |
| KERALA | 1327 | 35699443 | 0.76% | 0.0037 | 1.36% |
| TELANGANA | 2968 | 39362732 | 1.71% | 0.0075 | 2.76% |
| KARNATAKA | 3408 | 67562686 | 1.96% | 0.0050 | 1.85% |
| **TOTAL** | **173684** | **1108780673** | **100.00%** | **0.2732** | **100.00%** |

Assuming that the % of unpaid bank credit is equal to the % of affected COVID population in the state. We can conclude that the “% Contribution of the state to the total % COVID affected population” column in the data reflects the relative impact of COVID on the amount of unpaid bank credit in the state. So more the “% Contribution of the state to the total % COVID affected population”, more is the impact of COVID on the amount of unpaid bank credit in the state.

In the case of Delhi, 0.1% of the total population is affected by COVID with 19844 confirmed cases and it contributes to about 11.43% of the total confirmed cases amongst the 13 states. It has 38.82% contribution of the state to the total % COVID affected population, which is the highest amongst the 13 states. Therefore, we can conclude that Delhi will be the most affected state in terms unpaid bank credit due to COVID.