

Problem Statement

1. To analyze the effects of various factors on the different metrics which impact the spread of COVID-19 in the USA.
2. To assess the efficacy of measures taken by the government to stop the spread of COVID-19
3. To derive insights from public sentiment regarding the measures taken by the government to stop the spread of COVID-19 through analysis of streaming data from twitter API.
4. To recommend modifications in the government policies based on previous trends and public sentiment to maximize their efficacy.

Evidence Provided

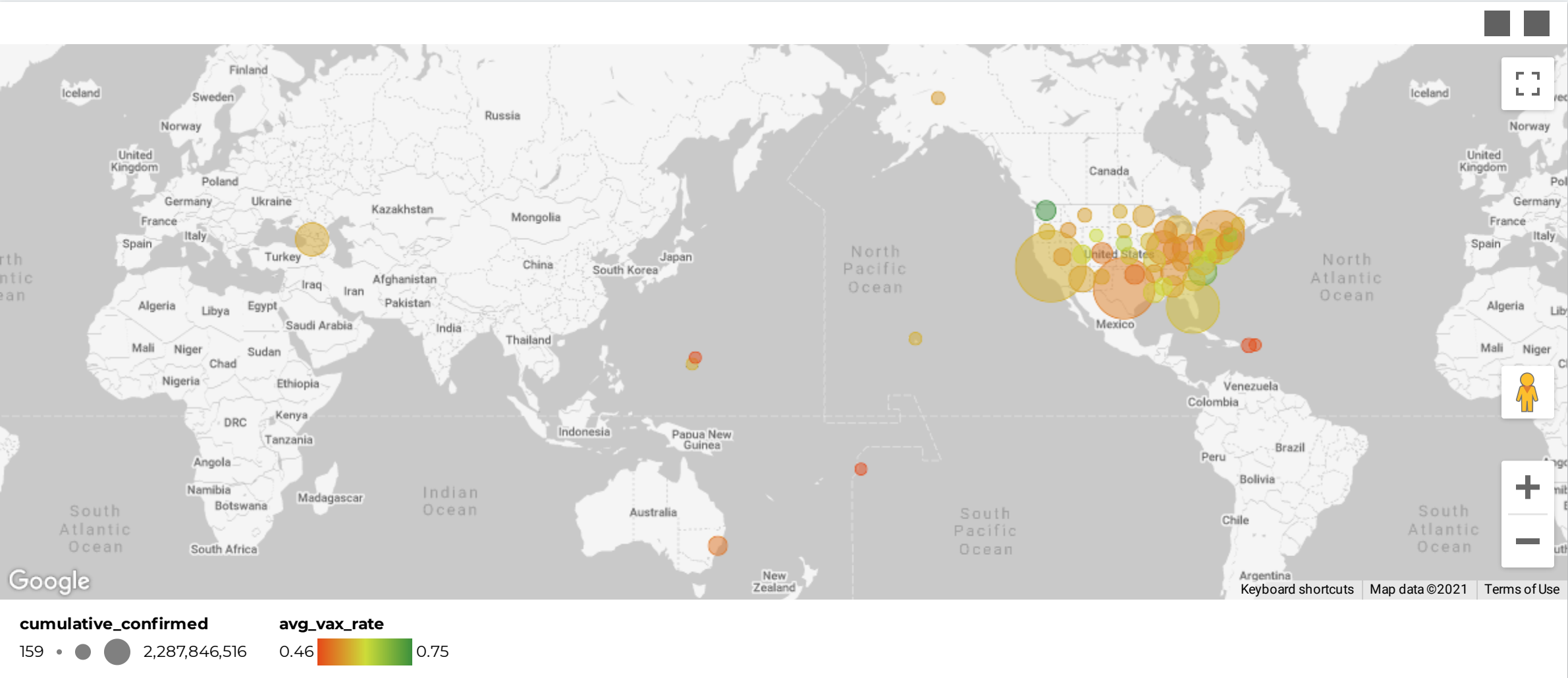
1. Analyzed the batch data available in google public data sets to provide insights and identify trends related to the factors affecting cases, vaccinations, deaths etc. related to COVID-19.
2. Visualized the impact of COVID-19 on the crime rate and the performance of industries during pandemic in the USA.
3. Analyzed and visualized the factors affecting the vaccination rate across all the states in the USA.
4. Predicted the efficacy of measures the government took to stop the spread of COVID-19.
5. Performed sentiment analysis on the streamed twitted data to identify public sentiment regarding government policies to stop the spread of COVID-19.
6. Visualized the impact of norms like wearing of masks on the cumulative cases across all states in the USA.

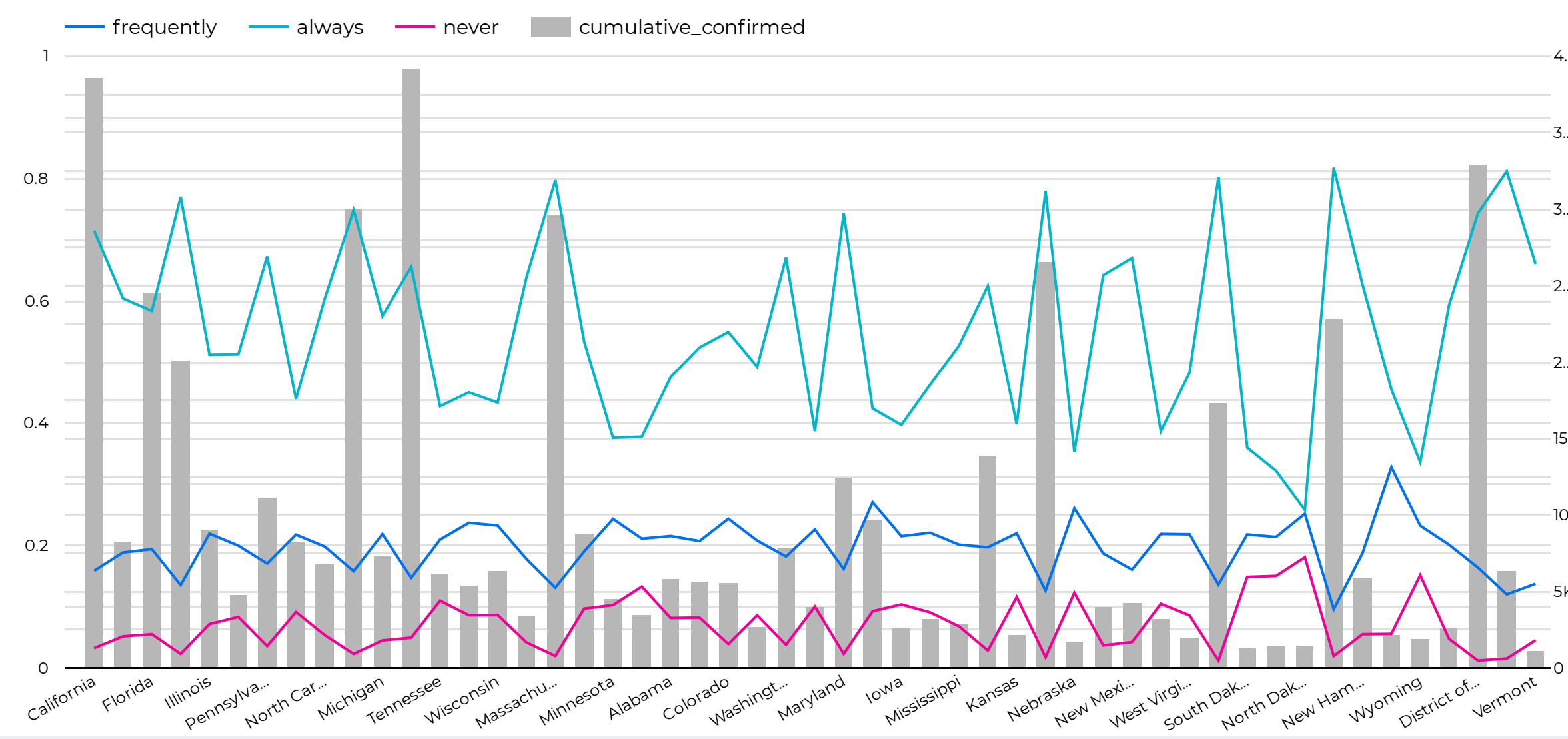
Recommendations:

1. Hospitality, Energy and Education industries are still recovering from the effects of the pandemic and would therefore need additional government support to bolster their performance post-pandemic.
2. There is no direct correlation between the rise in COVID-19 cases and the increase in the crime rate. Although, there was a spike in crime rates in the initial stages of the pandemic due to the rise in unemployment.
3. The government should look to create mandates which make mask-wearing compulsory indoors. This would help in increasing the percentage of people wearing masks 'frequently' as the proportion of the population wearing masks frequently decreases as the cases decrease.
4. The government should look to invest more aggressively in marketing campaigns promoting vaccination to increase the daily vaccination rate across states like Ohio and Oklahoma where daily vaccination rates are below 0.6.
5. The government should focus on vaccinating more citizens followed by implementing face mask mandates as they are the most effective measure to curb the spread of Covid-19.
6. Government should tackle fake news and ensure clear communication to the public.
7. Mandate proof of vaccination for public places.

Youtube Video Link:

<https://www.youtube.com/watch?v=YihM3vO2rUM>

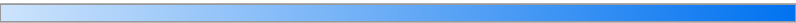




- 1. The gap between the percentage of people wearing masks 'always' and the percentage of people wearing masks 'frequently' is large in states with high cumulative new cases.
- 2. The govt should look to create mandates which would help in increasing the percentage of people wearing masks 'frequently'.

Top 5 Government Measures to be implemented to curb the spread of Covid-19:

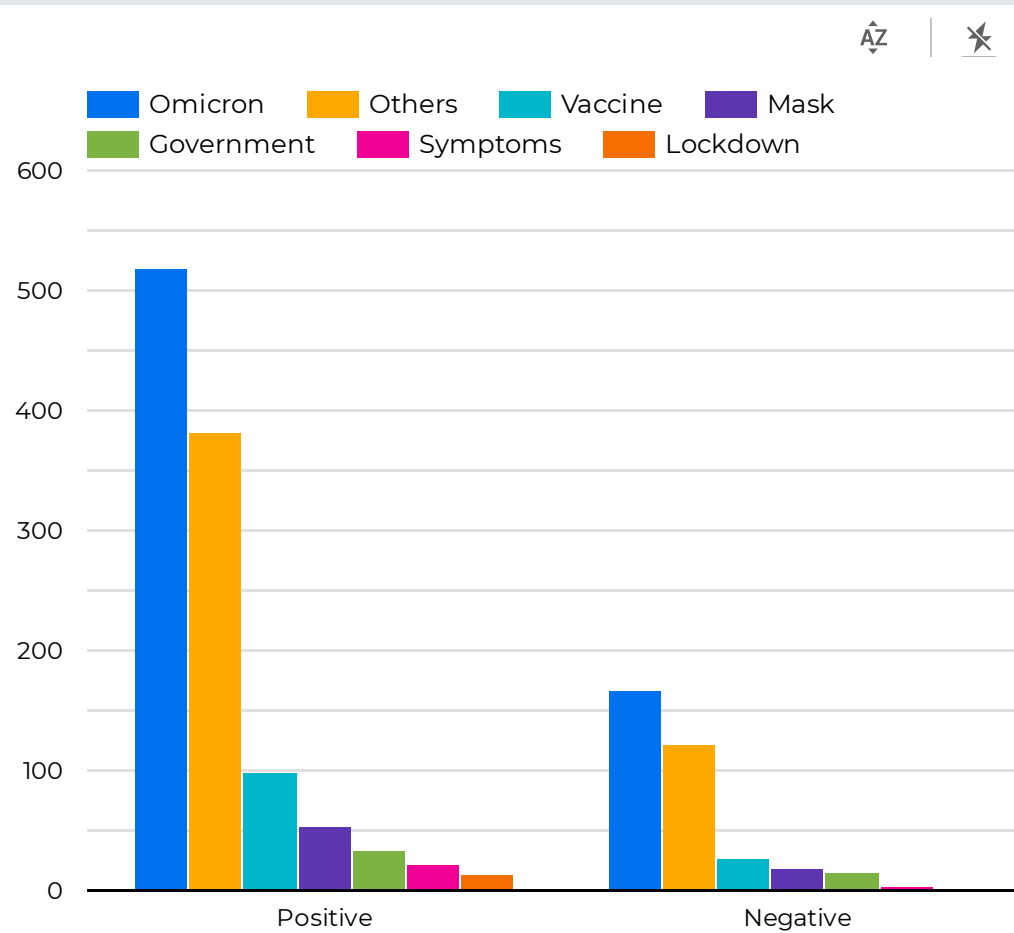
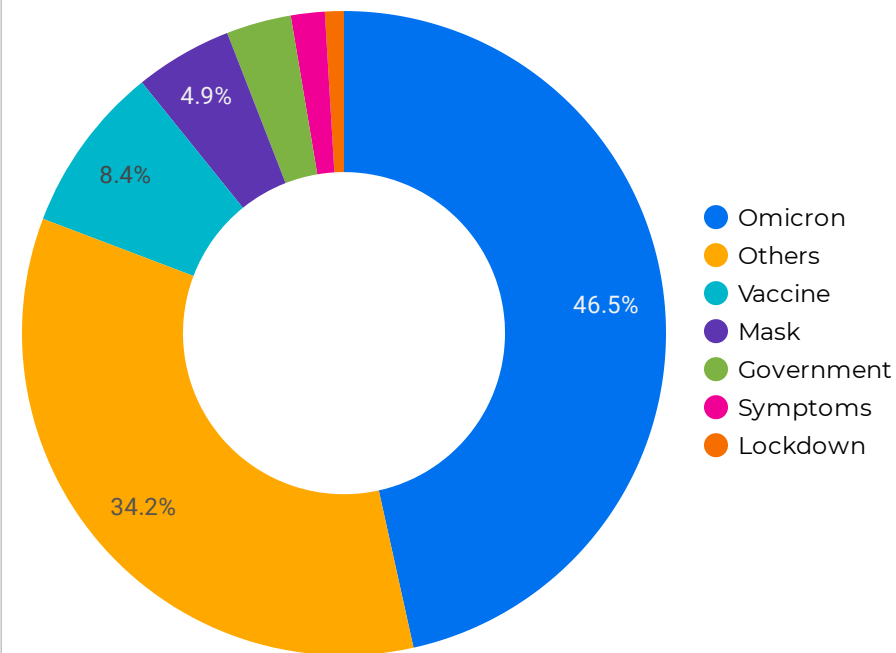
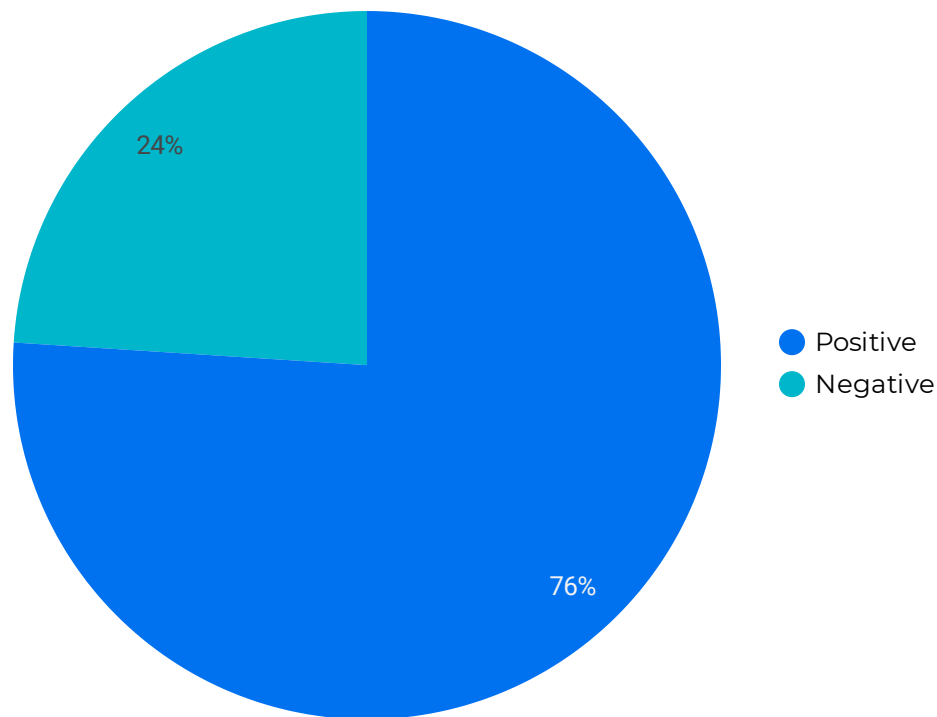
- The plot signifies that the government should focus more on vaccinating more citizens followed issuing face masks mandates as they are the most effective measures to curb the spread of Covid-19.

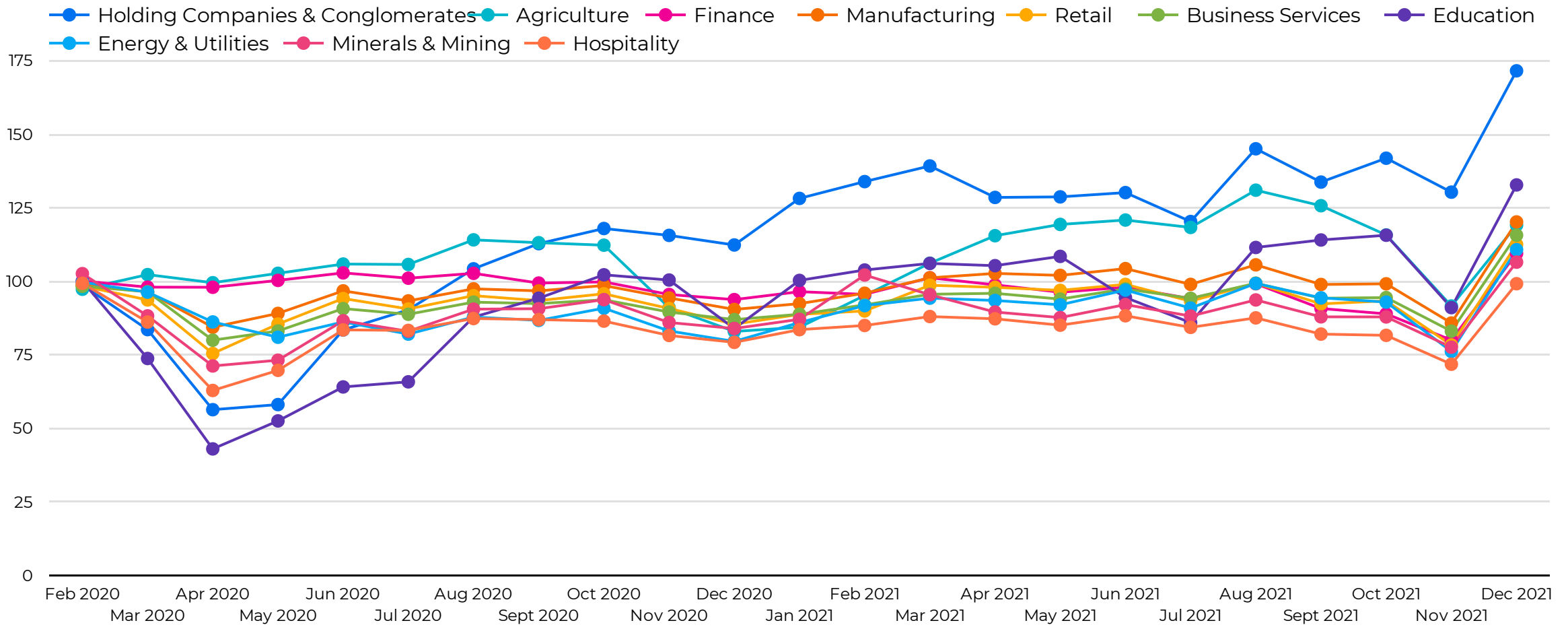


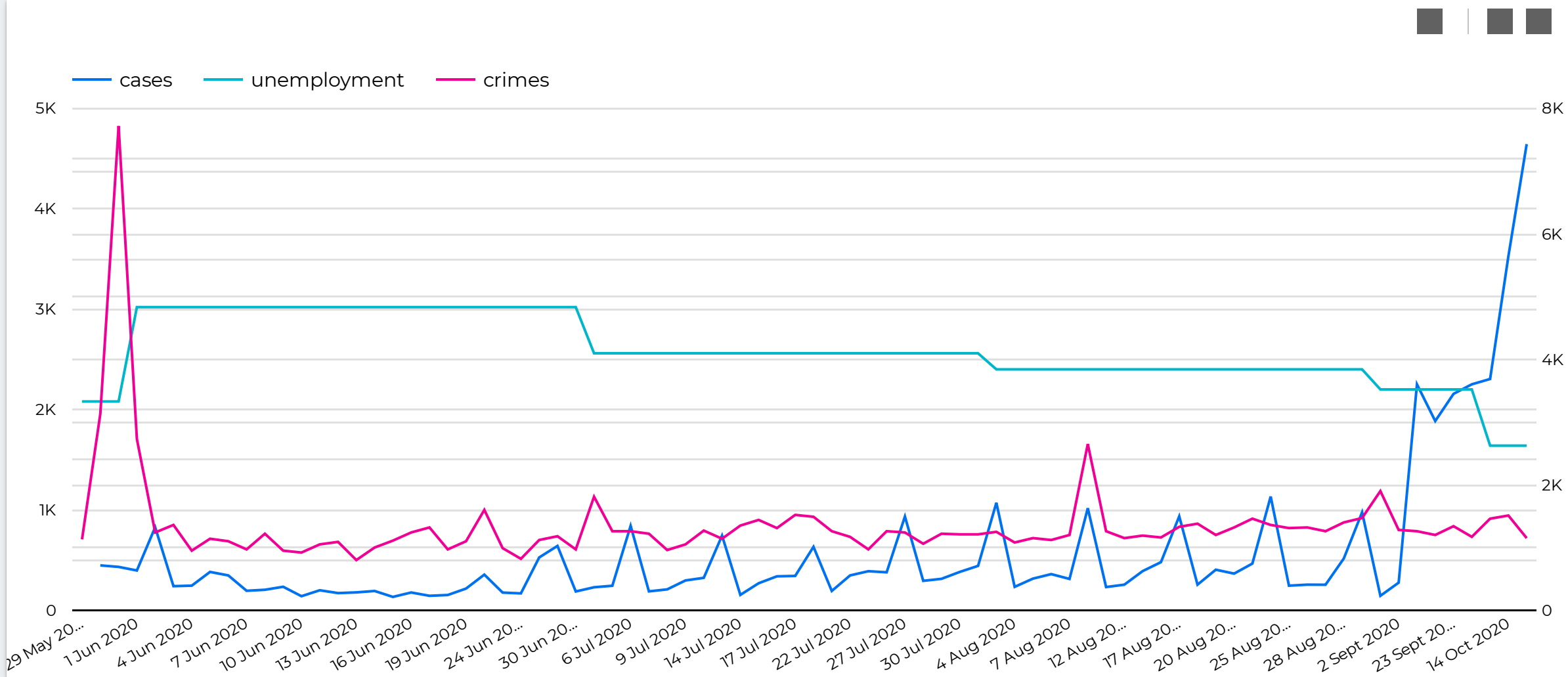
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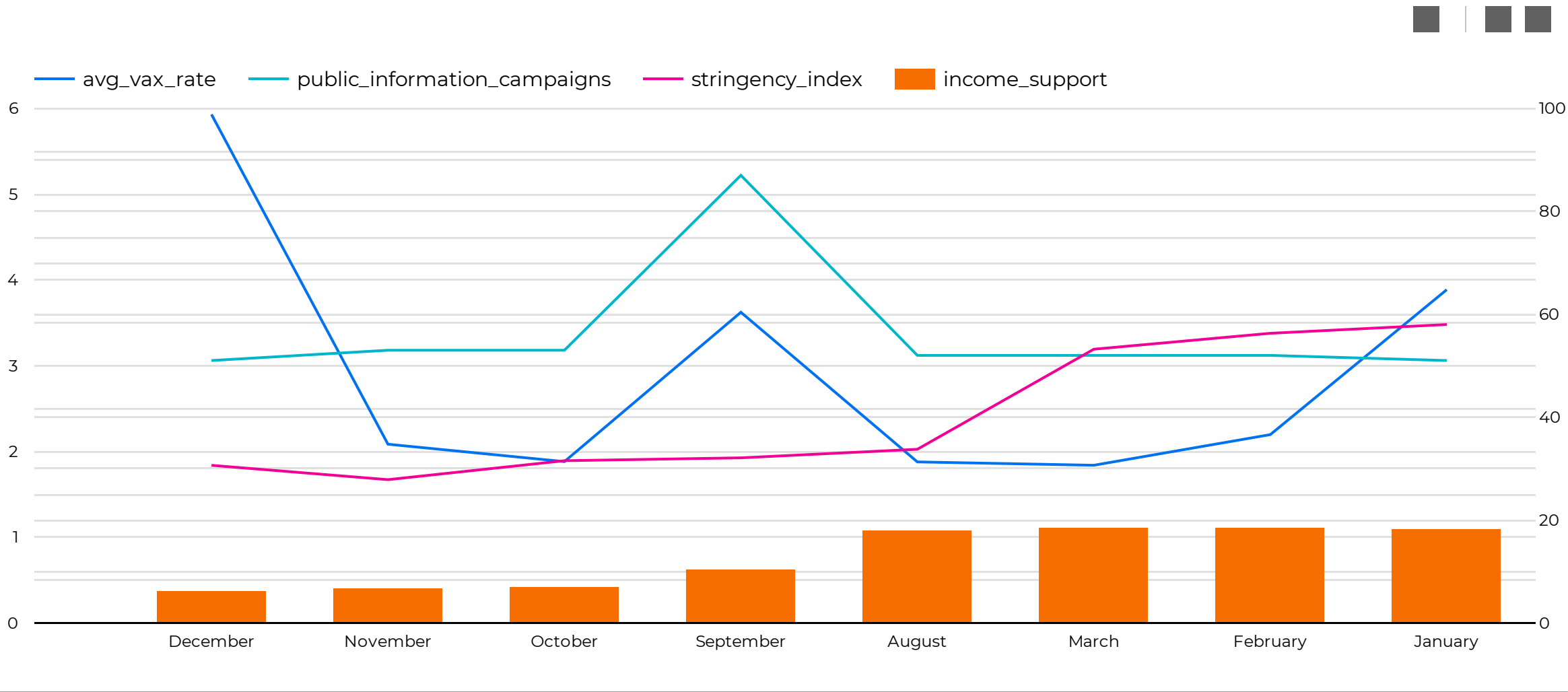
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1. The graph above represents the number of crimes, number of COVID-19 cases and the unemployment rate in the city of Chicago.
2. The rise in COVID-19 cases did not have an impact on the number crimes committed throughout the pandemic.
3. There was a slight increase in the unemployment rate in the early stages of the pandemic and started decreasing.
4. Initially, as the unemployment rate increased, the number of crimes increased. The number of crimes subsequently decreased as the unemployment decreased.



1. As the restrictions reduced after July, the vaccination rate increased in September.
2. The public information programs increased in September which resulted in the increase in vaccinations in November and December.
3. The income support given to the public like providing 50% of the salary to unemployed persons increased as the stringency index increased in the months of February and March.