Final Project:
COVID-19 Impact on Good Production Wages

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Introduction:

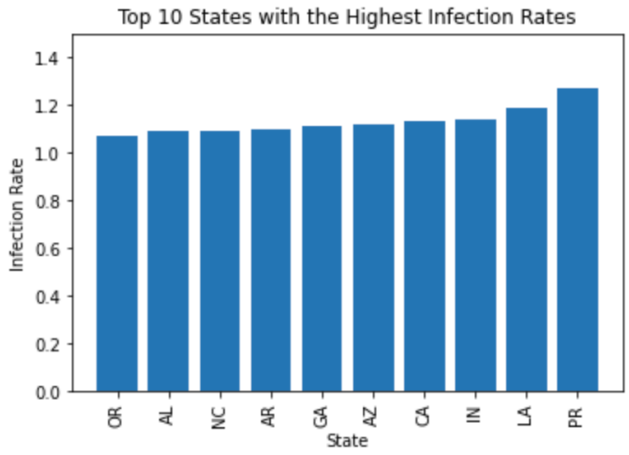
Since COVID-19 started, we have had issues in the economy across the globe. I wanted to see what was the real impact of COVID-19 on goods production since that would be directly correlated to the usage of items and coping done by the goods production industry. Goods-producing wages tell us a lot of things about the total standing of humanity because humans can't survive without goods, and if the impact was significant for them, then the whole country(U.S.) would've collapsed. Hence I chose goods-production owned by the private sector, for metrics across the 50 states to cross-analyze with COVID metrics.

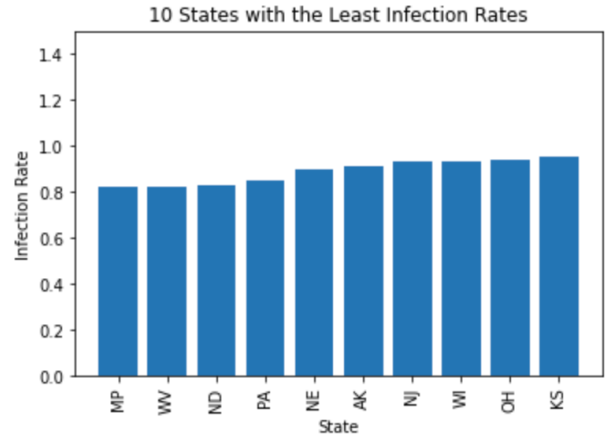
Approach:

I have 4 datasets at my disposal; An API containing all of the most updated COVID information for the 50 states. I also used three CSV files containing different labor metrics about the states. These three CSV files are for Quarter 4 of 2019, Quarter 3 of 2020, and

Quarter three of 2022. I used Q4 of 2019 since that'll be before the panic about it even started, and didn't use Q1 of 2020 since it envelops the timeframe when COVID erupted, giving us maybe a skewed dataset. I used Q3 of 2020 since that'll be in the midst of quarantining and mandatory masks. This will be good to observe since it'll be during the storm of COVID. I used Q3 of 2022 since that is the most updated dataset available in the US Bureau of Labor Statistics. And COVID was pretty much on a steep decline by Q3 of 2022.

First from the COVID-19 API, I found the 10 states with the highest infection rates[1], and 10 states with the least infection rate(graphed below). I got the states' names to analyze them further and later moved on to the three years of datasets while utilizing the states' names from the CSV file.



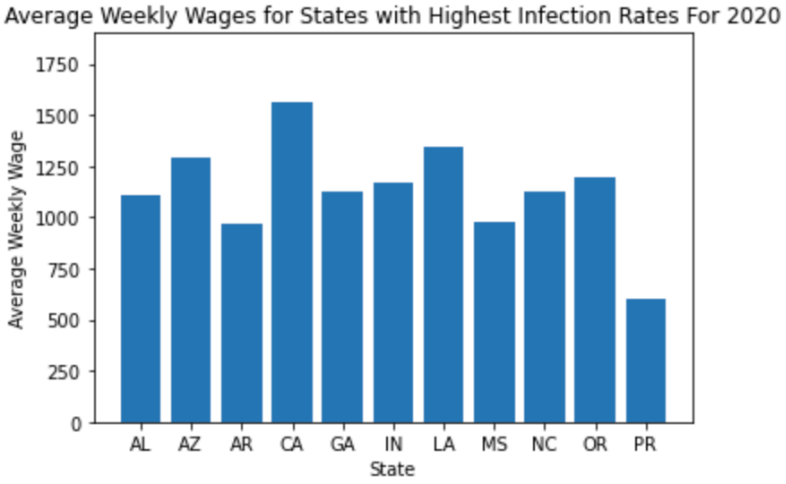


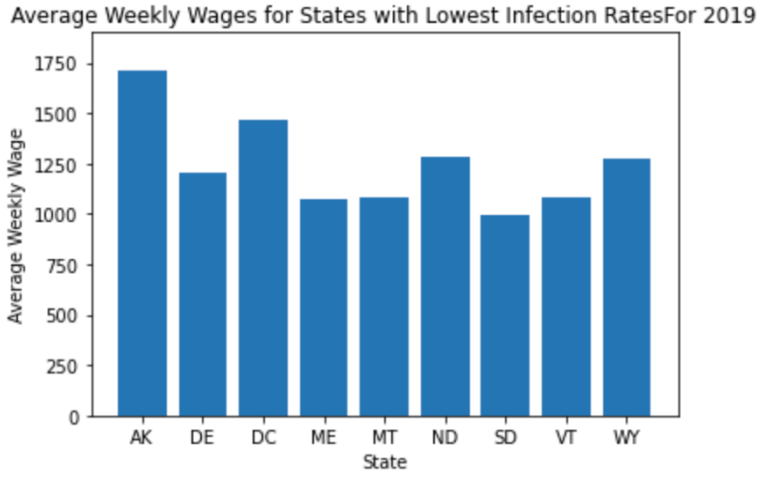
The highest infection rate is in Puerto Rico, but it is not considered a part of the US nor its own country, hence the next best thing is Louisiana(LA) with an infection rate of 1.19. The lowest infection rate is tied between the Northern Mariana Islands(MP) and West Virginia (WV). We shall consider West Virginia since MP became its own country in 1994.

From the CSV files, I looked mostly at the average weekly wages across the 20 states(10 highest and lowest infection rate states) for a better understanding of the data and impact on the overall shift in the weekly wages by year. I wanted to make a graph of the least and

highest infection rates' weekly wages by year. I split the graphs into the below subsections for more clearly visualizing.

Quarter 4 of 2019:

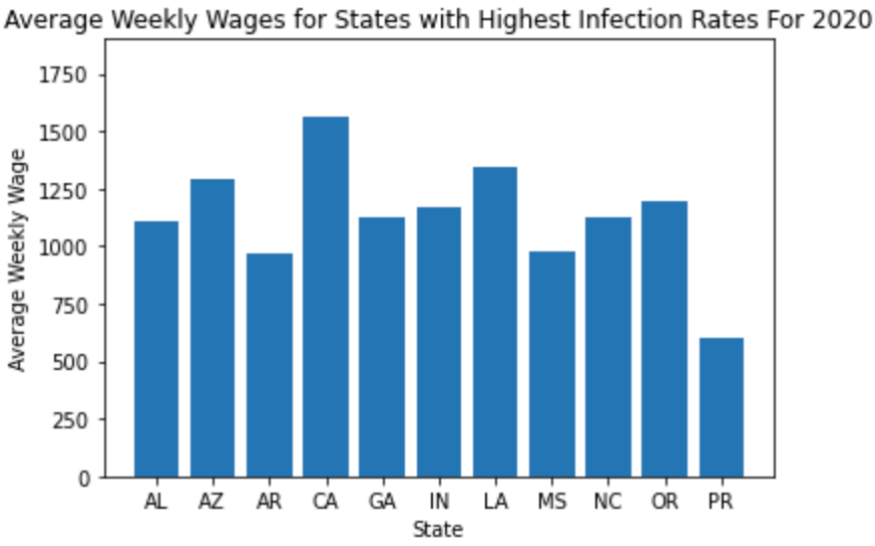


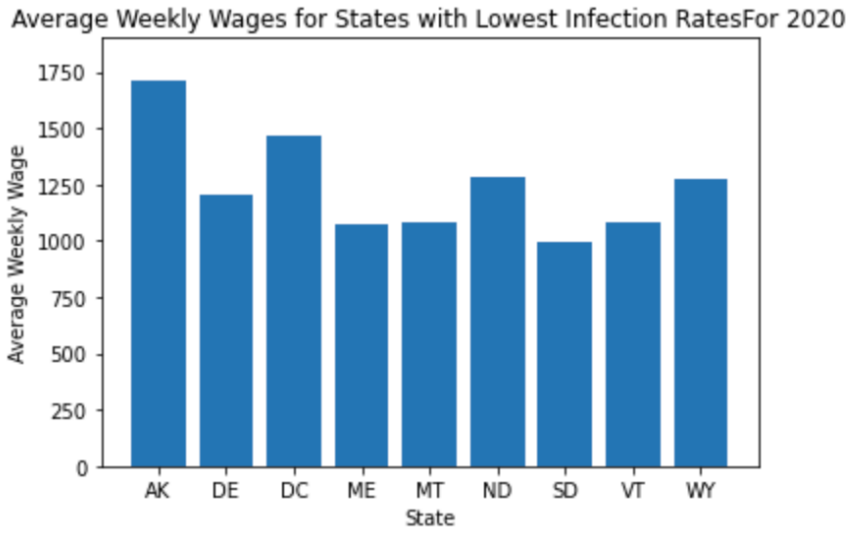


Off the bat, we can see that the states with lower infection rates have a higher average wage than the states with high infection rates.

Possibly because more education would mean a higher average salary, that would also mean fewer people skeptical about the science of vaccination or masks. An outlier we see here would be that of California, where the education is pretty high but the population is highest in the country, consequently leading to higher infection rates, since it'll be easier to spread among a larger group of people.

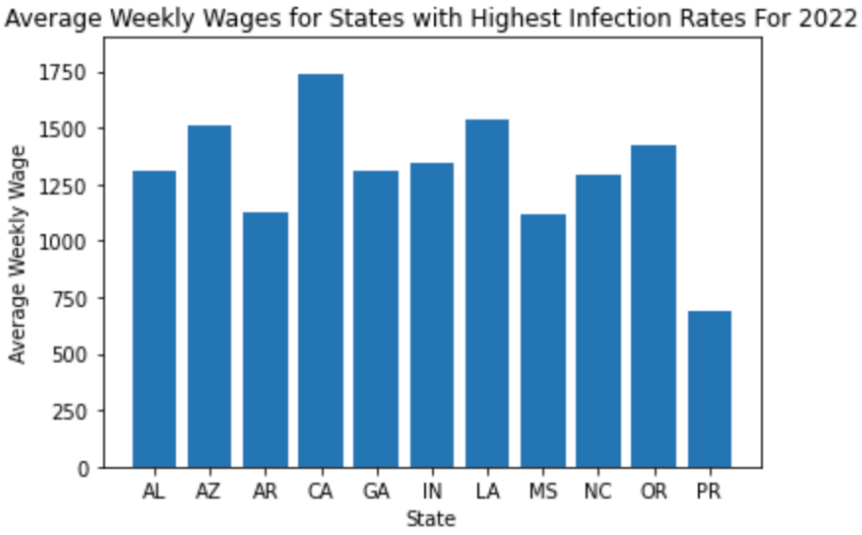
Quarter 3 0f 2020:

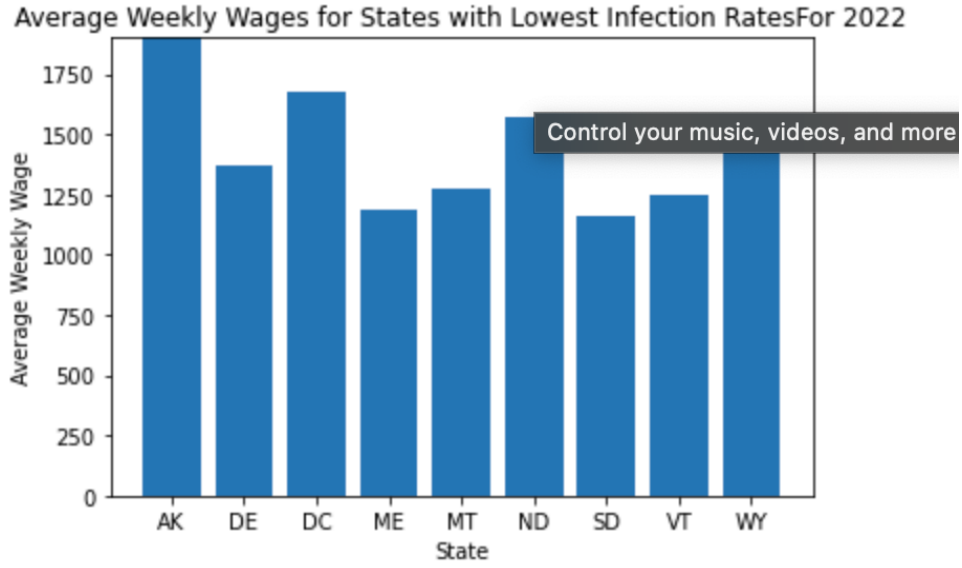




As we expect the low infection rate folks have it better since their lowest wage is around 1100$ and the high infection state average goes lower than that on multiple occasions. But there is a slight overall decrease in every state.

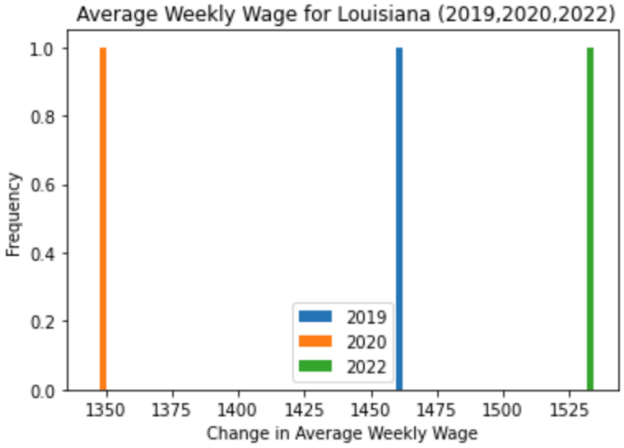
Quarter 3 of 2022:

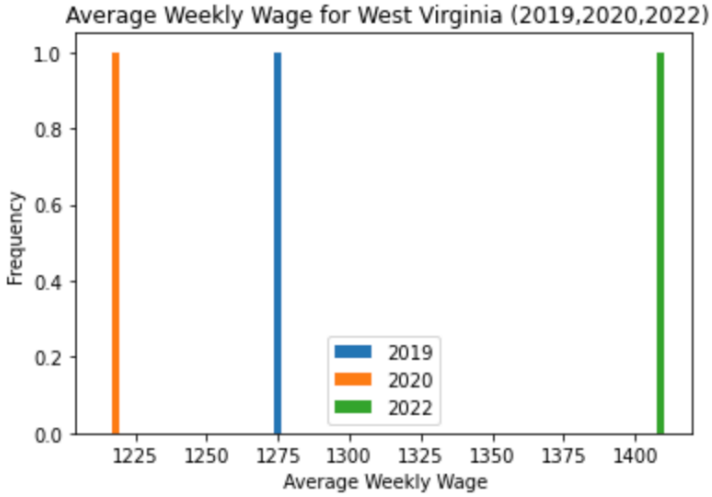




These two graphs show major evidence that the states with fewer infection rates bounced back from the drop and went above than what they were initially at, in 2019. This would make sense because the high infection rate states now would have had to rely on the more safer states to produce the goods, hence the increase in the pay for the safer, less infected residents.

Now, finally, we graph the highest infection rate state and the lowest infection rate states' weekly wages through the three years. Louisiana and West Virginia to be more precise.





We can clearly see that even though West Virginia had a lesser avg wage, during the midst of it, it only decreased by 50 dollars whereas Louisiana had a more significant impact on its wages, where on average people were $100 poorer. Although they came back and passed their previous wage, while COVID was still active the loss was definitely might've been felt by the people. The

Next steps:

A few sub-topics more explorable in this broad topic would be :

- The Vaccination rate in relation to the weekly wages.
- Political affiliation in relation to the infection rate, consequently, weekly wages.
- Change in employment rates in relation to any COVID metric.

References:

- Three CSV's from U.S. Bureau of Labor Statistics
- Covid information from Covid Act Now API