

THE RELATIONSHIP BETWEEN COVID-19 and IDEOLOGY IN THE UNITED STATES

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INTRODUCTION

The global pandemic of Covid-19 now is a threat to human life and the social and economic order as we know it. It is now a problem for all the world but some countries with their responses to the pandemic caught our attention, such as the United States. There is a common sense that the United States did relatively poor job under Trumps administration when it comes to containing the spread of the virus. United States have the highest number of cases per capita and do not have a universal healthcare system, which means that the health package does not include the Covid-19 treatments, which made the pandemic situation more difficult and stressful for its citizens.

World Health Organization is taking the lead of containing the virus globally, they are campaigning to introduce necessary measures to slow down the spread to all governments around the world. Apart from the restrictions and administrative precautions, a great share of responsibility lies within the citizens. As citizens, they might believe and be influenced by what the leader of their party affiliation say. Whether they do or do not take precautions as wearing masks and sanitizing their hands, respect or not respect the social distance and quarantine restrictions, and even if they believe the existence of the Covid-19 virus. When it comes to the United States, it might help us to explain why some states are doing better than the others. United States is a federalised country, therefore with states up to certain degree make their own regulations, especially about the Covid-19 emergency rules. As an example while in some states wearing masks both indoors and outdoors is mandatory in some other states it's not. The behaviour of the citizens towards the pandemic also varies between states and we believe that this difference might be explained by one important aspect, their party affiliation. USA recently had its 2020 Presidential Election and American people presented their leader preference in ballots. This recent development shed light on our research proposal. We are familiar with the speeches of Trump and his rival Biden on the Pandemic that we will discuss deeper later on our paper. Even though we are aware that we cannot make a generalization to all citizens as individuals, we are to believe that states that have more supporters of Trump administration is more likely to have more Covid-19 cases. In this research we will try to investigate the relationship between choosing Trump over Biden and having more cases in a state, and if there is one, between the coronavirus cases across different States in the United States of America and the choice of the presidents which indicates the partisan choice of the American people.

FORMING OF THE HYPOTHESIS

We would like to identify the main reasons why states who have voted for the Republican Party and Donald Trump, have proportionally more coronavirus cases than the states who have voted for the Democratic Party and Joe Biden in the last presidential elections. Most important questions are if the majority of the population in the given state take the virus and the consequences of its spread seriously? Do they believe masks protect them from the spread, and how likely they are to wear

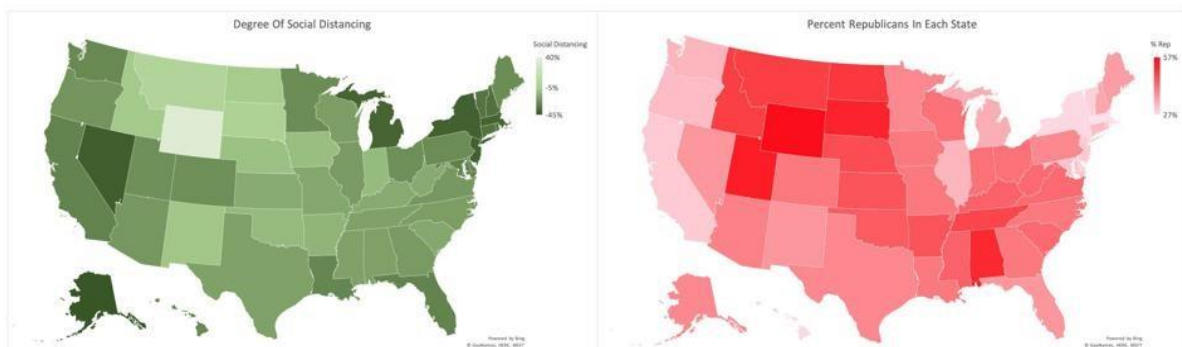
masks? Do they respect the social distance and practice it in public areas? Do they give importance to hand hygiene?

There is a sharp partisan divide between Americans over the Covid-19 pandemic. Around 68 percent of Democrats are worried that someone from their family can be infected by the virus while only 40 percent of republicans are worried about the subject. While 80 percent of democrats are pessimist regarding the future of the pandemic, only 40 percent of republicans feel the same way, most of the republicans think the worse is over, which makes them vulnerable to the spread of virus since they are more likely to not take the precautions seriously.

One of the main reasons of the virus spread in republican states is because Donald Trump, the republican president has called the coronavirus “the new hoax of the democrats” early on. At the time 74 percent of republicans responded positively to Trump’s words while 91 percent of democrats responded negatively. Donald Trump also mentioned that the Corona Virus is as deadly as a normal flu, which made his voters underestimate the consequences of virus infection and prevented them from taking the measures seriously.

Masks are probably the most important tool we have in order to protect us from being infected with covid-19 since they are easy to access and use. It is known that wearing masks properly over mouth and nose decreases the viral transmission by 70% as the virus is spread by respiratory droplets which are produced through coughing, sneezing, breathing and talking. There is a significant difference between democrats and republicans when it comes to wearing masks in public places. 48% of republicans say that they are wearing masks every time, 22% most of the time 20% sometimes, and 9% never. Democrats wear 86% every time, 11% most of the time, 2% some of the time and 1% never.

Social distancing is important as respiratory droplets can survive in air for at least 8 minutes and can travel from 1 meter to 2 meters. If the people do not respect the social distance, they are more likely to get infected by droplets. There is also a clear correlation between political affiliation and the degree to which people are social distancing. The democrat states are socially distancing to a much greater degree than the republican states.



The graph on the left shows the degree the states are social distancing. The darker green the states are, more likely they are socially distancing. The graph on the right shows the degree the population of the state is republican, the darker the red the more republican the state. Overall we are able to see a trend between the graphs. The more the state is republican, the less they are likely to socially distance in public areas.

Another important thing in order to protect ourselves from the corona virus is taking care of our personal hygiene particularly our hands. Respiratory viruses like covid-19 are likely to spread from

the hands if we are touching our nose and mouth, where the droplets are produced, and if we don't wash our hands with soap, the virus containing droplets will stay on our hands and spread to wherever or whoever we touch. By a margin of 10 percent democrats are more likely to wash their hands and use disinfectant. While 38 percent of republicans say they are washing their hands frequently 48 percent of democrats say they are giving importance to their hand hygiene. Republicans were also less likely to avoid physical contact that might transmit the virus, such as handshakes. 14 percent of republicans refrain from handshakes while the percent is 21 for democrats.

Overall when we look at the results of our questions, we can see that population living in the states who have voted for the republican party are more vulnerable to covid-19 since they are more likely to underestimate the consequences of being infected by the virus. They are less likely to change their behaviour respecting the new norms introduced to prevent the virus spread since the authority they respect, the republican government, do not take the virus as seriously as the democrat authorities. More democrats feel the future of the pandemic would be worse if they do not take action by 40 percent more than republicans. There is a difference of 38 percent between democrats and republicans when it comes to wearing masks every time, while democrats are wearing masks more. Democrats are more likely to socially distance themselves than republicans. Democrats are more likely to refrain from physical contact also give more importance to their physical hygiene by washing their hands more. All these results are in favour of democrats which makes us expect less corona virus cases in democrat states, also proving the data we computed.

Our Hypothesis is as follows, the more a State has Republican or Trump voters, the higher the number of coronavirus cases per capita. In our Study we have chosen to focus on the USA because firstly it has one of the highest cases of coronavirus per capita, and there seems to be a difference across the individual states. It is also a study that would be so much harder to do across countries, since every country has unique circumstances to themselves that may impact the total coronavirus cases and thus there would be the need of controlling for many variables. Focusing only on a single country allows us to keep many variables constant and thus to have confidence in the findings.

As our independent variable, we use the difference between the share of votes Trump had with respect to Biden, this variable varies between -1, in the case Biden gets all the votes, and 1 as in all the votes goes to Trump. We have taken these data from 2020 US President elections reported by Google News. We reported the focused vote percentages regarding to the way election held, state by state. This in fact shaped the way we proceed examining and reporting our dependent variable data. Our dependent variable is the cases of Covid-19 per 1 million population, again with respect to electoral district states. We chose to use the number of cases divided to a constant denominator of 1 million because first we needed our districts to have equally weighted case values. Second reason was that we came across data on WorldoMeters reported exactly with our intention in the first place. We choose the most possible immediate Covid-19 cases report, it being 2 days after the election results confirmed. For our control variables first, we consider the different population densities of the states we work on. the reason is that we control for density is because the coronavirus is expected to spread much faster in densely populated areas, as the measure we use is the population per kilometre square. We took this data from Wikipedia. Then we considered the possible impact of the amount of Covid-19 tests being made on the Covid-19 cases being reported. Both number of tests made, and number of cases are taken from WorldoMeters and with respect to

1 million population, due to the reason mentioned previously. This data also differs from states policies which is the reason why we also control for the District Mayor's party, being Republican stated as 1 and Democrat stated as 0, as our last control variable.

REGRESSION ANALYSIS AND RESULTS

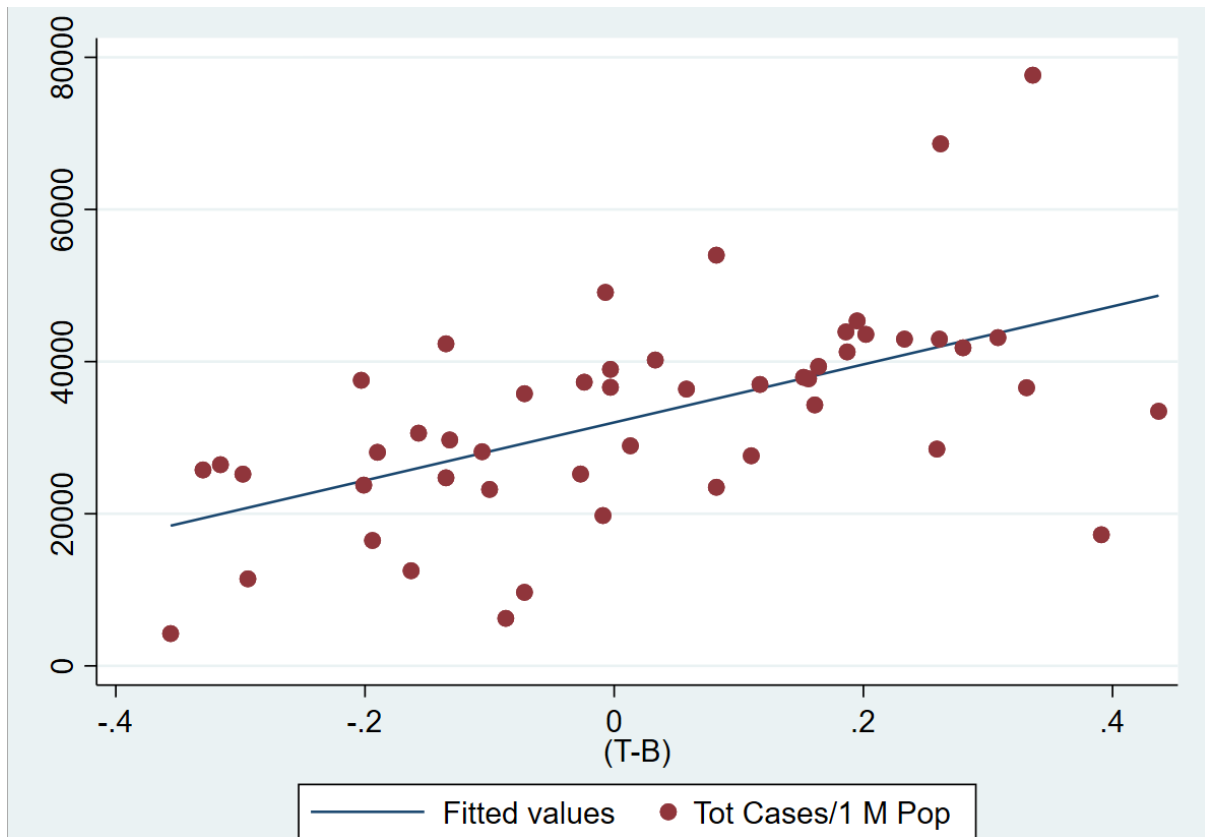
Source	SS	df	MS	Number of obs	=	50
Model	3.0024e+09	1	3.0024e+09	F(1, 48)	=	22.13
Residual	6.5107e+09	48	135640381	Prob > F	=	0.0000
Total	9.5131e+09	49	194145428	R-squared	=	0.3156
				Adj R-squared	=	0.3013
				Root MSE	=	11646

cases	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Difference	38141.53	8106.983	4.70	0.000	21841.35 54441.72
_cons	32005.05	1662.233	19.25	0.000	28662.9 35347.19

There seems to be a positive relationship between the cases per 1 million population and Trump's share of votes with respect to Biden's in the same state. As Trump's share of votes, with respect to Biden increases by just one percent, the cases per 1 million population increases by 38141.53/10. Which is 381.

The average difference between a state where Biden has 10 percent (0.-1) more votes than Trump, and a state where Trump has 10 percent (0,1) more votes than Biden would be 38141.53/5. The Null Hypothesis is therefore rejected and the alternative hypothesis is accepted.

As to come to our alternative hypothesis, that is 'the more a State has Republican or Trump voters, the higher the number of coronavirus cases per capita' is accepted. The model seems to have an explanatory power and it explains a relatively important portion of the variation in the dependent variable. The 31.56 percent of the variation in the dependent variable, that is Covid-19 Cases per 1 million population is explained by our independent variable that is Trump oriented vote difference with Biden. The index has a statistically significant effect on number of cases, which can be seen from the graph below. The real range of our independent variable also can be seen from the graph below.



But as there are or might be some other variables that can effect our estimations we run some controls.

Source	SS	df	MS	Number of obs	=	50
Model	3.2326e+09	4	808152818	F(4, 45)	=	5.79
Residual	6.2805e+09	45	139566993	Prob > F	=	0.0008
Total	9.5131e+09	49	194145428	R-squared	=	0.3398
				Adj R-squared	=	0.2811
				Root MSE	=	11814

cases	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Difference	41957.68	10789.2	3.89	0.000	20227.12	63688.24
gov	1645.689	3811.228	0.43	0.668	-6030.518	9321.896
tests	.0018674	.0094843	0.20	0.845	-.0172349	.0209698
density	20.61258	22.38655	0.92	0.362	-24.47625	65.70141
_cons	28551.56	4811.368	5.93	0.000	18860.97	38242.15

In respect to our previous Stata table, there still is a positive and significant relationship between the cases per 1 million population and Trump's share of votes with respect to Biden's in the same state, even after we have added our control variables. As Trump's share of votes increase by one percent against Biden's votes, corona virus cases increase by 41957.68/100 which equals to 419. Even though adding the new control variables increased the number of cases in our magnitude, they are not significant since they have a p value more than 0.1. There seems to be no other variable in our

model than the difference that has a statistically significant impact when it comes to explaining our dependent variable, cases. The average difference between a state where Biden has 10 percent (0.-1) more votes than Trump, and a state where Trump has 10 percent (0,1) more votes than Biden would be 41957.68/5.

The hypothesis of 'The more a State has Republican or Trump voters, the higher the number of coronavirus cases per capita' is still accepted. The model explains an important portion of the variation of the dependent variable. The 33.98 percent of the variation in the dependent variable, that is Covid-19 Cases per 1 million population is explained by our independent variable that is Trump's vote difference between Biden's vote. The index has a statistically significant effect on number of cases.

Before concluding our study, some things need explanations regarding the control variables. Starting with dummy variable we have Governor, coded as 0 for Democratic Governors and 1 for Republican, we would say that for the states that have a Republican Governor the Covid-19 cases per 1 million population is approximately 1646 higher, keeping every other variable constant, but since the p value is not low enough, or alternatively, since the confidence interval includes the 0 value, it is not significant and therefore there is conclusion to be reached.

Concerning our second control variable we have Covid-19 Tests per one million population. We have expected to observe, in States with higher number of Covid-19 Cases, a higher number of testing. But what we actually observe that there is no relationship between the number of cases and the number of tests. We have two possible explanations on this regard. First, number of tests conducted in a given state is up to state authority and their desired level of being precautious. Secondly, in order to prove a Covid-19 negative case it is required to do more than one or two tests. For example for the people being tested for the first time and want to be sure of being Covid-19 negative or for making sure a patient fully recovered more tests are taking place. These two theories are our possible explanation for the unobserved relationship between tests and the number of cases.

CONCLUSION

We had certain expectations before doing this research, the expectations being that the States that support, in a relative way, Trump more than the others would have more Covid-19 cases on average. After collecting the necessary data and controlling for the variables that we thought may have an impact on the final results. We found a systematic and positive relationship between the Covid-19 cases and being a Trump supporter on the State level, which confirms our initial expectations regarding the relationship.

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