Political Spectrum vs. COVID-19 Response

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Within Western Nations, democracies have been lauded as the progressive form of government. However, within the last 10 years, the world has become increasingly autocratic, with personal freedoms being restricted in favor of increased government control. This paper seeks to explore the trade-offs between democratic vs autocratic government types through the lens of national COVID-19 responses.

1 Introduction

1.1 Background

According to British Psychologist Hans Eysenck, the political spectrum runs along two axes: liberal vs. conservative and democratic vs. autocratic. While the liberal/conservative axis heavily influences US politics, with democratic and republican parties representing liberal and conservative ideals respectively, the democratic/autocratic axis is less prevalent in US politics. However, there has been an increasing creep towards autocracy in the US, with the US democracy score decreasing in the last few years. Both democratic and republican parties, while at odds with each other over the liberal/conservative split, seem to be moving towards big government in terms of spending and control.

Throughout the world, this trend is also prevalent. Democratic scores have decreased on average throughout the world, and strongmen have cemented their grip on power in several large countries within the last decade. With the advent of more powerful technology and data parsing techniques, it is also increasingly difficult to protect individual freedoms such as privacy. It seems that overall, there is a trend towards autocracy throughout the world.

In the west, the idea of individual freedoms being an unalienable right is strong, and while the world is trending towards autocracy, western ideals generally condemn autocratic governments led by strongmen. Autocratic governments, on the other hand, tend to view democracy as an outdated form of government incapable of organizing society in effective ways.

We, the authors, believe that government control and personal freedoms should be viewed as tools to be used to combat different scenarios rather than a catch-all policy. There are situations that are better handled in a more autocratic way, and other situations that are better handled with solutions favoring personal freedoms. While there are countless situations to consider, a general rule of thumb for deciding whether to employ autocratic approaches or democratic approaches is by estimating the amount of externalities within the situation. The greater the magnitude of externalities (whether positive or negative), the more we believe that autocratic approaches would have greater efficacy compared to democratic solutions. This is because externalities suffer from the free rider problem, where individuals are not incentivized to take individual actions that would be socially optimal. For example, having an effective firefighting force provides a strong positive externality for everyone served by the firefighters. However, individuals would prefer to be a free rider in this situation - essentially benefiting from having firefighters help out if there is a fire, but not having to pay for such a service. In these cases, government intervention is a great tool to provide socially beneficial services or reduce socially harmful behaviors. This is largely because when it comes to personal freedoms, people generally act in self-serving ways when possible. This does not claim that there are not those who would act in selfless ways to better their societies, but rather just claims that there is incentive to act selfishly. And when there is incentive to act selfishly, there will be those who do. In cases such as the COVID-19 pandemic, even the actions of a few self-serving individuals could cause us to lose quite a bit of the positive externalities derived from socially distancing, masking, and getting vaccinated. Therefore, our claim is that autocratic governance is better suited to solving issues with significant positive or nega-

tive externalities associated with them, while democratic governance is better suited for situations where individual actions can reach socially optimal outcomes through normal supply and demand dynamics (insignificant amounts of externalities associated).

An example situation where we believe democratic solutions to be more effective would be something like selecting what hobbies to pursue. Generally speaking, individuals would have their own preferences in hobbies, with most hobbies having very little to no externalities attached to them. Therefore, we believe that individuals should have the right to choose what they do in their free time (barring illegal activities that affect others), and this will lead to better outcomes (i.e. more satisfied populace, more creativity and personal expression within extracurricular activities).

On the other end of the spectrum, the COVID-19 pandemic is a situation where we believe that the amount of externalities make autocratic solutions much more effective. We have seen in the US and in other countries the reluctance of many individuals to sacrifice their own comfort for the greater good, be it through wearing masks or getting vaccinated. As such, autocratic solutions, particularly in the presence of quality scientific information, seems more effective as the positive externalities of wearing masks and getting vaccinated can be more easily mandated and therefore achieved.

1.2 Hypothesis

Autocratic approaches to the COVID-19 pandemic are more effective at preventing deaths as compared to democratic approaches.

2 Methodology

2.1 Data

We used data from the World Health Organization [3] to get accurate information about daily COVID-19 Deaths. For information about country populations, data from the World Bank [1] was used. The Democracy Index for each country was based on the system developed by the EIU and obtained from xmarquez on GitHub [2].

2.2 Procedure

Let $c_{i,j}$ be the cumulative COVID deaths for a particular day j in country i, p_i be the population for country i in 2021 (closest data point to the date range we study), and d_i be the democracy index for country i in 2020 (closest data point to the date range we study)

The first step we took in this project was to research about different methods that were used to place countries in a democratic vs. autocratic scale. After determining that the democracy index was the best solution, we began processing the data sets. First, we took each data set and shortened them so that only important information re-

mains. Then, we took the series of cumulative COVID deaths for every single country of every single day and divided them by the corresponding country's population do get the COVID death rate for each day. Let $r_{i,d}$ be the cumulative COVID death rate for a particular day j in country i. Then:

$$r_{i,d} = \frac{c_{i,d}}{p_i} \qquad (1)$$

We then added up all of the COVID death rates for each day and modified them to get the democratic portion of and the autocratic portion the COVID death rates. Let $rateAgg_{democratic,j}$ be the sum of democratic portions of COVID death rates of all countries in our study on day j and $rateAgg_{autocratic,j}$ be the sum of all autocratic portions of COVID death rates of all countries in our study on day j. Then:

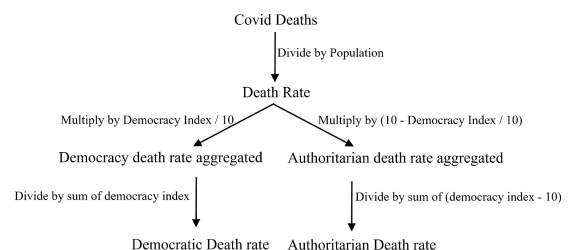$$rateAgg_{democratic,j} = r_{i,j} \cdot d_i \qquad (2)$$

is used for every day from January 2, 2020 to February 8, 2022 to get the aggregated covid death rates for the democratic portion and for the autocratic portion. This step allows us to continue on to get the weighted COVID death rates by dividing this by the sum of the democracy index for all of the countries used to get a weighted data set. The equation thus evolves to

$$\frac{\sum_{i \in countries} c_i \cdot d_i}{\sum_{i \in countries} d_i} \qquad (3)$$

which would give us objective data of the democratic portion of COVID deaths and the autocratic portion of COVID deaths.

Finally, we arranged the data and display the democratic and autocratic portions of COVID deaths versus the date over a period of two years. All of this process was programmed in Java and automated by using code. The program uses the datasets and parse over hundreds of thousands of data and modifies them so that the proper result is achieved. Doing this all by hand would have been infeasible and laborious.

This is the procedure used to create a meaningful result that showed how the type of government impacted the process of reformation from the pandemic. Our data shows whether am authoritarian government or a democratic government is more effective in reducing death rates for every single country
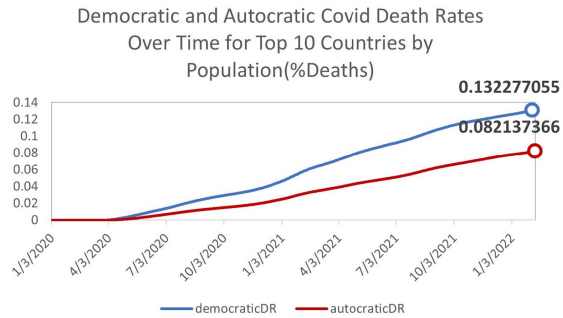
3   Results

Figure 1: A graph of the Democratic death rate and the Autocratic death rate vs. time for the top 10 countries by population.
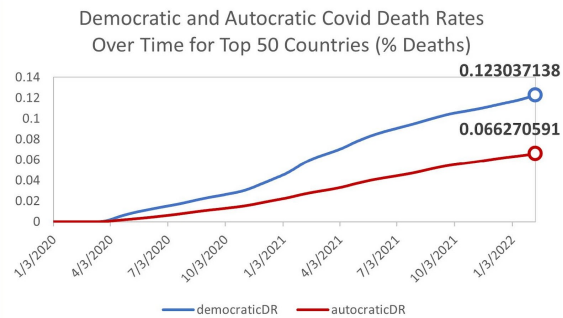

Figure 2: A graph of the Democratic death rate and the Autocratic death rate vs. time for the top 10 countries by population.

4   Discussion

Our results show that autocratic regimes are associated with lower COVID-19 death rates compared to democracies. This is consistent with our hypothesis that autocracies are better equipped to deal with situations with significant externalities attached, such as the COVID-19 pandemic.

We do recognize, however, that the results we find are not indicative of causality. For example, there may be other explanations for the association between lower COVID-19 deaths with autocratic regimes. For example, perhaps autocratic regimes have less data transparency, and therefore under-report COVID-19 deaths.

5   Conclusion

We have shown that there is an association between authoritarian governance approaches and COVID-19 death rates. We believe that this is due to autocracies being better positioned compared to democracies to enforce policies that may not be in the interest of individuals, but as a whole provide positive externalities. We further believe that this result can be extended to most situations associated with significant externalities.

6   Further Reflection

Further exploration is necessary to establish a causal relationship between authoritative governance and lower COVID-19 deaths. For example, once the 2021 and 2022 democracy indices are released, we can look for regime shifts within countries and associated effects on COVID deaths. This will allow us to better proxy the exact effect of authoritative governance on COVID-19 deaths. Additionally, we may be able to study COVID-19 deaths within just a single country, such as the USA, with more consistent COVID-19 death reporting in order to avoid issues with reporting bias. In this extension, we would look at COVID-19 deaths within states or even counties, and compare the death rates with proxies for the level of authoritarianism within the states/counties. Another way to soften reporting bias would be to use total deaths within a country above the pre-2020 levels to proxy COVID-19 deaths, but this would require much more comprehensive datasets.

All these extensions would help us establish a closer link between authoritarianism and COVID-19 deaths. We could then expand this research project to study other situations with significant externalities, such as other pandemics, and see if we can find similar results. Finally, we can expand this research project further to look at the liberal/conservative axis of the Eysenck political spectrum to see if relationships between left/right leaning policies are associated with COVID-19 deaths.

We hope that through this research project, we can show that authoritarian and democratic approaches to problems are just tools that should both be considered and applied to different situations, particularly in relation to situations with and without significant externalities respectively. We believe that proper usage and limitation of these tools (both authoritarian and democratic solutions) will yield better outcomes in general when applied to governance of a country.

References

[1] World Bank. Population, total, 2023. Accessed: 2023-08-24.

[2] X. Marquez. Eiu democracy index data, 2023. Accessed: 2023-08-24.

[3] World Health Organization. Covid-19 data, 2023. Accessed: 2023-08-24.

7   Appendix I: Source Code

https://github.com/syndromenuts/DemocraticAutocraticCOVIDDeathRates