

## **Trends in Autocratization and their Impact on Pandemic Response**

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### **Abstract**

Policy response to the Covid-19 pandemic created vastly different results across the globe. The typology of political regime could play a part in a nation's ability to mobilize an effective pandemic response. Over the years of 2010 to 2020, the Varieties of Democracy (V-Dem) Institute reported a global decline in liberal democracy. This decade of autocratization, the process of a nation becoming more authoritarian, was capped off by a worldwide pandemic, during which nations of the world committed a multitude of abuses of emergency power. This study aims to explore the effect this decline of liberal democracies had upon Covid-19's impact, proposing the hypothesis that the nations of the world who experienced autocratization over the prior decade in turn experienced worsened pandemic response. This study merges Our World In Data Covid-19 data with the V-Dem Country-Year: V-Dem Core dataset, creates a 2020-2010 difference variable for the Liberal Democracy Index (LDI), and analyzes via linear regression the effects the differences have upon Covid-19 cases and deaths across all political regimes and specific regime typology. Results of these tests reveal that for liberal democratic, electoral democratic, and for authoritarian nations there are multiple statistically significant correlations between differences in LDI and Covid-19 pandemic impact.

### **1. Introduction**

The outbreak of the Covid-19 Pandemic saw much of the world grind to a halt. The severity of the Pandemic's impact however is staunchly different for many nations. The United States demonstrated a catastrophic failure in policy response, shouldering the worst case numbers since the Pandemic's beginning. In contrast, New Zealand has been able to maintain relatively low case numbers throughout the Pandemic's duration<sup>15</sup>. When looking at two extremities, what could account for such drastic differences in results of emergency policy implementation among countries? Searching for causality for pandemic response failure, the effectiveness of a democratic institution could play a major part in a nation's ability to mobilize. Stemming from the Department of Political Science at the University of Gothenburg, Sweden; the V-Dem, or Varieties of Democracy Institute, and its associated V-Dem Project is one of the largest social science data collection projects featuring 28.4 million data points. The V-Dem Project analyzes 202 countries from 1789 to present and provides disaggregated indices for detail oriented analysis, all freely available to the public<sup>1</sup>. Featured in their annual Democracy Report for 2021, the institute revealed trends in autocratization, the process of a nation's political regime becoming more authoritarian, via drops in their Liberal Democracy Index scores in political regimes across the globe. A decade of decline for democratic institutions globally was capped off with a worldwide pandemic, during which nations of the world committed a multitude of abuses of emergency power<sup>2</sup>. These abuses, judged according to the International Covenant for Civil and Political Rights<sup>10</sup>, were most commonly excessive use of emergency powers and limitations on media freedoms<sup>2</sup>. This study presents the hypothesis that trends in

autocratization over the past ten years have led to a worse pandemic response. Specifically, that decline in democratic strength led to higher Covid-19 case numbers and deaths.

## 2. Theory Overview

What impact does a nation's political regime have upon human health? The Human Development Index, or HDI, has been measured in regard to regime type on multiple occasions. One of the key components of HDI is healthcare. Looking exclusively at autocratic nations, competitive autocracies exhibit the best measure of HDI. As the importance of the electoral component of an autocratic government increases, HDI increases. Even for authoritarian regimes, governmental popularity is still of great importance. So in a competitive autocracy, where the stakes of who takes power are much higher, benefiting their populace is an important strategy to secure victory<sup>7</sup>. Electoral importance carries over into electoral democracies, where electoral competition is a key driver of increased HDI over factors of citizen empowerment (individual liberty, political equality, female empowerment, etc.)<sup>9</sup>. In fact, democracy itself is a key indicator of population health. Democracy exhibits a statistically significant positive effect upon population health. As nations become democratic, and as their democracy in turn matures, mortality rates decline<sup>16</sup>.

The increased healthcare investment and capacity associated with democratization however fails to be an indicator of Pandemic response having no significant effect upon infection rates or infection-fatality rates. In fact, none of the traditional pandemic preparedness indices and their respective components had any statistically significant reflection on infection or infection-fatality rates<sup>4</sup>. This certainly does not suggest that the difference in healthcare capacity between autocracies and democracies would not indicate differences in political systemic ability to combat a pandemic. The authoritarian ability to mobilize policy with little friction did not indicate a better capability to combat the Pandemic. The only statistically significant difference between autocracies and democracies at the surface was the heightened probability that autocracies would underreport their true death toll<sup>6</sup>. Differences across political regimes begin to become significant when exploring measurements of governance quality. Heightened government corruption has been shown to statistically significantly increase infection rates<sup>4</sup>. Extent of corruption as well as government effectiveness and accountability statistically significantly impacted models measuring governments Pandemic response in comparison of regime typology<sup>5</sup>. This result importantly does not account for *all* democracies, the United States being an excellent example of a government of high effectiveness and an abysmal Pandemic response. Interestingly, measurements of governmental and interpersonal trust were shown to be substantially impactful on global infections, suggesting that 75th percentile governmental and interpersonal trust measurements would have resulted in 12.9% and 40.3% reductions in infections globally<sup>4</sup>.

The examination of regime typology as an indicator of Pandemic response fails to produce a statistically significant relationship, opening the door for more nuanced exploration on political regimes. What is congruent in the studies mentioned thus far is that the typology of regime has been a static measurement. However, the structure of a governmental institution is very much in flux. Beginning in 1994 the world has been experiencing a third wave of autocratization. This wave is defined as a time where the number of countries democratizing declines whilst more countries experience autocratization. This third wave is dominated by the tactic of democratic erosion through the gradual undermining of democratic standards, but importantly not their abolishment<sup>12</sup>. The past decade has seen this autocratization wave intensify, with half as many nations democratizing now compared to the start, and a drop of 9 nations who qualify as liberal democracies<sup>2</sup>. It is reasonable to believe that a decade of intense institutional degradation could have serious negative consequences on Pandemic outcomes.

## 3. Literature Review

The Regimes of the World typology utilizes V-Dem data and indices to divide and classify political regimes into four categories: closed autocracies, electoral autocracies, electoral democracies, and liberal democracies in accordance with Robert Dahl's (1971) theory of polyarchy. This theory defines democracies as beholden to six key institutional guarantees: elected officials, free and fair elections, freedom of expression, alternative sources of information,

associational autonomy, and inclusive citizenship. This allows for the important distinction between electoral autocracies and democracies, as the existence of free and fair elections is not the only key qualifier for a democracy. Elections do take place in electoral autocracies, however these elections are not subject to electoral accountability, and as such fall short of being democratic according to Dahl's standards. Closed autocracies do not exhibit any form of multiparty election. Electoral democracies satisfy the minimum requirements of Dahl's standards through the existence of free and fair elections as well as the institutional guarantees to make them impactful but do not satisfy the liberal principles to be a liberal democracy. To be a liberal democracy, protections from governmental overreach through systems of checks and balances and equal protection through the rule of law are essential qualities. Conditional indice based measurements of regime typology allow for distinctions to be made between all four of Dahl's classifications, as well as within each classification itself. The utilization of V-Dem data in this project also allows for analysis to be made on change over time<sup>11</sup>.

Analysis on the recent third wave of autocratization has also utilized these V-Dem indices to measure the trend's origins. Dahl's theory of polyarchy is similarly used in analysis of this trend. The first wave of autocratization took place from 1926 to 1942 and affected both autocracies and democracies. The second, taking place between 1961 to 1977, affected mainly electoral autocracies. The now third wave of autocratization, beginning in 1994, is mainly impacting democracies. Historically, waves of autocratization typically led afflicted nations into authoritarian regimes. Should this hold true, and the afflicted democracies revert back into authoritarianism, the scales would be tipped back into autocrats' favor as the balance of regime typology in the world is only just barely democratic at 53%. Being that democracies are indeed the majority, it partially explains why the third wave is concentrated where it is. This wave also is unique in the way autocratization is taking shape. During the first and second wave of autocratization, the process's characteristics were more severe. Occurrences of foreign invasion, military coups, and autogolpes, or self-coups, were indicative of the autocratization process. The third wave, by contrast, is much more subversive, still experiencing autogolpes but predominantly characterized by democratic erosion. This process has led to a significant decline in the rate at which autocratization takes place, and as the share of democracies in the world increases, this rate continues to decline. Regardless of the rate at which it occurs, the end result is most often democratic breakdown. Over half of the democracies who have experienced autocratization in the third wave have broken back down to authoritarianism<sup>12</sup>.

For democracies undergoing the process of autocratization, there exists four main attributes of democratic resilience that contribute to their survival. The first of which are constraints on the executive. The recent cases of democratic decline have been characterized by power concentration amongst democratically elected executive officials. Sufficient controls by judiciary and legislative officials are necessary for stable democracy. The second is positive economic growth, an indicator of stability in any regime type. Third is the geographic proximity of other regimes. Nations surrounded by other democracies tend to adapt to the regional norms defined by their neighboring nations. The fourth indicator of democratic resilience is the nation's history under democracy. As time progresses institutions grow deeper rooted. When examining the effectiveness of these resiliencies on preventing or ending an autocratization episode, more expansive legislative and judicial constraints, as well as positive economic growth, were shown to statistically significantly increase likelihoods of autocratization prevention. Whereas expansive judicial constraints, increased levels of democracy in proximity nations, and history of democracy are shown to decrease chances of democratic breakdown<sup>3</sup>.

What do times of crisis mean for regime stability? Declarations of emergency are broad, meaning anything from natural disasters to terrorism. Emergency powers are easily manipulated by executive officials to extend and increase their power. Autocratization is 75% more likely to occur during a declaration of emergency as leaders use their newfound power to erode democratic institutions<sup>13</sup>. This has certainly been true during the Covid-19 Pandemic. 66% of nations worldwide committed moderate to major violations of democratic standards during the first year<sup>2</sup>. These violations have been shown to demonstrate no relationship with Covid-19 deaths rates, invalidating any justification for their implementation<sup>14</sup>.

## 4. Data and Methods

The key variable of interest will be the trend in democratic strength scores coming from the V-Dem Institute over the past decade. To formulate this variable, the difference between the 2010 and 2020 Liberal Democracy Index scores<sup>1</sup> will be recorded for each available nation, generating the new variable LDI Change. Positive observations of this variable indicate improvements in the Liberal Democracy Index score over the past decade, whereas negative observations indicate autocratization and index score decline. This new variable will be tested, through OLS regression, for its effect on Covid-19 cases and deaths<sup>15</sup>. Filters will be placed on the type of political regime adhering to the index score thresholds of the V-Dem Polyarchy<sup>1</sup> and Liberal Component Index<sup>1</sup>. The index score values used will be from 2010 to measure the change before the decade of decline. Regression analysis will thus follow the following progression, a summary of descriptive statistics and variables are in the table below.

Table 1: Descriptive Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max	Year	Description
Total Cases Per Million	172	86100.84	94703.7	22.26	375998.4	2022	The total number of Covid-19 cases per million people in a country.
Total Deaths Per Million	172	1025.282	1180.923	3.101	6160.33	2022	The total number of Covid-19 deaths per million people in a country.
Population Density	170	242.3984	834.1322	1.98	7915.731	Most recent year available	Population divided by land area in square kilometers.
% Aged 65 or Older	170	8.730382	6.333346	1.144	27.049	Most recent year available	The percentage of the nation's population aged 65 or older.
HDI	170	0.7202353	0.150448	0.394	0.957	2019	The United Nations composite index of 3 dimensions of human development- a long and healthy life, knowledge, and a decent standard of living.
LDI Change	172	-0.014686	0.1049035	-0.341	0.54	2010 and 2020	The V-Dem Liberal Democracy Index measures the extent of which the ideal of liberal democracy is achieved. This is a measurement of the protection of civil liberties, rule of law, independent judiciary, and effective checks and balances that limit executive power. This aggregated index's scores from 2010 will be subtracted from its 2020 values in order to show the change over the past decade. Negative results indicate a decline in liberal democratic strength while a positive indicates an improvement. A component of the V-Dem Liberal Democracy Index, the V-Dem Polyarchy Index measures the extent of which the ideal of electoral democracy is achieved. This is a measurement of rulers responsiveness to their citizens through scoring on electoral competition, extensive suffrage, freedom of operation for political organizations, clean elections, fraud, and freedom of expression and independent media.
Polyarchy Index	178	0.5293371	0.2612762	0.019	0.916	2010	A component of the V-Dem Liberal Democracy Index, the V-Dem Liberal Component Index measures the extent of which the liberal principle of liberal democracy is achieved.
Liberal Component Index	178	0.620236	0.2666902	0.008	0.987	2010	

A note on HDI: This index was chosen over GDP per capita as it adds additional measures of life quality as well as GNI. This index is also demonstrated in the theory to be an indicator of healthcare capacity and investment. HDI is a more comprehensive control variable in this regard.

$$\text{Covid Cases (or Covid Deaths)} = \beta_0 + \beta_1 \text{LDI Change} + \beta_2 \text{Pop Density} + \beta_3 \text{Aged 65 (\%)} + \beta_4 \text{HDI} + E \quad (1)$$

This regression examines the effects of change in the Liberal Democracy Index score upon Covid-19 Pandemic response for all regime types.

$$\text{Covid Cases (or Covid Deaths)} = \beta_0 + \beta_1 \text{LDI Change} + \beta_2 \text{Pop Density} + \beta_3 \text{Aged 65 (\%)} + \beta_4 \text{HDI} + E \text{ if Polyarchy} > 0.5 \quad (2)$$

This regression examines nations who qualify as democracies according to the V-Dem Polyarchy Index.

$$\text{Covid Cases (or Covid Deaths)} = \beta_0 + \beta_1 \text{LDI Change} + \beta_2 \text{Pop Density} + \beta_3 \text{Aged 65 (\%)} + \beta_4 \text{HDI} + E \text{ if Liberal} > 0.8 \quad (3)$$

This regression examines nations who qualify as liberal democracies according to the V-Dem Liberal Component Index.

$$\text{Covid Cases (or Covid Deaths)} = \beta_0 + \beta_1 \text{LDI Change} + \beta_2 \text{Pop Density} + \beta_3 \text{Aged 65 (\%)} + \beta_4 \text{HDI} + E \text{ if Polyarchy} > 0.5 \ \& \ \text{Liberal} > 0.8 \quad (4)$$

This regression examines nations who qualify as democracies according to the V-Dem Polyarchy Index but do not qualify as liberal democracies according to the V-Dem Liberal Component Index.

$$\text{Covid Cases (or Covid Deaths)} = \beta_0 + \beta_1 \text{LiDI Change} + \beta_2 \text{Pop Density} + \beta_3 \text{Aged 65 (\%)} + \beta_4 \text{HDI} + E \text{ if Polyarchy} < 0.5 \quad (5)$$

This regression examines nations who do not qualify as democracies and are thus authoritarian. The distinction between closed and electoral autocracies here is not made as the sample size of closed autocracies is so small (at 25), rarity of transition of electoral to closed autocracies in the third wave of autocratization, and the lowered room to decline as a closed autocracy<sup>2(12)</sup>.

## 5. Results

The expected LDI Change coefficients for nations of all regime types who exhibited autocratization over the past decade, in accordance with the hypothesis of this study, would be negative. A negative coefficient would indicate that for every 0.001 drop in LDI there would be an increase in either Covid-19 case or death numbers. However this expectation did not hold true empirically.

Table 2: Impact of LDI Change on Covid-19 Cases and Deaths Per Million Across Different Regime Types

	Covid-19 Cases Per Million				
	All	Democracies	Electoral Democracies	Liberal Democracies	Autocracies
LDI Change	13062.94 (38797.61)	8467.666 (70864.51)	42040.65 (105711.2)	-32991.59 (97111.83)	98085.25*** (42125.4)
Population Density	-15.4501*** (5.965926)	8.670669 (46.33267)	23.45548 (60.82889)	-26.53894 (77.78306)	-5.507608 (4.829223)
% Aged 65 or Older	4411.065*** (1589.637)	2992.948 (2605.669)	4906.504 (4142.977)	2091.265 (4004.844)	-1763.513 (2356.834)
HDI	312103.6*** (52503.06)	384344.5*** (105428.4)	320693.1*** (104433.8)	458898.4** (198086)	271554.1*** (53572.91)
Constant	-172183.6*** (25301.82)	-208466.6*** (54036.96)	-179613*** (47324.42)	-257214.2** (110364.4)	-129918.3*** (26619.12)
N	169	95	38	56	73

  

	Covid-19 Deaths Per Million				
	All	Democracies	Electoral Democracies	Liberal Democracies	Autocracies
LDI Change	-55.01272 (783.1442)	-1171.066 (1275.722)	2976.827** (1342.722)	-4828.39*** (1485.683)	2200.828*** (557.0761)
Population Density	-0.272227*** (0.476118)	-1.130632*** (0.4068035)	-1.608217*** (0.4450135)	-1.003279 (0.7572888)	-0.1488516*** (0.039151)
% Aged 65 or Older	76.46692*** (22.61433)	71.12811* (42.54714)	77.29155 (57.76103)	118.3436*** (53.13798)	42.37768 (26.4556)
HDI	1709.53** (703.1905)	886.9473 (1811.968)	6469.893*** (2345.101)	-2700.154 (2794.551)	1844.735*** (374.208)
Constant	-795.7553** (331.6893)	142.8619 (919.371)	-3202.915*** (1070.636)	2041.558 (1704.099)	-983.7967*** (195.779)
N	169	95	38	56	73

Notes: Robust standard errors are included in parenthesis under the coefficients. \*\*\* Indicates significance at the 99% level, \*\* indicates significance at the 95% level and \* indicates significance at the 90% level.

There was no found significant relationship between LDI change over the past decade and Covid-19 cases and death numbers for all regime types. When examining the nations as democratic or autocratic, there was no statistically significant relationship amongst democracies at large. Breaking down democracies further, however, revealed statistically significant relationships for electoral and liberal democracies. Liberal democracies exhibit the expected negative coefficient. For every 0.001 decline in LDI score there was an increase in Covid-19 related deaths by 4828.39, significant at the 99% level. Electoral democracies, on the other hand, were shown to have a *positive* relationship between LDI change and Covid-19 related deaths at 95% significance. This would suggest that for every 0.001 decrease in LDI, Covid-19 deaths would *decrease*. More alarmingly, this would suggest that for every thousandth increase in LDI, Covid-19 related deaths would *increase*. This positive relationship would carry over to authoritarian nations, where again a decrease in a thousandth of LDI would decrease both deaths at a 99% significance and cases at a 95% significance.

This result could stem from a variety of sources. First, and most notably, omitted variable bias. Political regimes are all incredibly complex and unique, exhibiting immense diversity even amongst similar establishments. It is probable that there are many more sources at work in this situation than previously revealed. Second, the very high standard errors in this analysis is indicative of sampling bias. This is an unfortunate issue, as there are only so many nations on the planet. This is especially true of electoral democracies and closed autocracies, the latter left out of this analysis for

this exact reason. Another part of this potential sampling bias is the existence of substantial outliers in cases and deaths, the United States and India clear and severe examples<sup>15</sup>.

The control variables performed largely against intuition in this study. Where significant, increased population density led to decreased Covid-19 cases or deaths, a result completely against preconceived notions of disease transmission. HDI exhibited a positive statistically significant relationship to cases and deaths, also counter to intuition. While measurements of healthcare capacity and pandemic preparedness were already shown to not be statistically significant, these results most likely fall victim to the problems discussed above. The positive relationship between percent of population aged 65 or older and cases and deaths were all expected where significant.

## 6. Discussion and Conclusions

The result of the last decade of autocratization was shown to have varying effects upon Covid-19 pandemic response. While liberal democracies exhibited the expected negative relationship to LDI change, electoral democracies and autocracies both had statistically significant positive relationships with autocratization. This result is counter to intuition, as autocratization and tendencies towards authoritarianism at large have been shown to weaken established democratic institutions, decrease healthcare capacity, and result in more common abuses of power.

In regards to the hypothesis of this paper, it fails to hold true for every nation empirically. What has been shown in this paper is that the past decade of autocratization has been shown to have an impact upon Covid-19 Pandemic outcomes. If anything, the different relationships between Pandemic response and autocratization trends in different regime types provide more evidence in favor of distinctions in regime typology. The positive relationship between autocratization and Pandemic outcomes presents new needs for continued research.

There are a few potential avenues for continued examination that stem from the results of this paper. It could be interesting to explore different metrics of measuring pandemic response other than pure case and deaths numbers, such as infection positivity rates or measurements of speed in response to the problem. Additional methods for combatting selection bias could also be explored. One study particularly interesting to highlight stems from the Quality of Government Institute of the University of Gothenburg, Sweden. This study reveals that for young democracies the quality of governance is lower than what it would be under authoritarianism. The relationship is contingent upon economic development, and it was shown that for poorer nations authoritarianism provides higher quality of governance<sup>8</sup>. This may provide an area of insight into the positive relationship between autocratization and Pandemic response. Volatility of democracies on the border of autocracy and the stability of established autocracies may explain this preference for autocratization.

In conclusion, this study finds that autocratization over the past decade did have an impact upon Covid-19 Pandemic response, however not negative for all nations as assumed. This study also displays that impacts of autocratization vary according to regime typology.

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