Good Democratic Governance Can Combat COVID-19

Excess Mortality Analysis*

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Abstract

Some scholars argue that democratic countries are in crisis during the COVID-19 pandemic and authoritarian countries tend to combat COVID-19. However, these studies are usually based on reported data susceptible to manipulation and often overlook the variation of government effectiveness even in the same type of political regimes. Using excess mortality data from 144 countries, this study analyzed the interaction effect between political regimes and government effectiveness on excess mortality. The results revealed that democratic countries with higher government effectiveness can reduce excess mortality. This study suggests that democratic countries need not give up freedom and need to improve government effectiveness to combat COVID-19.

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1. Introduction

Some scholars argue that democracy is in crisis during the COVID-19 pandemic. Some say that democratic countries face a trade-off between freedom and health (Alsan et al., 2020; Norheim et al., 2021; Thomson and Ip, 2020). Recent studies also reveal that democratic countries suffer from more COVID-19 deaths than authoritarian states (Cepaluni et al., 2020; Cheibub et al., 2020; Frey et al., 2020).

In Figure 1, the upper left graph plots the total number of COVID-19 deaths per 1 million (as of December 31, 2020) on the vertical axis, as reported by the John Hopkins University (2020), and the multiplicative polyarchy index (MPI) in 2019 on the horizontal axis from the Varieties of Democracy (V-Dem) Project (Coppedge et al., 2020). The population data were obtained from World Bank. The latter codes democracy levels from low to high (0-1) (Coppedge et al., 2020). The upper right graph illustrates the relationship by using the level of Polity2 in 2018 from the Polity V Project (Marshall et al., 2020). The variable codes democracy levels from -10 (most autocratic) to 10 (most democratic). The bottom left graph shows the relationship by using the level of Democracy Index in 2019 from the Economist Intelligence Unit (EIU) (Economist Intelligence Unit, 2020). The variable codes democracy levels from 0 (most autocratic) to 10 (most democratic). The correlation coefficient between the political regime variables and deaths is 0.3~0.5

(p <0.001). These moderate, positive relationships appear to support the argument that democratic governments are disadvantaged in coping with the current pandemic, at least nominally.

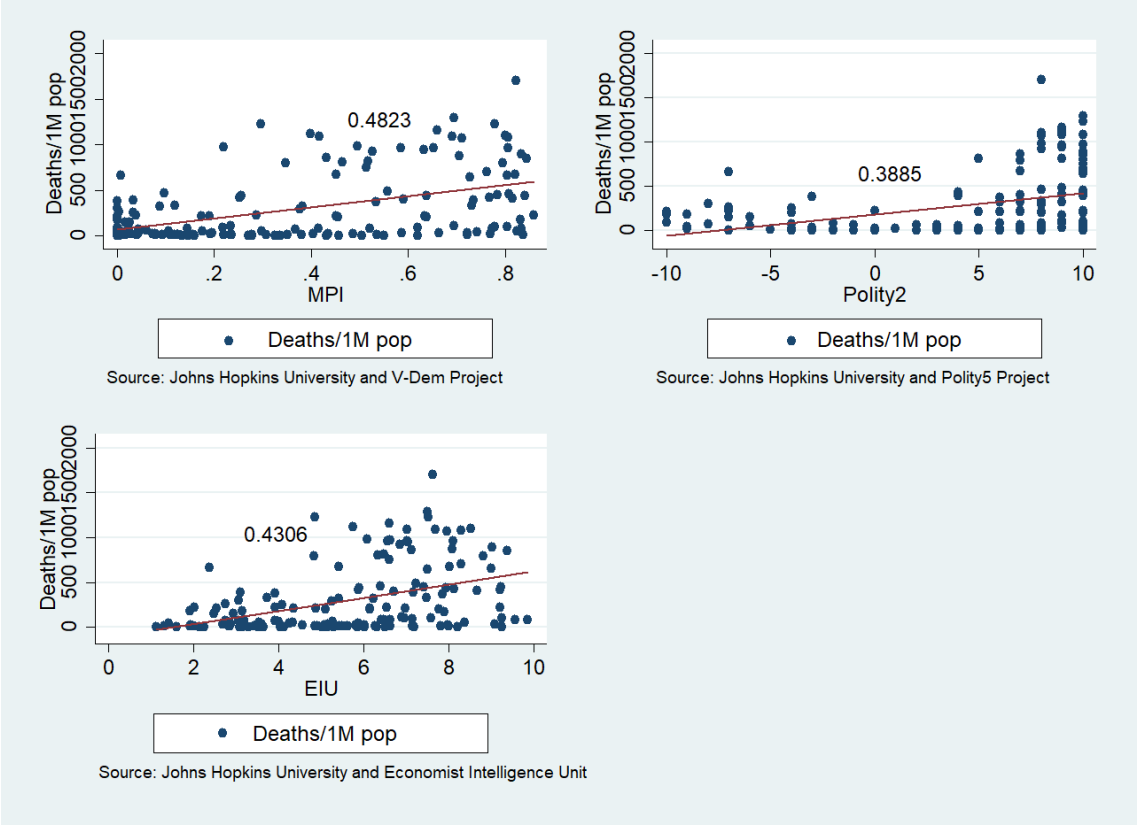

Figure 1: Relationship between political regime variables and number of COVID-19 deaths

However, the numbers of COVID-19 cases and deaths are based on government data and can be manipulated, especially in authoritarian countries (Adiguzel et al., 2020;

Kapoor et al., 2020). A study says that the positive correlation between political regime and COVID-19 deaths is not found after controlling for other factors, including data transparency (Annaka 2021). The World Health Organization (WHO) argues that only excess mortality can make "true" death estimation possible and said that it "is defined as the difference in the total number of deaths in a crisis compared to those expected under normal conditions. COVID-19 excess mortality accounts for both the total number of deaths directly attributed to the virus as well as the indirect impact, such as disruption to essential health services or travel disruptions". (WHO, 2021).

Excess mortality has an advantage in estimating accurate mortality because "In encompassing deaths from all causes, excess mortality overcomes the variation between countries in reporting and testing of COVID-19 and in the misclassification of the cause of death on death certificates. Under the assumption that the incidence of other diseases remains steady over time, then excess deaths can be viewed as those caused both directly and indirectly by COVID-19 and gives a summary measure of the 'whole system' impact." (Beaney et al., 2020: 330). The research which utilizes excess mortality even argues for the advantage in democratic countries (Badman et al., 2021; Jain et al., 2021).

And there is a significant variance in democratic countries. Several democratic countries are under 500 deaths per 1 million population, and many of them have over 500

deaths. Even in democracies, countries such as Taiwan and New Zealand seem to be relatively successful in combating COVID-19 by the end of 2020. These countries are islands, but the United Kingdom, which has suffered severely from the pandemic, is also an island. Once the virus invades a country, it cannot usually combat the pandemic simply by taking advantage of being an island.

Previous research has reported that government effectiveness is negatively correlated with COVID-19 deaths (Liang et al., 2020; Serikbayeva et al., 2020). Combating COVID-19 requires a tremendous amount of information related to the issue. Government effectiveness varies among nations; democratic countries tend to have more effective governments. However, this is not always the case; it is true that the correlation coefficient between MPI and EIU and government effectiveness, obtained from the World Bank, is relatively high (0.6661 and 0.7264, respectively), but the correlation coefficient between Polity2 and it is only 0.3796. We find inefficient governments among democracies and efficient governments among authoritarian states. Then, we cannot straightforwardly conclude that "democracy suffers."

The level of democracy is usually not necessarily related to the function of governments. On the other hand, government effectiveness is directly connected to its performance. Then, we hypothesize that democratic governments with higher

government effectiveness can combat COVID-19. In fact, a study shows that democratic countries with a higher quality of government tend to have fewer people affected by natural disasters (Persson and Povitkina, 2017). The current situation of the pandemic is like a natural disaster. We can naturally expect that the same is true for this pandemic.

Then this study analyzes the interaction effects of democracy and government effectiveness on COVID-19 using excess mortality. It argues that democracy is not a determinant of the higher number of COVID-19 deaths but conditions the effects of government effectiveness on fatalities. This suggests that effective democratic governments can reduce excess mortality due to COVID-19.

2. Analysis

2.1. Model

Using cross-sectional data, this section analyzes the interaction effect between political regimes and government effectiveness on COVID-19 deaths. It estimates the following specifications:

$$COVID\ excess\ mortality_i = \alpha + \beta_1 Political\ Regimes_i + \beta_2 Governance_i + \beta_3 (Political\ Regimes_i \times Governance_i) + \beta'_4 X_i + \varepsilon_i$$

COVID excess mortality is excess mortality. *Political Regimes* indicates MPI, Polity2 score, or EIU democracy index, and *governance* represents government effectiveness. X is a vector of controls. ε is an error term. i represents each country.

The excess mortality data are obtained from The Economist and Solstad (2021). Other data are available. Previous research uses the data from Karlinsky and Kobak (2021) (Badman et al., 2021; Jain et al., 2021). But the sample size of the data is relatively small, and only 78 countries are included in the analyses if used. The present study includes 144 countries at the maximum due to the data from the Economist and Solstad (2021).

Political regime variables are obtained from the Polity Project, V-Dem Project, and Economist Intelligent Unit. Government effectiveness, Population, population density, population ratio age 65 and above, GDP per capita are taken from the World Bank. The yearly data (2019) for all variables are used. Government effectiveness attempts to capture "perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies." (Kaufmann et al. 2010: 223). The scores range from -2.5 (weak) to 2.5 (strong). It is

already employed by the studies which analyzed the relationship between state capacity and Covid-19 (Liang et al., 2020; Serikbayeva et al., 2020). The estimation model includes both the latitude and longitude obtained from John Hopkins University, which captures geographic characteristics and any remaining regionally specific effects.

For estimation, ordinary least squares (OLS) with robust standard errors are applied. The control variables (except for latitude and longitude) are logged due to their skewed distributions. Descriptive statistics are provided in Appendix 1.

2.2. Results

Models 1 and 2 in Table 1 analyze the relationship between MPI and excess mortality. Models 3 and 4 take Polity2, and Models 5 and 6 take EIU as independent variables. Models 2, 4, and 6 include the interaction terms between the political regime variables and government effectiveness. All the models show that the political regime variables are negatively correlated with excess mortality and statistically significant. Government effectiveness is also negatively associated with excess mortality without the interaction terms (Models 1, 3, and 5). These results reveal that these variables are important determinants of excess mortality. Even when including the interaction terms, both the political regime variables and the interaction terms are negatively correlated with excess

mortality.

Table 1: Determinants of Excess Mortality

	(1)	(2)	(3)	(4)	(5)	(6)
	Excess Mortality	Excess Mortality	Excess Mortality	Excess Mortality	Excess Mortality	Excess Mortality
Political Regime Variables	MPI	MPI	Polity2	Polity2	EIU	EIU
Political Regime	-1.385***	-1.010**	-0.0305*	-0.0349**	-0.152**	-0.140*
	(0.501)	(0.498)	(0.0163)	(0.0174)	(0.0748)	(0.0753)
Government Effectiveness	-0.300*	-0.100	-0.464***	-0.324*	-0.336*	0.401
	(0.164)	(0.193)	(0.149)	(0.175)	(0.176)	(0.251)
Political Regime×Effectiveness		-0.725***		-0.0301*		-0.131***
		(0.259)		(0.0168)		(0.0320)
GDP per capita (log)	0.0621	0.0685	0.0501	0.0194	0.0785	0.0629
	(0.0992)	(0.0987)	(0.106)	(0.107)	(0.102)	(0.101)
Population (log)	0.999***	1.003***	1.017***	1.011***	1.012***	1.009***
	(0.0488)	(0.0489)	(0.0491)	(0.0510)	(0.0503)	(0.0496)
Population ratio over age 65 (log)	0.627***	0.610***	0.545***	0.637***	0.601***	0.621***
	(0.169)	(0.166)	(0.186)	(0.180)	(0.186)	(0.175)
Population density (log)	-0.0638	-0.0755	-0.0573	-0.0727	-0.0478	-0.0732
	(0.0627)	(0.0633)	(0.0599)	(0.0626)	(0.0613)	(0.0585)
Latitude	0.0036	0.0064	0.0040	0.0050	0.0021	0.0054
	(0.0040)	(0.0042)	(0.0039)	(0.0041)	(0.0040)	(0.0042)
Longitude	-0.0058***	-0.0055***	-0.00453**	-0.00467**	-0.00463**	-0.0047***
	(0.0019)	(0.0019)	(0.0018)	(0.0018)	(0.0018)	(0.0017)
Constant	-7.243***	-7.339***	-7.691***	-7.380***	-7.249***	-6.924***
	(1.298)	(1.267)	(1.313)	(1.346)	(1.394)	(1.306)
Observations	144	144	143	143	142	142
R-squared	0.804	0.814	0.792	0.798	0.797	0.820
AIC	359.3727	354.2601	366.2235	363.9966	361.6554	346.7307
BIC	386.101	383.9583	392.8891	393.625	388.2578	376.2889

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Figure 2 illustrates the effects of government effectiveness on predicted excess mortality conditioned by each MPI level based on Model 2. These graphs show an apparent reducing impact of higher government effectiveness on the predicted excess mortality as the political regime variables are higher.

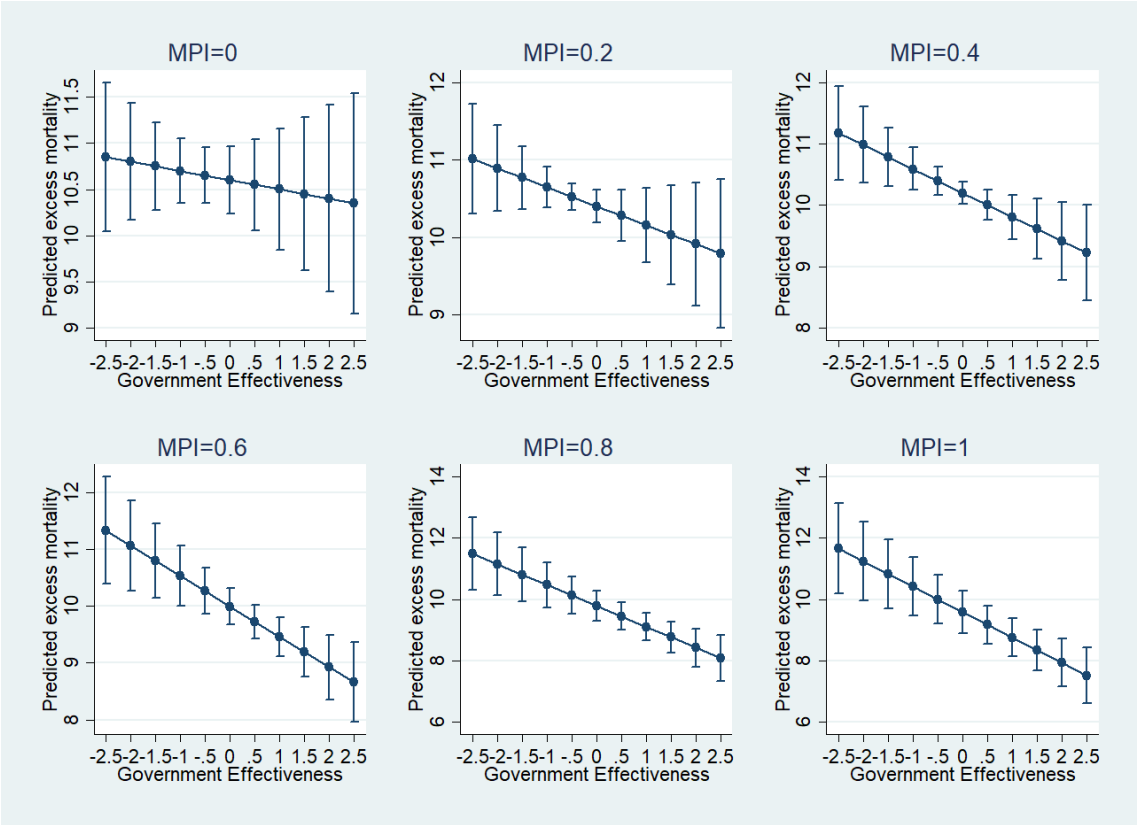

Figure 2: Interaction Effects between MPI and Government Effectiveness on Predicted Excess Mortality (95% CIs)

Figure 3 shows the effects of government effectiveness on predicted excess mortality conditioned by each Polity2 level based on Model 4. Figure 4 displays those of government effectiveness on predicted excess mortality conditioned by each EIU level based on Model 6. These results indicate that effective democratic governments tend to have lower excess mortality associated with COVID-19.

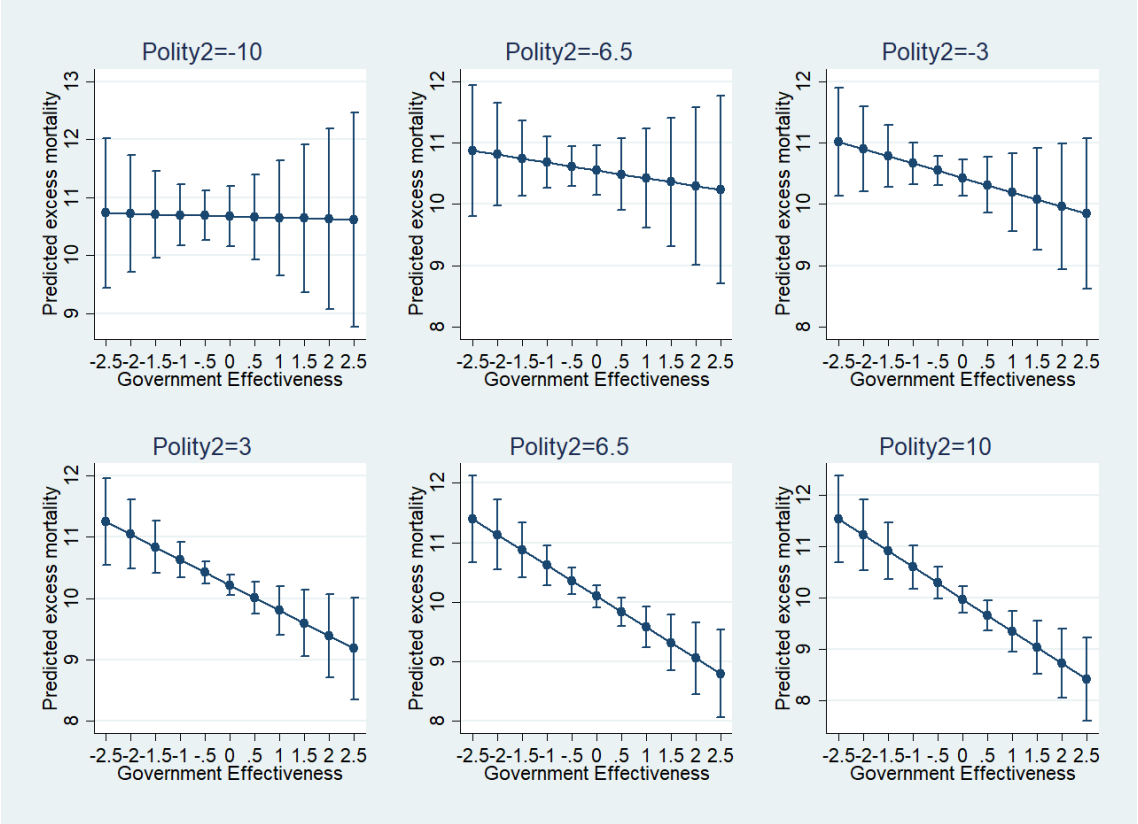

Figure 3: Interaction Effects between Polity2 and Government Effectiveness on Predicted Excess Mortality (95% CIs)

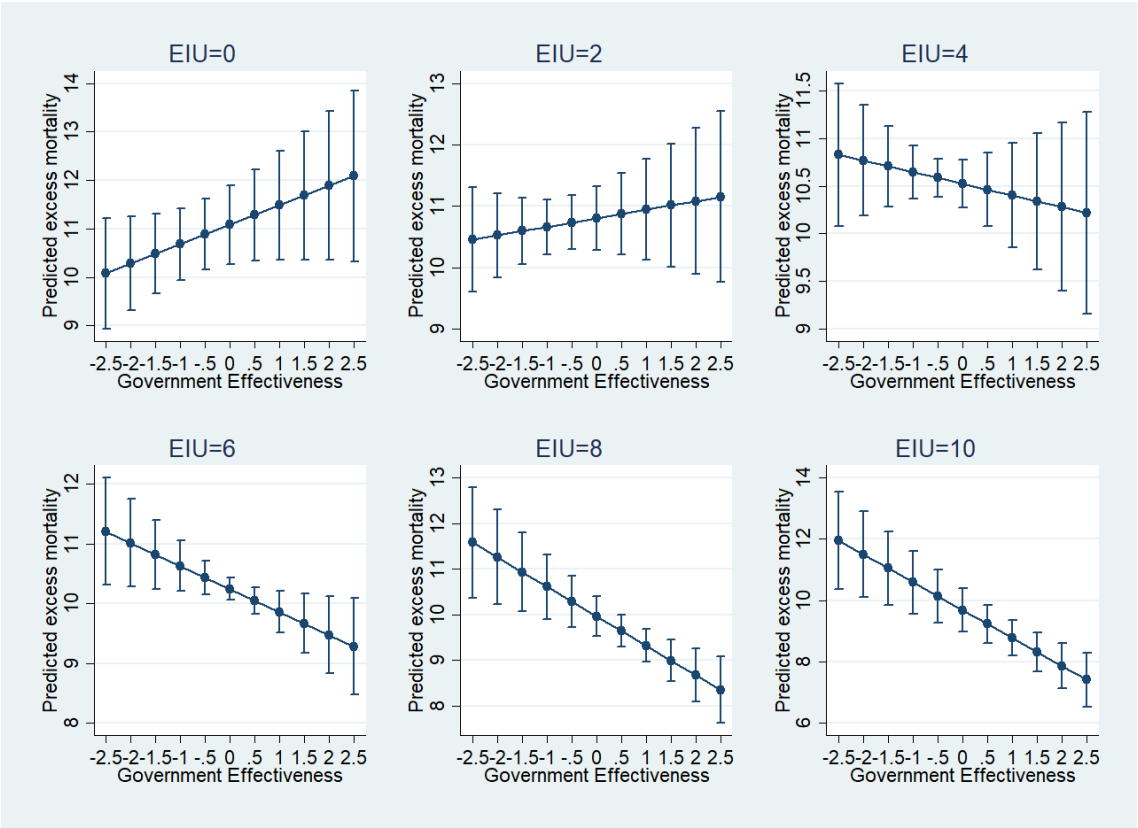

Figure 4: Interaction Effects between EIU and Government Effectiveness on Predicted Excess Mortality (95% CIs)

3. Discussion

The current study demonstrates that political regime and government effectiveness are essential factors in reducing excess mortality. This result strongly supports Badman et al. (2021) and Jain et al. (2021) utilizing excess mortality instead of the reported numbers. However, the former only looks at the correlation between the variables and does not consider other factors such as demographic and geographic ones. The latter does include

various variables in analysis but does not analyze the interaction between political regimes and government characteristics. And all the studies above do not use the V-Dem data, a new gold-standard political regime variable, and relatively fewer sample excess mortality data. The present study also indirectly supports Persson and Povitkina (2017), which means that COVID-19 is a kind of a disaster, and good democratic governance is needed to reduce its damage as another type of disaster.

This study analyzes the interaction between political regimes and government effectiveness using 144 countries' excess mortality data and the V-Dem data and reports that good democratic governance can significantly reduce excess mortality. These results genuinely contribute to the literature.

4. Conclusion

Scholars have argued that democracy is in crisis during the COVID-19 pandemic. Some say that democratic countries face a trade-off between freedom and health. Recent studies have also revealed that democratic countries suffer from more COVID-19 deaths than authoritarian states. However, these studies are often based on the reported numbers of COVID-19 deaths, not excess mortality, and overlook successful cases such as New Zealand and Taiwan. These countries are often considered to have higher levels of

government effectiveness. This study analyzed the impact of government effectiveness and its relationship with political regimes. The results revealed that democratic countries with higher government effectiveness can reduce excess mortality due to COVID-19. This study suggests that democratic countries do not need to reduce social freedoms and needs to improve government effectiveness to combat COVID-19.

Of course, there is some limitation of this study. For example, excess mortality is sometimes under zero. This means that it is not the true number of COVID-19 deaths, and it is only approximate to the true number. However, not a few studies, including the WHO, indicate that it is more appropriate to use excess mortality to analyze COVID-19 than the reported number of deaths.

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Appendix 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Excess Mortality (log)	144	10.12	1.7947	5.9551	15.4520
MPI	144	0.3450	0.2994	0	0.8580
Polity2	143	4.2028	6.1226	-10	10
EIU	142	5.5107	2.1750	1.13	9.87
Government Effectiveness	144	-0.0250	0.9638	-2.2364	2.2207
Population (log)	144	16.4061	1.5271	13.2176	21.0653
Age 65 and above Ratio (log)	144	1.9342	0.7771	0.1454	3.3323
Population Density (log)	144	4.2705	1.3478	0.7281	8.9927
GDP per capita (log)	144	8.6394	1.4112	5.6288	11.5948
Latitude	144	21.0122	24.3825	-38.4161	61.9241
Longitude	144	19.1449	56.0175	-102.5528	178.0650