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Elections and (mis)reporting of COVID-19 mortality

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Elections and (mis)reporting of COVID-19 mortality

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April 2024

Abstract

We investigate the effect of elections on underreporting COVID-19 mortality, measured as the difference between excess mortality and official statistics. Our identification strategy takes advantage of a natural experiment of the unanticipated onset of the Coronavirus pandemic in 2020 and the asymmetric electoral schedule of presidential elections around the world, in which some countries faced the pandemic with upcoming elections in the next two years, while others did not have this electoral pressure. Contrary to conventional wisdom that governments manipulate information downwards to enhance reelection probabilities, we find that democratic governments facing elections in the following years report COVID fatalities more truthfully. We explain the result by a potential aversion to the costs associated with exposed underreporting: using Gallup poll data for 2020 we show that underreporting of COVID-19 mortality potentially undermines trust in government but only in relatively democratic countries.

Keywords: COVID-19, data manipulation, elections, democracy

JEL codes: D72, I18, P50

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1. Introduction

Accurate reporting of information in any emergency is paramount to the design and implementation of governmental policies and an adequate response of the public; yet, the coronavirus pandemic presents a vivid example of failures by numerous countries to provide such information. In reporting official COVID-19 mortality, many governments downplayed the actual severity of virus outbreaks (e.g., Karlinsky & Kobak 2021). Why do some governments underreport COVID-19 deaths, and by how much? Is there any disciplining mechanism preventing excessive misreporting? A small emerging literature on this topic suggests that underreporting may be driven by economic factors, in particular, deficient state capacity to compile correct numbers, as many COVID deaths are unaccounted for. Moreover, the regime type may play a role as democracies are more truthful as such (Knutsen and Kolvani 2022). This paper advances this literature by investigating the role of elections in (mis)reporting COVID-19 mortality.

Our initial hypothesis derives from the literature on political election cycles, which shows that incumbents create favorable short-term economic conditions when elections are getting close in order to win more votes (Nordhaus 1975; Dubois 2016; Philips 2016, and others). The logic applies to various policy instruments such as monetary policy (Aidt et al. 2020), tax and tax reform (Rossel Flores 2024), government spending in general (Alt and Lassen 2006, Brender and Drazen 2008) and for specific items (Thomas and Darsey 2024, Sjahrir et al. 2013), intergovernmental transfers (Gonschorek 2024, Kitsos and Proestakis 2021), declaration of natural disasters (Cooperman 2022) and macroprudential regulation (Müller 2024).¹

If governments use available instruments to maximize reelection probabilities, we could expect governments to (mis)report COVID-19 fatalities differently during election times than in off-election periods. But in which direction? Two conflicting hypotheses come to mind. First, as high COVID-19 numbers could be seen as an indication of ineffective disaster management and thus as an inherent failure, governments could seek to underreport COVID-19 cases more strongly during pre-election times. Alternatively, if non-truthful reporting were taken as a sign of dishonesty and weakness and punished by voters, governments would be incentivized to report more truthfully during election times. Moreover, a disaster like the pandemic could trigger voters' "rally around the flag" response and thus benefit the incumbent (e.g., Yam et al. 2020). This effect may be stronger the more serious the reported death toll is. Which hypothesis has more explanatory power is essentially an empirical question and the concern of this paper.

Our identification strategy takes advantage of the natural experiment of an unanticipated onset of the Coronavirus pandemic in 2020 and the asymmetric electoral schedule of presidential elections around the world, making some countries face the pandemic with upcoming elections in the next two years, while others did not experience this electoral pressure. We find that governments with elections in the following years report substantially more truthfully – with the official numbers converging to the true estimates. The magnitude

¹ In principle, democratic and autocratic governments are both interested in favorable election outcomes and thus may create political cycles (Chen and Zhang 2021), even though the constraints under which governments operate are quite different. (Obviously, autocrats have additional means of manipulating elections.)

of the effect is remarkable: the electoral pressure explains about a quarter of the variation in underreporting. This effect is driven exclusively by relatively democratic countries, as we show in the analysis of heterogeneous effects conditional on various measures of democracy.²

To explain our results, we look at the relationship between the underreporting of COVID-19 mortality and trust in the national government as measured by the Gallup survey conducted at the end of 2020. We find that *democratic* countries with higher underreporting exhibit lower trust in government. A potential reason for minimizing underreporting before elections thus may be that incumbents seek to avoid an erosion of trust in order to secure reelection. Democratic elections, therefore, are an effective safeguard against data manipulation by the government in emergencies.

Our analysis speaks to the emerging literature on COVID misreporting. While several early studies were engaged in attempts to identify misreporting in official statistics (e.g., Raphson and Lipsitch 2024 for the case of China) or to find a pattern adhering to Benford's law (e.g., Kilani 2021), very few have looked at the determinants of misreporting. Adam and Tsarsitalidou (2022) link Benford's law-based estimates of misreporting of COVID-19 mortality to regime types and show that autocratic regimes are more likely to misreport. Knutsen and Kolvani (2022) establish that democracies and countries with higher capacities (i.e., richer and better-equipped countries) underreport COVID-19 deaths much less. Neumayer and Plümper (2022) suggest that autocracies underreport more strongly. To our knowledge, Kofanov et al. (2023) is the only within-country study of underreporting of COVID-19 mortality that provides evidence of the proximity to gubernatorial elections among subnational regions in Russia as a determinant of data manipulation. Yet, it remains unclear whether their result is limited to the specific case of subnational governments in Russia or is more generally applicable.

The studies of Knutsen and Kolvani (2022) and Neumayer and Plümper (2022) are global but considers only regime type and state capacity as determinants for misreporting and disregards the central accountability mechanism that make countries into democracies. Our research likewise considers regime types and state capacity but emphasizes upcoming presidential elections as a determining factor for COVID-19 reporting outcomes. It sheds light on how governments communicate during times of crisis and evaluates the use of elections as a tool for shaping the narrative around COVID-19 mortality, thereby presenting a crucial dimension in the discourse on governance and accountability.

To a large extent, we contribute to the research on manipulation of official statistics in different political regimes that has so far mainly looked at the factors affecting doctoring of economic indicators (e.g., Magee and Doces, 2015; Martinez, 2022; Briviba et al., 2024).

Our paper also speaks to the literature on political business cycles (PBC) (see above). We thus enlarge the range of instruments studied in the literature on PBCs by an important new element – information provision – and show that, in a crisis, it is used cyclically. While we show the cyclical nature of information provision, we note an important difference to the existing PBC literature: in our context, governments react to an exogenous shock, the outbreak of the

² This results makes sense as only in democratic countries elections serve as meaningful accountability mechanisms (Hollyer et al., 2011).

pandemic, depending on where they are in their electoral cycle, while the PBC literature analyzes the entire cycles for the countries.

The paper proceeds as follows: Section 2 sketches the pandemic outbreak, and Section 3 presents the data. Section 4 describes the empirical setup. Section 5 presents our empirical results, including various robustness checks; Section 6 presents evidence on potential mechanisms; Section 7 concludes.

2. The onset of the COVID-19 pandemic and data reporting

COVID-19 emerged in Wuhan, China, in late 2019. In the initial stages of the crisis, the Chinese government did not transparently provide information about the virus, hence sparking concerns regarding the potential concealment of its seriousness. The virus spread quickly globally; on March 11, 2020 the World Health Organization (WHO) officially classified the outbreak as a pandemic.

Interestingly, democratic governments were often accused of mishandling the pandemic, with some evidence of delays in the adoption of lockdowns and other anti-COVID measures (Jain and Beaney, 2022; Cheibub et al., 2020; Sebhatu et al., 2020; Dempere, 2021). The early research based on the official COVID-19 statistics commonly supported those accusations (Cepaluni et al., 2022; Yao et al., 2021); however, later studies (e.g., Neumayer and Plümper, 2022) showed that when employing excess mortality as a more reliable estimate of the pandemic death toll the differences in COVID performance between autocratic and democratic countries were practically nonexistent.

3. Data

To test our competing two hypotheses (see Section 1), we focus exclusively on the first pandemic year (2020), when the arrival of a novel coronavirus was an unanticipated exogenous shock for all national governments as they experienced high uncertainties about the infection rates and severity and, most notably for our research question, had not yet any experience of the political effects of misreporting the COVID-19 statistics. Our data comprise 94 countries for the 2020 pandemic. Our sample does not include countries that held elections during 2020 for several reasons: 1) since our data is only annual, these elections divide the year into the treated and nontreated periods; 2) elections themselves may cause an increase in COVID-19 spread (e.g., Palguta et al. 2022); 3) holding elections may decrease both state capacity to register COVID-19 statistics timely. We also exclude closed autocracies from the sample as they never hold elections. A list of the countries is provided in Table A-1 in the appendix.

The variables used are detailed below.

3.1 Dependent variable

Official Covid-19 Mortality. Data on reported COVID-19 deaths is obtained from the World Health Organization (WHO) database. The WHO collects data on COVID mortality through the constant monitoring of the Ministries of Health's official websites and social media accounts across the globe. These data are compiled at the WHO regional level and reported daily to the headquarters. The variable representing official COVID-19 mortality is determined by dividing the number of reported COVID-19 fatalities by the three-year average all-cause mortality from 2017 to 2019:

$$\text{Official Covid Mortality}_i = \frac{\text{Reported Covid19 Deaths}_i}{\text{Average Past Total Deaths}_i}, \quad (1)$$

where i indicates a country.

Excess Mortality. In line with the literature (Msemburi et al., 2023; Kofanov et al., 2023; Karlinsky and Kobak, 2021), we proxy the actual mortality caused by the pandemic with a measure of excess mortality. The data is taken from the United Nations, Population Division (2023). Following Kofanov et al. (2023), we first construct the number of *excess deaths* as a difference between the number of current total deaths and past total deaths averaged for the last three years. We consider only positive amounts of excess deaths since they indicate the actual death toll from the virus. We construct the variable for *Excess Mortality* as denoted in Equation 2:

$$\text{Excess Mortality}_i = \begin{cases} 100 * \frac{\text{Excess deaths}_i}{\text{Average Past Total Deaths}_i}, & \text{if } \text{Excess deaths}_i > 0 \\ 0, & \text{if } \text{Excess deaths}_i < 0 \end{cases}. \quad (2)$$

Underreporting. We capture the level of underreporting by taking the difference between excess mortality and official COVID mortality (as in Knutsen and Kolvani, 2022):

$$\text{Under Reporting}_i = \text{Excess Mortality}_i - \text{Official Covid Mortality}_i \quad (3)$$

3.2 Explanatory Variables

Elections: We look at the most prominent type of election for a position of executive authority – presidential elections. Our empirical design takes advantage of presidential elections worldwide being held at different points in time, meaning that at any given year, all countries can be split into two groups: those that will soon hold the presidential elections and those that will not. Using data from V-Dem Institute (V-Dem Institute 2023), we construct a variable (*Upcoming Election*) that equals one if a country has presidential elections in the following two years and zero otherwise. About one-quarter of countries (24 out of 94) in our sample expected elections in the following two years.³

³ Parliamentary elections, opposite to presidential, have been found to cause substantially smaller political cycles potentially due to their „individual vs. collective nature“ hold on power (e.g., Persson and Tabellini, 2003). Nevertheless, we estimate the effect of electoral pressure from the upcoming parliamentary election (in 2021-22) akin to our baseline model and provide the results in Appendix A, Table A1 (for the estimations), and Figure

Democracy: Data on the country's democracy level also comes from the V-Dem Institute (V-Dem Institute 2023). The index is a continuous variable ranging from 0 to 1, with a score of 0 indicating the lowest level of democratic governance and a score of 1 representing the highest. This index aims to measure the responsiveness of governmental systems and political leaders to their citizens.

An additional robustness measure of democracy is obtained from the Economic Intelligence Unit (EIU 2022). This index is scaled from 0 to 10, with the overall value representing the average of the five scores. Both democracy measures are taken for a pre-pandemic year (2019) to avoid potential simultaneity bias.

State capacity: State capacity is proxied first by the gross domestic product (GDP) per capita (World Bank 2023), assuming that a richer country has more capacity to record COVID data correctly. Additionally, we utilize data from the World Health Organization on the number of doctors per 10,000 inhabitants (WHO, 2023) to control for a supply of health services. Again, the values of both variables are taken for 2019 year.

Demography: We supplement our analysis with the estimates of population size and the share of older, and hence more vulnerable, population groups (>65 years old) from the United Nations' world population prospects (UNPD, 2023) for the pre-COVID year.

3.3 Quasi-Randomization

Our identifying assumption is a quasi-random allocation of countries by the upcoming elections due to the asymmetric election schedule. To verify this assumption, we perform the balance tests using the control variables and present the results in Table 1.

Table 1: Balancing tests

	Approaching elections			Test (p-value)
	No	Yes	Total	
N	70 (74.5%)	24 (25.5%)	94 (100.0%)	
Excess Mortality	10.060 (8.262)	13.338 (12.047)	10.897 (9.413)	0.142
GDP per capita, log	8.841 (1.506)	8.468 (1.252)	8.746 (1.448)	0.279
Democracy (V-Dem)	0.609 (0.220)	0.547 (0.241)	0.593 (0.226)	0.242
Democracy (EIU)	6.178 (2.082)	5.745 (2.070)	6.066 (2.076)	0.382
Population, log	9.532 (1.674)	9.269 (1.480)	9.465 (1.623)	0.498
Population over 65, %	15.083 (2.202)	14.546 (2.373)	14.946 (2.246)	0.314
Doctors per 10 000 pop, log	2.427 (1.436)	2.059 (1.650)	2.331 (1.494)	0.302

The test of joint significance (OLS) does not reject the null hypothesis that all coefficients of the variables are equal to zero and the null that at least one of the coefficients is not equal to zero: Prob > F = 0.76 (OLS)

A1 with the plot for the conditional marginal effects. We find no effect of parliamentary elections on the underreporting of COVID-19 mortality.

4. Empirical Setup

We employ ordinary least squares regression (OLS) with robust standard errors to estimate the following equation:

$$Y_i = \alpha + \beta \text{Upcoming Election}_i + \gamma \text{Democracy}_{i2019} + X_{i2019} + \delta_i + \epsilon_i, \quad (4)$$

where i indicates the country; the dependent variable Y_i is either officially reported COVID-19 mortality, excess mortality, or underreporting; $\text{Upcoming Election}_i$ is an indicator of approaching presidential elections; Democracy_{i2019} is the lagged democracy index; X_{i2019} is the vector of control variables; ϵ_i is the error term.

To test for heterogeneous effects, we interact the election proximity with democracy. We surmise that elections will have an effect only for countries in which they serve as effective accountability mechanism.

$$Y_i = \alpha + \beta \text{Upcoming Election}_i + \gamma \text{Democracy}_{i2019} + \delta \text{Upcoming Elections} \times \text{Democracy}_{i2019} + X_{i2019} + \delta_i + \epsilon_i. \quad (5)$$

5. Results

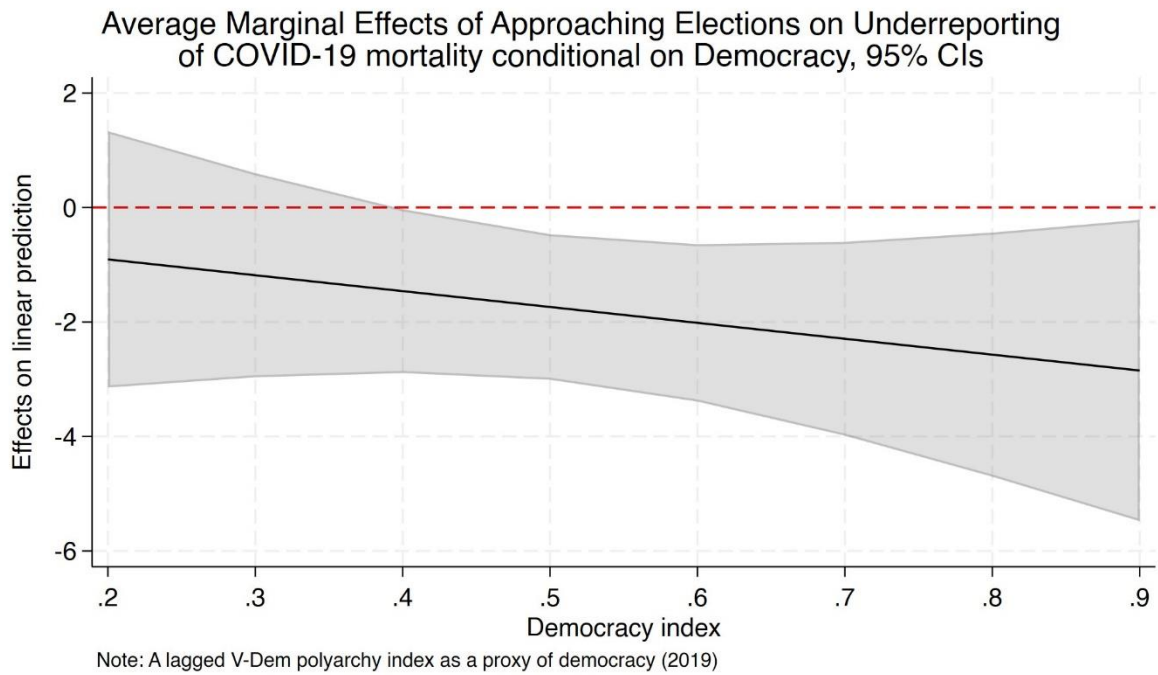
5.1 Baseline results

We present the regression results in Table 2 using three specifications for each dependent variable. The first, naïve specification (Columns 1, 4, 7) includes only a dummy for upcoming elections, democracy, lagged GDP per capita as a capacity proxy, and excess mortality (only when dependent variables are official COVID-19 mortality or underreporting). Further, in Columns 2, 5, 8, we add demographic variables and the number of doctors per capita. Finally, we run an estimation with the election variable interacted with the democracy index to test for heterogeneous effects (Columns 3, 6, 9).

Democracies have higher reported COVID death tolls and lower underreporting than undemocratic countries but does not affect the actual death toll; if at all, the excess mortality is smaller than in the other countries. This is in line with the literature (Neumayer and Plümpert, 2022; Knutsen and Kolvani, 2022). Upcoming presidential elections significantly increase officially reported COVID-19 mortality (Columns 1-2), but not the actual death toll of the coronavirus measured by the excess mortality (Columns 4-5). Finally, Columns 7-8 confirm that upcoming elections reduce the underreporting of COVID-19 death statistics. The magnitudes of the effect are economically significant, with upcoming elections explaining about 26% of a standard deviation in underreporting.

When we interact democracy with upcoming elections (Columns 3, 6, 9), we observe that the effect becomes stronger the more democratic the country is. This nonlinear conditional relationship is best illustrated by a margins plot in Figure 1 (Column 9 estimation), with the effect on underreporting becoming different from zero when a country surpasses an index value of 0.5 – a threshold often used to categorize an electoral democracy.

Figure 1: Conditional marginal effects (Column 9, Table 2)



We also observe interesting results for our other control variables. GDP per capita is associated with more reporting of COVID-19, more excess deaths, and less underreporting (Columns 1, 4, 7), however this relationship is not robust to the inclusion of additional controls, particularly the number of doctors per capita as a proxy of healthcare capacity.

Table 2: Elections and reporting of COVID-19 mortality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dep. Variable:	Official COVID-19 mortality			Excess mortality			Underreporting		
Approching elections	1.54** (0.03)	1.91*** (0.00)	0.68 (0.69)	3.35 (0.21)	3.31 (0.16)	2.54 (0.54)	-1.58** (0.02)	-1.93*** (0.00)	-0.35 (0.83)
Elections * Democracy			2.17 (0.48)			1.37 (0.84)			-2.77 (0.35)
Democracy	8.44*** (0.00)	9.47*** (0.00)	8.70*** (0.00)	-9.21 (0.10)	-8.63* (0.06)	-9.11 (0.12)	-7.97*** (0.00)	-8.96*** (0.00)	-7.98*** (0.00)
GDP per capita, log	0.72*** (0.00)	0.69 (0.13)	0.77* (0.10)	1.75** (0.01)	-3.55*** (0.01)	-3.50** (0.01)	-0.63** (0.01)	-0.58 (0.17)	-0.70 (0.12)
Excess Mortality	0.32*** (0.00)	0.31*** (0.00)	0.31*** (0.00)				0.68*** (0.00)	0.68*** (0.00)	0.69*** (0.00)
Population, log		0.19 (0.57)	0.18 (0.62)		0.55 (0.41)	0.53 (0.43)		-0.15 (0.64)	-0.13 (0.70)
Population over 65, %		0.22 (0.34)	0.22 (0.33)		-0.36 (0.46)	-0.36 (0.47)		-0.22 (0.33)	-0.22 (0.31)
Doctors per capita, log		-0.06 (0.91)	-0.13 (0.80)		6.12*** (0.00)	6.07*** (0.00)		0.06 (0.91)	0.15 (0.77)
Observations	94	92	92	94	92	92	94	92	92
R2	0.62	0.67	0.67	0.06	0.31	0.31	0.83	0.85	0.85

Note: Robust SE. p-values are in parentheses; * indicates $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: Robustness with an alternative democracy index (EIU)

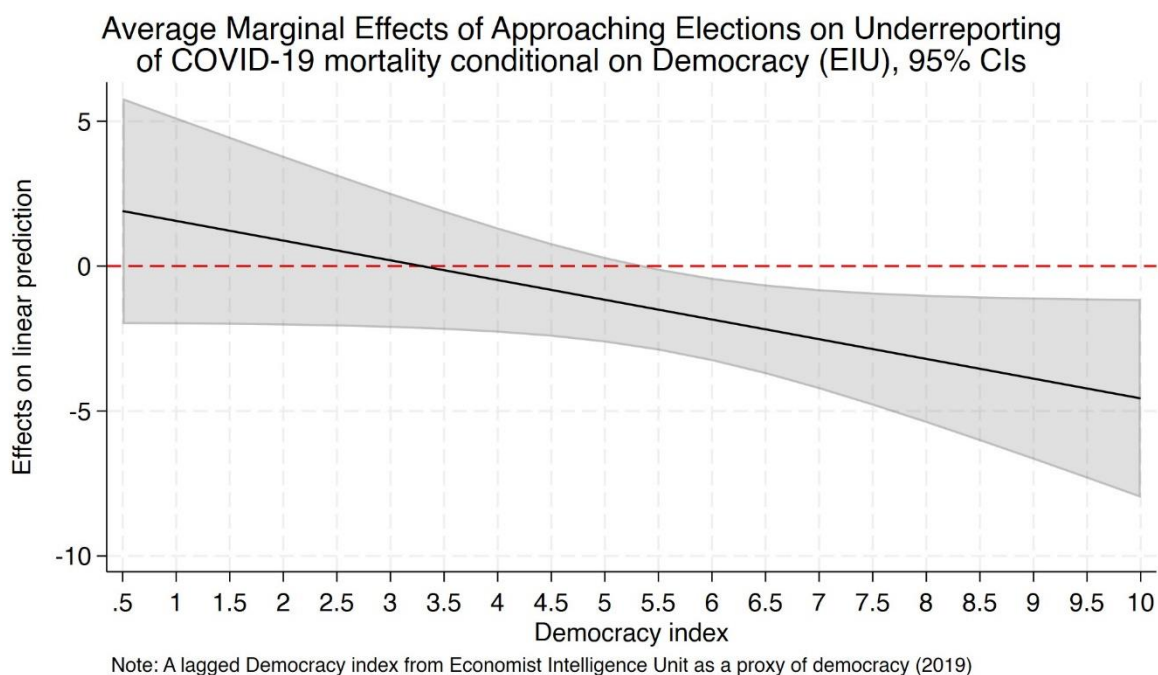
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dep. Variable:	Official COVID-19 mortality			Excess mortality			Underreporting		
Approching elections	1.38*	1.72**	-1.96	3.54	3.57	2.29	-1.43*	-1.75**	2.24
	(0.07)	(0.02)	(0.37)	(0.19)	(0.13)	(0.58)	(0.06)	(0.02)	(0.30)
Elections * Democracy (EIU)			0.63*			0.22			-0.68*
			(0.09)			(0.75)			(0.06)
Democracy (EIU)	0.51**	0.51**	0.30	-1.35**	-1.29**	-1.36**	-0.47**	-0.48**	-0.25
	(0.03)	(0.03)	(0.27)	(0.03)	(0.01)	(0.02)	(0.04)	(0.03)	(0.33)
GDP per capita, log	1.13***	1.00*	1.28**	2.20***	-2.97**	-2.87**	-1.02***	-0.88*	-1.19**
	(0.00)	(0.06)	(0.02)	(0.00)	(0.02)	(0.04)	(0.00)	(0.08)	(0.03)
Excess Mortality	0.31***	0.30***	0.30***				0.69***	0.70***	0.70***
	(0.00)	(0.00)	(0.00)				(0.00)	(0.00)	(0.00)
Population, log		-0.03	-0.06		0.74	0.73		0.06	0.1
		(0.93)	(0.87)		(0.28)	(0.28)		(0.85)	(0.78)
Population over 65, %		0.32	0.31		-0.39	-0.4		-0.32	-0.3
		(0.20)	(0.20)		(0.44)	(0.44)		(0.20)	(0.19)
Doctors per capita, log		0.09	-0.12		6.02***	5.95***		-0.09	0.14
		(0.86)	(0.83)		(0.00)	(0.00)		(0.86)	(0.79)
Observations	93	91	91	93	91	91	93	91	91
R2	0.58	0.61	0.62	0.07	0.33	0.33	0.81	0.83	0.83

Note: Robust SE. p-values are in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01.

5.2 Robustness

Table 3 employs an alternative measure of democracy from the Economist Intelligence Unit (EIU) and yields econometric estimates very similar to Table 2. Approaching elections increases officially reported COVID-19 mortality but reduces underreporting significantly. The conditional marginal effects for the estimation of underreporting in Column 9 in Figure 2 show a similar picture, as in Figure 1: a significant negative effect of upcoming elections emerges only for relatively democratic countries.

Figure 2: Conditional marginal effects (Column 9, Table 3)



6. Discussion of the mechanisms

Why do democracies report more truthfully in the light of upcoming elections? Previous research suggests two mechanisms. First, a higher number of COVID-19 deaths might trigger a “rally-around-the-flag” effect and increase support for the incumbent (e.g., Yam et al., 2020; van der Meer et al., 2023); the severer the situation, the stronger the effect is. Therefore, a strategy to truthfully report the pandemic situation would be beneficial before the election. Second, voters might penalize the incumbent for underreporting when exposed; hence, politicians favor more truthful reporting to avoid this risk.

We shed light on those mechanisms utilizing a nationally representative survey by Gallup conducted at the end of 2020 covering 88 countries. The survey asked the question of how much interviewees trust the national government of their country. Respondents could choose between “A lot”, “Some”, “Not much”, “Not at all”, or they could refuse to answer. We construct a variable *Trust in Government defined* as the share (%) of respondents who answered “A lot” or “Some”.

We plot the share of people trusting their government against official COVID-19 mortality in Figure 3, and against our measure of underreporting in Figure 4, separately for democracies and autocracies.

Contrary to findings in the previous literature, we do not see a positive correlation in Figure 3 between official COVID-19 mortality and trust in government (e.g., Yam et al., 2020; van der Meer et al., 2023); if at all, the relationship is slightly negative. We thus find no evidence for a “rally-around-the-flag” effect in our context.

In contrast, Figure 4 shows clear negative correlation (statistically significant at a 5% level) between underreporting and trust in government in democracies. This is remarkable considering an already very low level of underreporting in democracies: even a marginally larger gap between excess mortality and official numbers tends to be associated with lower trust in the government. This relationship does not seem to exist among nondemocratic regimes (the correlation coefficient is small and never statistically significant). Our finding suggests that downplaying the true severity of COVID-19 may be penalized by citizens, but only in countries in which democratic institutions allow to hold politicians accountable. As a consequence, democratic politicians underreport less. As elections are the prime accountability mechanism that may translate lower trust in lower vote shares, it is no surprise that underreporting in democracies is even lower in pre-election times.

Figure 3: Trust in government and official COVID-19 mortality

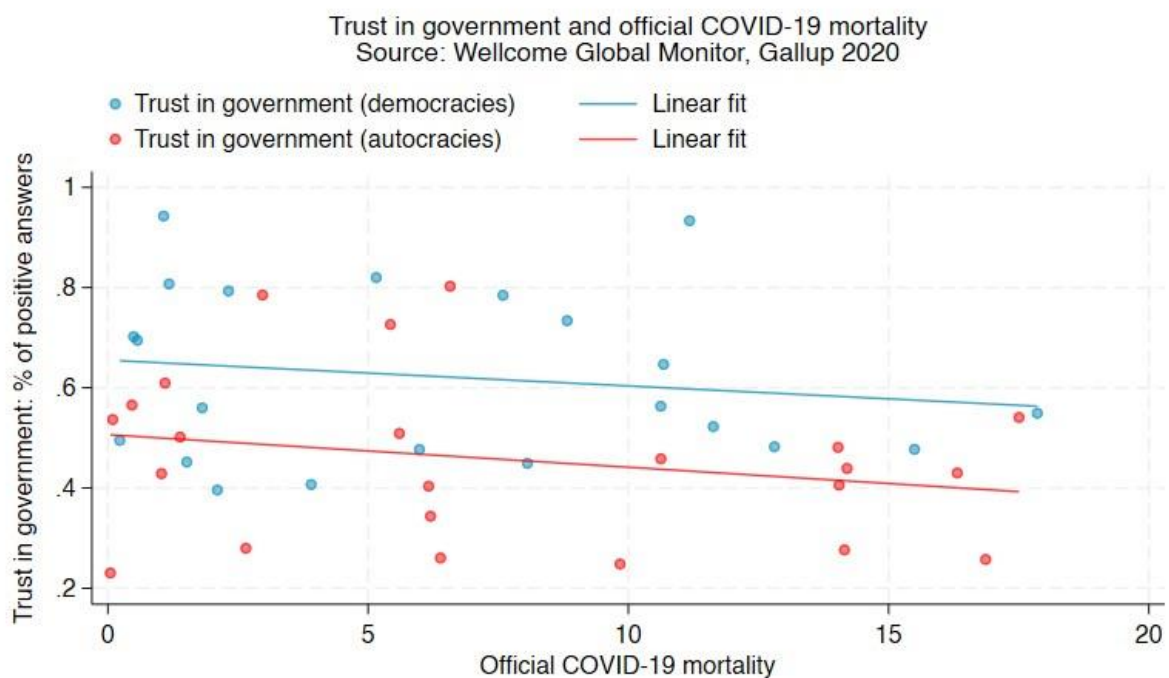
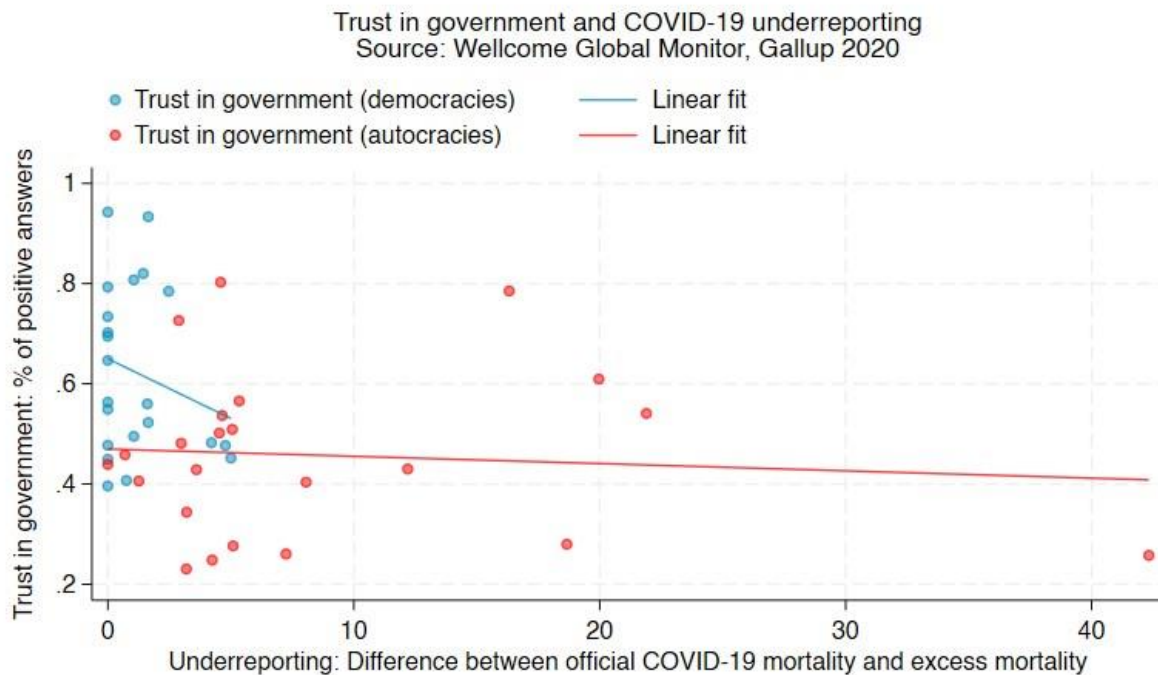


Figure 4: Trust in government and underreporting of COVID-19 mortality



7. Conclusion

We study the impact of approaching presidential elections on COVID-19 (mis)reporting across governmental regimes. Our analysis employs 94 countries for the year 2020. We show that democracies underreport less and that in particular approaching elections increase reported COVID-19 deaths significantly, which is not mirrored by an increase in actual COVID-related deaths (as measured by excess mortality). This bears witness to a politically motivated information policy in the pandemic. As elections draw near, underreporting significantly decreases, only among democracies, supporting the notion that underreporting may compromise reelection probabilities, either because misreporting is seen as a weakness of the government in the light of a fundamental exogenous crisis or because a “rallying around the flag” response of the voters may favor the incumbent the more, the more severe the reported crisis is perceived to be by the electorate. We provide suggestive evidence that misreporting erodes trust in democratic governments and that, consequently, democracies underreport less, in particular when elections draw closer as elections are effective accountability mechanisms in democracies, which may translate eroding trust into electoral defeat.

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Appendix

Table A.1. List of countries in the baseline sample

Countries in the sample by the presence of upcoming presidential elections			
No.	With no elections in 2021 or 2022	No.	With elections in 2021 or 2022
1	Afghanistan	1	Austria
2	Albania	2	Benin
3	Algeria	3	Bosnia and Herzegovina
4	Angola	4	Brazil
5	Argentina	5	Bulgaria
6	Armenia	6	Cabo Verde
7	Australia	7	Chad
8	Bangladesh	8	Chile
9	Belgium	9	Colombia
10	Botswana	10	Congo
11	Canada	11	Costa Rica
12	Cyprus	12	Djibouti
13	Czechia	13	Ecuador
14	Democratic Republic of the Congo	14	Equatorial Guinea
15	Denmark	15	France
16	El Salvador	16	Gambia
17	Estonia	17	Honduras
18	Ethiopia	18	Kenya
19	Fiji	19	Nicaragua
20	Finland	20	Philippines
21	Gabon	21	Portugal
22	Germany	22	Slovenia
23	Greece	23	Uganda
24	Guatemala	24	Zambia
25	Guinea-Bissau		
26	Haiti		
27	Hungary		
28	India		
29	Indonesia		
30	Iraq		
31	Italy		
32	Japan		
33	Kazakhstan		
34	Latvia		
35	Lebanon		
36	Lesotho		
37	Liberia		
38	Luxembourg		
39	Madagascar		
40	Malaysia		
41	Maldives		
42	Malta		
43	Mauritania		
44	Mauritius		
45	Mexico		
46	Mozambique		
47	Namibia		
48	Nepal		
49	Netherlands		
50	Nigeria		
51	Norway		

52	Pakistan
53	Panama
54	Papua New Guinea
55	Paraguay
56	Russian Federation
57	Rwanda
58	Senegal
59	Sierra Leone
60	South Africa
61	Spain
62	State of Palestine
63	Sweden
64	Switzerland
65	Tunisia
66	Türkiye
67	Ukraine
68	United Kingdom
69	Uruguay
70	Zimbabwe

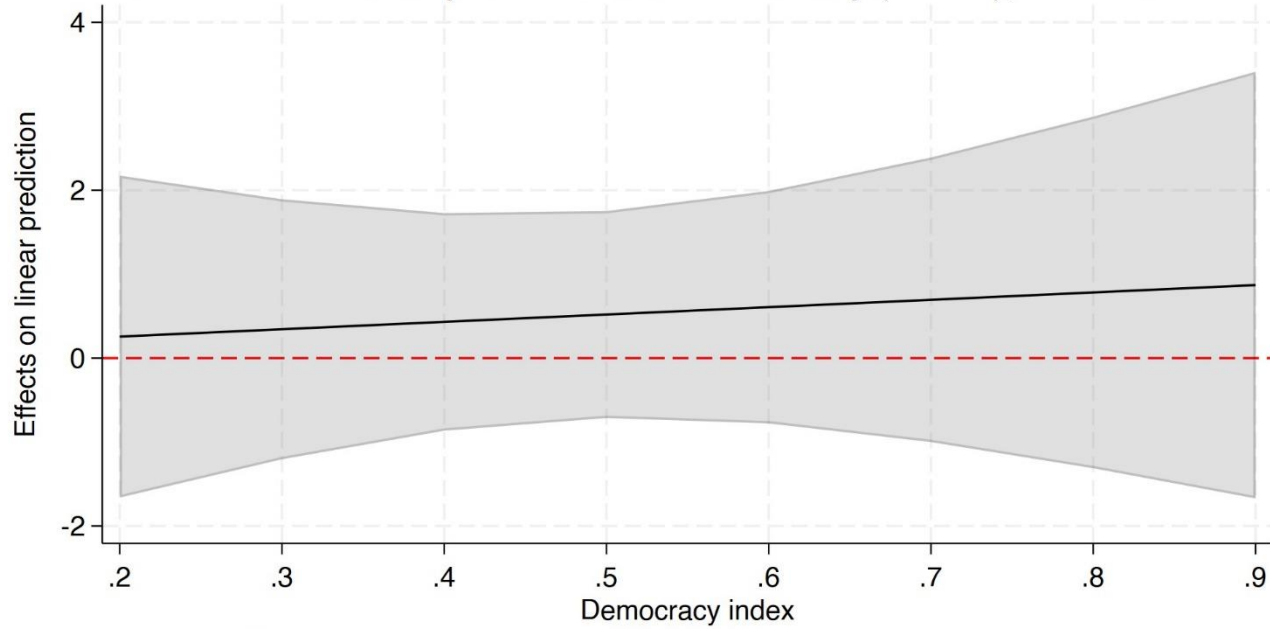
Table A1: Estimation results for approaching parliamentary elections (included in the baseline)

Dep. Variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Official COVID-19 mortality			Excess mortality			Underreporting		
Approaching (presidential) elections	1.85*** (0.01)	2.20*** (0.00)	0.87 (0.62)	2.29 (0.40)	2.83 (0.24)	0.77 (0.85)	-1.86*** (0.01)	-2.17*** (0.00)	-0.51 (0.77)
Elections (presidential) * Democracy (V-Dem)			2.32 (0.46)			3.43 (0.61)			-2.9 (0.35)
Approaching (parliamentary) elections	-0.86 (0.27)	-0.76 (0.33)	-0.11 (0.94)	2.73 (0.15)	1.23 (0.46)	5.25 (0.22)	0.76 (0.29)	0.64 (0.36)	0.08 (0.95)
Elections (parliamentary) * Democracy (V-Dem)			-1.04 (0.72)			-6.57 (0.32)			0.88 (0.74)
Democracy (V-Dem)	8.38*** (0.00)	9.31*** (0.00)	9.23*** (0.00)	-8.83 (0.11)	-8.33* (0.06)	-4.8 (0.54)	-7.91*** (0.00)	-8.83*** (0.00)	-8.43*** (0.00)
GDP per capita, log	0.80*** (0.00)	0.73 (0.12)	0.79 (0.11)	1.48** (0.05)	-3.61*** (0.01)	-3.65** (0.01)	-0.70*** (0.01)	-0.62 (0.16)	-0.71 (0.13)
Excess Mortality	0.32*** (0.00)	0.31*** (0.00)	0.31*** (0.00)				0.67*** (0.00)	0.68*** (0.00)	0.68*** (0.00)
Population, log		0.22 (0.54)	0.2 (0.58)		0.51 (0.47)	0.5 (0.47)		-0.17 (0.60)	-0.15 (0.66)
Population over 65, %		0.2 (0.39)	0.21 (0.37)		-0.34 (0.50)	-0.31 (0.55)		-0.21 (0.36)	-0.21 (0.34)
Doctors per capita, log		-0 (0.99)	-0.08 (0.88)		6.00*** (0.00)	5.87*** (0.00)		0.01 (0.98)	0.11 (0.84)
Observations	94	92	92	94	92	92	94	92	92
R2	0.63	0.67	0.67	0.08	0.32	0.32	0.83	0.85	0.86

Note: Robust SE. P-values are in parentheses, * p < 0.1, ** p < 0.05, *** p < 0.01.

Figure A1: Conditional marginal effects (Column 9, Table A1)

Average Marginal Effects of Approaching Parliamentary Elections on Underreporting of COVID-19 mortality conditional on Democracy (V-Dem), 95% CIs



Note: A lagged V-Dem polyarchy index as a proxy of democracy (2019)