The Curse of Democracy: Evidence from the 21st Century

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Abstract

Democracy is widely believed to contribute to economic growth and public health in the 20th and earlier centuries. We find that this conventional wisdom is reversed in this century, i.e., democracy has persistent negative impacts on GDP growth during 2001-2020. This finding emerges from five different instrumental variable strategies. Our analysis suggests that democracies cause slower growth through less investment and trade. For 2020, democracy is also found to cause more deaths from Covid-19.

Keywords: Democracy, Economic Growth, Public Health, Causality

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I Introduction

Does democracy promote economic prosperity and the safety of life? Many believe so, but this question is becoming increasingly debatable. In the past two decades, the spectacular economic growth in China, the collapse of the Arab Spring, and the rise of populist politics in Europe and South and North America have provoked skepticism about democracy’s continued strength as a political system. This sentiment is well expressed by recent bestseller titles such as How Democracies Die and How Democracy Ends. Furthermore, in 2020 and 2021, the US and other major democracies face historic recessions and death tolls due to the Covid-19 pandemic. The democratic countries stand in stark contrast to China and other autocratic countries that quickly contained the pandemic.

This paper studies how democracy impacts economic growth and public health during 2001-2020. We construct a dataset with historical and present-day information on the demographic, economic, health, geographic, and political characteristics of most of the world’s countries. We analyze the data with five different instrumental variables (IV) strategies. Our bottom line is that stronger democracies cause lower economic growth over the past 20 years. Moreover, democracy causes not only worse GDP declines but also higher Covid-19 mortality during 2020.

We start by looking at the cross-country correlation between national outcomes and a widely-used electoral democracy index. The index quantifies the extent to which the ideal of electoral democracy is achieved, by aggregating freedom of association and expression, clean elections, and suffrage. As reported in Figure 1a, democracy is associated with lower growth in 2001-2019. This negative correlation is in contrast to the 1990s and 1980s, for which periods we and the prior literature find no such negative association between democracy and economic growth (Figure A1). Furthermore, in 2020, democracy is not only associated with bigger shocks to GDP but also more Covid-19 deaths (Figures 1b and 1c).

Our goal is to investigate whether this recent association of democracy with worse outcomes has any causal interpretation. To identify democracy’s causal effect, we adopt five of the most influential IVs for current political institutions:

- Mortality of European colonial settlers (Acemoglu, Johnson and Robinson, 2001)
- Population density in the 1500s (Acemoglu, Johnson and Robinson, 2002)
- Availability of crops and minerals, which reflects historical agricultural endowments and influences political organization through heterogeneous demand for slave labor (Easterly and Levine, 2003)
- Fraction of the population speaking English and a Western European language (Hall and Jones, 1999)
- Legal origin, based on the impact of a European colonizer’s legal structure on the colony’s eventual political regime (LaPorta, Shleifer and Vishny, 1998)

These IVs help identify the effects of democracy by tracing back its origin to geographical and historical determinants. Such determinants of today’s democracy level capture the feasibility and incentives of colonial powers
to invest in local institution-building, as well as each country’s affinities with Western culture and institution. Indeed, first-stage regressions show that these IVs are important drivers of the cross-country variation in today’s democracy levels.

All of these IVs turn out to produce similar two-stage least squares (2SLS) estimates of the impact of democracy. They all show that democracy persistently causes lower growth in this century. The median estimate among our five IV strategies is that a standard deviation increase in the democracy level causes a 2 percentage-point GDP decrease per year in 2001-2019 (50% of the outcome mean) and a 1.8 percentage-point GDP decrease in 2020 (40% of the outcome mean). Democracy also causes higher Covid-19 mortality in 2020, though we should note that this result may be contaminated by potential misreporting in the Covid-19 mortality data. Our median estimate is that a standard deviation increase in a country’s democracy index results in 350 more Covid-19 deaths per million people (120% of the outcome mean). To facilitate interpretation of the findings, the political-regime difference between China and the US is equivalent to a 3 standard deviation difference in the democracy index in 2019. Put differently, a standard deviation change in the democracy index is equivalent to the political-regime difference between Mozambique and Mexico, or Mexico and Denmark.

Our finding is robust to various alternative specification and measurement choices. Controlling for latitude, temperature, precipitation, population density, median age, diabetes prevalence, and continent dummies does not change the results. Controls for baseline total or per-capita GDP also have little effect on the estimates. The results change little with alternative indices for democracy or alternative weighting of countries. Moreover, the adverse effect of democracy is robust to excluding outlier nations from the sample. The result is not driven by the US and China alone, nor is it driven by G7 nations. The weakness of democracy is, therefore, a global phenomenon in the 21st century.

We explore many potential mechanisms that underlie democracy’s perverse effect. What turned out to be important are investments and trade. 2SLS estimates suggest that democracy slows value-added growth in manufacturing and services by decreasing investments (but not TFP or the labor force). Democracy also depresses imports and exports. These results suggest that since the turn of the 21st century, democracy might have stopped improving key building blocks for growth. In contrast, other channels such as taxes, school enrollment, child mortality, domestic conflict, R&D, and the number of new businesses appear to be less important for explaining democracy’s adverse effect.

Related Literature. Any cause of macroeconomic growth and national public health is difficult to identify due to omitted variable biases, measurement errors, and limited data size (Klenow and Rodriguez-Clare 1997; Durlauf, Johnson and Temple 2005; Helpman 2009; Galor 2011). Classic cross-country regression studies claim that democracy’s cumulative effect on economic growth may be negligible (Barro 1997; Przeworski and Limongi 1993; Przeworski et al. 2000). With more quasi-experimental research designs, however, later studies show that democracies experience more stable, long-term growth than non-democracies (Acemoglu et al. 2018; Aghion, 2011).

We also provide evidence that a major channel for democracy’s adverse effect in 2020 appears to be weaker and narrower containment policies at the beginning of the pandemic, rather than the speed of policy implementation.
Alesina and Trebbi (2007); Madsen, Raschky and Skali (2015); Papaioannou and Siourounis (2008); Persson and Tabellini (2006, 2007); Quinn and Woolley (2001); Rodrik and Wacziarg (2005). Similar findings exist for democracy’s positive effects on health (Besley and Kudamatsu, 2006; Gerring, Thacker and Alfaro, 2012; Kudamatsu, 2012). More broadly defined Western social institutions are also shown to positively affect economic growth (Acemoglu, Johnson and Robinson, 2001, 2002; Easterly and Levine, 2003; Hall and Jones, 1999). The prior work chiefly studies the 20th and earlier centuries, while we analyze the 21st century with quasi-experimental research designs.

Our results suggest that the role of democracy in economic growth may be different between this and previous centuries. This finding echoes a growing set of recent facts that challenge the conventional wisdom about economic growth. For example, as opposed to studies from the 1990s, Kremer, Willis and You (2021) and references therein note a trend towards convergence (poor countries catch up with rich) since 2000. See also Acemoglu and Molina (2021) for the causal interpretation of Kremer, Willis and You (2021)’s finding. For developing countries, Easterly (2019) reports that policy outcomes in inflation, black market premiums, currency overvaluation, real interest rates, and trade shares to GDP started improving since the late 1990s. Song, Storesletten and Zilibotti (2011) document a series of facts about China’s unprecedented economic transition and present a new growth model to explain the facts. Autor, Dorn and Hanson (2016) and references therein point out that American labor-market adjustments to China’s trade shocks challenge much of the received empirical wisdom.

Our analysis on 2020 also contributes to the literature on the economics of pandemics. Researchers attempt to explain the cross-country heterogeneity in Covid-19-related outcomes. Studies show that obedience to travel restrictions or social distancing differ by culture, social capital, government communication, and political systems (Allcott et al., 2020; Alsan et al., 2020; Frey, Chen and Presidente, 2020; Grossman et al., 2020; Schmelz, 2021). None of them find a root cause of Covid-19-related outcomes.

We integrate these strands of the literature to find that democracy causes worse economic and public health outcomes since the beginning of the 21st century. To our knowledge, this paper seems to be the only study that shows any substantially adverse effect of democracy on any important national outcome.

We organize this paper as follows. Section II describes our data and provides descriptive statistics. Section III analyzes the correlation between democracy and national outcomes. Section IV presents our 2SLS estimates of the causal effect of democracy. Section V explores the channels behind democracy’s effect. Section VI discusses alternative specifications and placebo tests using 1980-2000. Section VII concludes.

2 Other studies inspect the micro mechanisms behind democracy’s effects. Some studies use regional differences in democratic representation to find that higher representation leads to greater investments in education and public health (Baum and Lake, 2007; Doucouliagos and Ulubasoglu, 2008; Lake and Baum, 2001; Tavares and Wacziarg, 2001). Studies such as Besley and Case (2003) and Burgess et al. (2015) focus on how different political processes within countries lead to different income redistributions and provisions of public goods.
II Data

We use the following five types of data to investigate how the performance of different countries depends on their political regimes. Table I provides descriptive statistics for our main variables.

Economic and public health outcomes. The primary outcome we look at is the mean annual GDP growth rate between 2001 and 2019 from the World Economic Outlook by the IMF. As Figure 1a shows, most countries experienced positive economic growth. For our sample of 164 countries, the mean is 3.9% with a standard deviation of 2.1% (Table I row 1).

We also look at two outcomes specific to 2020: the GDP growth rate between 2019 and 2020 and the total number of Covid-19 deaths per million. We source data for the GDP growth rate from the IMF and data for Covid-19 deaths from the Data Repository at Johns Hopkins University. 2020 was a disastrous year, with the average growth rate at -4.8%, the worst since World War II. The average number of Covid-19 deaths per million is 297 (Table I rows 2 and 3). Both outcomes differed drastically across countries, with a standard deviation of 7.9% for GDP growth rates and 382 for Covid-19 deaths per million. Figures 1b and 1c visualize these patterns.

Democracy indices. Measuring the extent of democracy is tricky. Our baseline measure is the electoral democracy index from the Varieties of Democracy (V-Dem) Project. It considers multiple facets of democracy, such as the freedom of association and expression, and clean elections. It is increasingly accepted in the economics and political science literature as a measure for democracy (Alesina, Tabellini and Trebbi, 2017). As shown in Table I, the index captures our intuitive notion of democratic countries. According to the index, the most democratic countries are Sweden and Denmark, while the least democratic country is Saudi Arabia. As a further sanity check, Table A3 ranks 30 nations with the largest GDP by their democracy levels. The democracy indices are also stable over time (Table A4). For robustness, we also use the polity index by the Center for Systemic Peace, the freedom index by Freedom House, and the democracy index by the Economist Intelligence Unit.

Country characteristics. To control for country characteristics, we collect country-level data for GDP, absolute latitude, mean temperature, mean precipitation, population density, median age, and diabetes prevalence. We source data from the United Nations, the World Bank, and the International Diabetes Federation.

III Democracy is Associated with Worse Outcomes

Before exploring democracy’s causal effect, we first look at democratic and authoritarian countries’ performance in the 21st century. Figure 1a shows that higher levels of democracy are associated with lower GDP growth rates in 2001-19. For that period, more democratic countries consistently experienced lower economic growth
compared to less democratic countries (Figure A2). For 2020, Figures 1b and 1c show that more democratic nations experience bigger GDP loss and more deaths from Covid-19.

To quantify their magnitude, statistical significance, and sensitivity to controls, we run the following OLS regressions of each outcome against the democracy index at the baseline year:\(^5\)

\[
Y_i = \alpha + \beta_{\text{Democracy}_i} + \gamma X_i + \epsilon_i
\]

where \(Y_i\) is the outcome for country \(i\), \(\alpha\) is the intercept, \(\text{Democracy}_i\) is the democracy index (normalized to have mean zero and standard deviation one), \(X_i\) is a vector of other country-level covariates, and \(\epsilon_i\) is a residual. The coefficient of interest is \(\beta\), which quantifies the association between democracy and the outcome. We weight countries by GDP in the baseline specification. Results are similar with weighting by population and with no weighting.

The OLS estimates in Table 2’s Panel B show that democracy is strongly associated with worse performance in the 21st century. In column 9, for example, a standard deviation increase in the democracy measure corresponds to a 1.7 (s.e. = 0.4) percentage-point GDP decrease per year in 2001-2019. Democracy’s negative association is accentuated in 2020, where a standard deviation increase is associated with both a 1.9 (s.e. = 0.5) percentage-point decrease in GDP and a 249.4 (s.e. = 52.3) increase in Covid-19-related deaths per million.

The results are not sensitive to the addition of controls. It is plausible that climate, population density, population aging, and diabetes affect these outcomes. To control for these factors, we add absolute latitude, mean temperature, mean precipitation, population density, median age, and diabetes prevalence as covariates. The resulting estimates in Panel B’s column 10 remain similar. The estimates are -1.2 (s.e. = 0.6) for mean GDP growth rates in 2001-2019, -1.6 (s.e. = 0.3) for GDP growth rates in 2020, and 309.6 (s.e. = 47.0) for Covid-19-related deaths per million. We also show in Table A6 that controlling for baseline total GDP and GDP per capita preserves the significant negative relationship between democracy and economic growth.

**IV Causal Effects of Democracy in the 21st Century**

**A IVs for Political Regimes**

We cannot interpret the above relationship as causal, however. There are many omitted determinants of outcomes that also correlate with the degree of democracy. To identify democracy’s causal effect, we adopt five IV strategies using historical determinants of democracy.

**European settler mortality IV.** European settler mortality is the mortality rate (annualized deaths per thousand mean strength) of European soldiers, bishops, and sailors stationed in the colonies between the seventeenth and nineteenth centuries. Europeans used mortality rates to decide where to settle [Curtin 1989]. In colonies

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5 2000 is the baseline year for outcomes in 2001-2019. 2019 is the baseline year for outcomes in 2020.
with inhospitable germs, they did not settle and established extractive institutions that extracted local resources and lacked checks and balances against government expropriation. In colonies with hospitable disease environments, Europeans settled and established inclusive institutions that protected individual liberties. The effect of these institutions persists today. Consistent with this hypothesis by Acemoglu, Johnson and Robinson (2001), Figure 2a shows that countries with higher European settler mortality have lower democracy levels today. This fact motivates us to use European settler mortality as an IV among ex-European colonies.

**Past population density IV.** Population density in the 1500s is the number of inhabitants per square kilometer in the 16th century. Population density at the beginning of the colonial age determined colonial institutions’ inclusiveness. Sparse populations in the 16th century induced Europeans to settle and develop Western-style institutions, while denser populations made extractive institutions more profitable. Acemoglu, Johnson and Robinson (2002) use this IV to show that European institutions positively affect economic growth. Figure 2b confirms that higher population density in the 16th century corresponds to lower democracy levels today. Similar to the European settler mortality IV, we use this IV for ex-European colonies.

**Legal origin IV.** This IV is a dummy variable for British legal origin that takes the value 1 if the country’s legal origin is British (common law) and 0 if it is French, German, or Scandinavian (civil law). Many countries derive their legal systems from European colonization. LaPorta, Shleifer and Vishny (1998) use this IV to show that British legal origin is associated with higher economic growth. Indeed, first-stage regressions show that countries with British legal origin are significantly more democratic today (Table A14).

**Fraction speaking English or European.** The fraction speaking English or European is the fraction of the population speaking English or a major Western European language (French, German, Portuguese, and Spanish) as a mother tongue in 1992. As Hall and Jones (1999) argue, an essential feature of world history is the spread of Western European influence, which created an institutional and cultural background conducive to democracy. The language variable is a proxy for such influence. Indeed, the fraction of the population speaking a major European language positively correlates with democracy (Figure 2c). Like the original authors, we include all countries in the world in the sample definition.

**The availability of crops and minerals as IVs.** Bananas, coffee, maize, millet, rice, rubber, sugarcane, and wheat are dummy variables coded 1 if a country produced the crop in 1990. Copper and silver are coded 1 if a country mined the mineral in 1990. According to Sokoloff and Engerman (2000), certain commodities induced economies of scale and incentivized slave labor, which led to weaker protection of liberty and rights for the broad population. Meanwhile, other commodities encouraged production by middle-class farmers, which induced inclusive institutions. The historical agricultural endowments thus influenced political regimes. Consistent with

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6 They also use urbanization in the 1500s as an IV. Using this IV produces similar estimates.
7 The original specification also uses absolute latitude and the Frankel-Romer trade share as IVs. Our results stay similar with or without these variables as IVs.
8 Missing data restricts the actual sample to 136 countries.
9 The binary availability of crops and minerals as of 1990 is a good proxy for historical agricultural endowments. Easterly and Levine (2003). The reason is that although the quantity produced would endogenously respond to price incentives, institutions, and other country characteristics, whether any of the commodity is produced is likely to reflect exogenous characteristics like soil and climate, which are stable over time.
this narrative by [Easterly and Levine (2003)], first-stage regressions confirm that several of these IVs are significant
determinants of today’s democracy levels (Table A14). We include all countries in the world in the base sample.

Evaluating the Validity of the IVs. We are aware that none of these IVs are ideal. Each IV is likely to
be threatened by its own mix of potential measurement errors, omitted variables, and exclusion violations. At
the very least, however, we provide suggestive evidence that the IVs satisfy the independence and monotonicity
requirements. Table A7 finds that the IVs achieve covariate balance, i.e., are not significantly correlated with
covariates such as the length of the country’s name.

Our strategy is to use these five different IVs with the expectation that they work as robustness checks with
each other. Indeed, Table A9 shows that the correlation among the IVs is limited, suggesting that the different
IVs exploit different sources of variation to estimate democracy’s effect. Importantly, we find no apparent reason
to believe that potential exclusion violations by different IVs lead to biases of the same sign. For example, the
European settler mortality IV may have excluded negative effects on growth since worse disease environments may
directly hamper economic activities. On the other hand, the population density IV may have excluded positive
effects on growth thanks to returns to scale and agglomeration effects. These two exclusion violations would
result in biases of opposite signs. Table A10 summarizes the likely direction of potential bias for each IV. This
observation provides support for the idea of using the different IVs as mutual robustness checks.

B IV Estimation

This section presents our main results. With the above IVs, we estimate democracy’s impact by the following
2SLS regressions:

\[ Y_i = \alpha_2 + \beta_2 \text{Democracy}_i + \gamma_2 X_i + \epsilon_{2i} \]  

Democracy\(_i\) = \alpha_1 + \beta_1 Z_i + \gamma_1 X_i + \epsilon_{1i} \]  

The second-stage equation (1) is the same as Section III’s OLS regression. The coefficient \(\beta_2\) represents the
effect of Democracy\(_i\) on \(Y_i\), the outcome variable, conditional on a vector of country characteristics \(X_i\). Given
that Democracy\(_i\) is far from randomly assigned, we instrument for Democracy\(_i\) by each vector of IVs, Z\(_i\), in the
first-stage equation (2).

Does democracy cause worse economic and public health performance? Reduced-form figures using Euro-
pean settler mortality suggest so. Figures 2d, 2e, and 2f show that lower European settler mortality causes higher
democracy levels, which cause slower economic growth in 2001-2019, bigger shocks to GDP in 2020, and more
deaths from Covid-19. Tables A11, A12, and A13 show the statistical significance of the reduced-form relation-

\[\text{Since Easterly and Levine’s dataset only contains 71 countries, we extend their data to cover 142 countries, as explained in Appendix A.1.}\]

\[\text{We also test whether the first-stage relationship between the univariate IVs and democracy is monotonic, i.e., of the same sign for different}
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\[\text{countries. Table A8 evaluates this assumption by estimating the first stage for different groups of countries (created by randomly dividing}
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\[\text{continents into groups). The first-stage estimates are mostly of the same sign and never have opposite signs with statistical significance. This}
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\[\text{result suggests that the first-stage relationship satisfies monotonicity.}\]
ships between the five sets of IVs and our three main outcomes. The coefficients’ signs imply democracy’s adverse effect. For example, the IVs with a negative first-stage relationship with democracy (settlement mortality and population density) are positively correlated with economic growth in Tables A11 and A12, but negatively correlated with Covid-19 mortality in Table A13. Note that this negative reduced-form effect of democracy is not threatened by potential exclusion violation concerns.

Table 2 reports the 2SLS estimates of the effect of democracy, using each of the five IV strategies. They all indicate significant adverse effects of democracy. Columns 1 and 2 show our estimates using log European settler mortality as an IV for our base sample of ex-colonies. The first-stage regression in Table A14 column 1 shows that a 1% increase in European settler mortality is associated with a 0.01 standard deviation decrease in democracy levels today. The corresponding 2SLS regression estimates in Panel A’s column 1 show that a standard deviation increase in the democracy measure causes a 2.2 (s.e. = 0.3) percentage-point decrease per year in GDP in 2001-2019. Democracy’s effect persists in 2020. We estimate that a standard deviation increase causes a 1.7 (s.e. = 0.5) percentage-point decrease in GDP in 2020 and a 350.0 (s.e. = 75.4) increase in Covid-19-related deaths per million.

Our confidence in the plausibility of the IV estimates is bolstered by the fact that controlling for various potential sources of omitted variable bias has little impact on our estimates. In column 2, we control for climate, population density, population aging, and diabetes prevalence. The coefficients remain similar. The estimates are -3.3 (s.e. = 0.7) percentage points for mean GDP growth rates in 2001-2019, -1.8 (s.e. = 0.3) percentage points for GDP growth rates in 2020, and 332.3 (s.e. = 37.3) for Covid-19-related deaths per million in 2020.

To check whether the above results are sensitive to the choice of IVs, columns 3 and 4 use population density in the 1500s as an IV for a similar sample of ex-colonies. We continue to find a negative effect of democracy. A 1% increase in population density at the beginning of the colonial age is associated with a 0.005 standard deviation decrease in democracy (Table A14 column 3). The 2SLS estimates in Table 2 column 3 are -2.3 (s.e. = 0.4) percentage points for GDP growth rates per year in 2001-2019, -1.5 (s.e. = 0.7) percentage points for the GDP growth rate in 2020, and 349.1 (s.e. = 70.6) for Covid-19-related deaths per million in 2020. The results stay similar even with controls.

The overall pattern remains the same for the legal origin IV in columns 5 and 6. The first-stage regression shows that British legal origin (common law) leads to a 2.0 (s.e. = 0.6) standard deviation increase in democracy levels (Table A14). The corresponding 2SLS estimates in Table 2 column 5 are -1.8 (s.e. = 0.5) for GDP growth rates per year in 2001-2019, -1.7 (s.e. = 0.7) for GDP growth rates in 2020, and 298.1 (s.e. = 80.2) for Covid-19-related deaths per million. Adding controls in column 6 preserves the estimates.

Columns 7 and 8 use the fraction of the population speaking English or a European language as IVs. Unlike the previous three IVs, the base sample definition is not limited to former European colonies. Yet, the results remain similar to those in the previous columns. The estimates in column 7 are -1.2 (s.e. = 0.9) for GDP growth rate in 2001-2019, -1.8 (s.e. = 0.7) for the GDP growth rate in 2020, and 437.5 (s.e. = 70.6) for Covid-19 related
deaths per million in 2020. Controlling for baseline covariates in column 8 barely changes the estimates.

Finally, we use dummies for the ability to grow crops and mine minerals as IVs. The estimates among the 142 countries for which data is available are consistent with our baseline results. The coefficients are -2.4 (s.e. = 0.5) for GDP growth rates per year in 2001-2019, -2.2 (s.e. = 0.6) for the GDP growth rate in 2020, and 278.5 (s.e. = 68.2) for Covid-19 deaths per million. The regression with controls in column 10 produces similar results.

To further quantify the importance of the democracy treatment, Table A15 multiplies the estimated coefficient with each country’s democracy index and subtracts the resulting democracy effect from the country’s outcome. Once we account for democracy’s effect, countries in Europe, North America, and South America no longer have worse outcomes. This exercise suggests that their relatively poor performance in the 21st-century is largely explained by their more democratic political regimes.

In summary, the several different sources of variation in democracy from the historical democratization process lead to estimates of the impact of democracy that are of the same sign as the OLS estimates. It is particularly reassuring that the different IV strategies, which use different sources of variation in democracy, nonetheless produce similar estimates. A majority of these estimates also pass Lee et al. (2021)’s 95% confidence level test, which explicitly allows for the presence of potentially weak IVs.

V  Mechanisms Behind Democracy’s Adverse Effect

The above finding motivates us to explore the potential mechanisms through which democracy might affect growth in 2001-2019, though we cannot distinguish between these mechanisms or rule out other possible channels at work. As potential mechanisms, we obtain data for value added by sector (agriculture, manufacturing, and services), capital formation, total labor force, TFP, and trade from the World Bank Development Indicators. As shown in Table A1, the average country experienced strong value-added growth in all sectors (about 3-4% per year). On average, capital formation grew by 4.3% per year in 2001-2019, while the labor force and TFP decreased by -1.8% and -1.1%, respectively. Although the mean import and export value index between 2001-2019 more than tripled relative to 2000, the extent of the increase varies across countries.

For the 2001-2019 mean of each potential mechanism $M_i$, we estimate the following 2SLS equations:

$$M_i = \alpha_2 + \beta_2 Democracy_i + \gamma_2 X_i + \varepsilon_2$$

First Stage: $Democracy_i = \alpha_1 + \beta_1 Z_i + \gamma_1 X_i + \varepsilon_1$.

This approach is similar to Acemoglu et al. (2003)’s, which evaluates channels behind democracy’s effects using similar 2SLS.

We find that, in this century, democracy slows value-added growth in manufacturing and services through less investments. Value added is the net output of a sector after adding up all output and subtracting intermediate
inputs. Democracy also decreases trade. In columns 1-6 of Table 3, we analyze democracy’s effect on value added by sector. Columns 3-6 show that democracy significantly dampens value-added growth in manufacturing and services. The median estimate in column 3 is that a standard deviation increase in democracy causes a 2.3 (s.e. = 0.6) percentage-point decrease in manufacturing value added per year in 2001-2019 (60% of the mean). For services, column 5’s median estimate is -2.7 (s.e. = 0.3) percentage points (60% of the mean). The addition of baseline controls does not change the direction of these estimates. On the other hand, in columns 1-2, democracy has only ambiguous effects on value added in agriculture, especially after adding controls such as baseline GDP per capita.

Value-added growth can be decomposed into changes in capital input, labor input, and productivity. We check in columns 7-12 whether democracy affects these sources of value-added growth at the national level. We measure capital inputs by capital stock formation, which consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. We proxy for labor inputs by the number of people in the labor force, which comprises people aged 15 and older who supply labor for the production of goods and services. We measure productivity by the Penn World Table’s TFP index.

Column 7 shows that democracy decreases capital stock formation, with the median estimate at -3.6 (s.e. = 0.7) percentage points (80% of the mean). We also find that democracy has a significant negative effect on investment as a share of GDP. On the other hand, democracy does not appear to cause less labor inputs or slower productivity growth (columns 9-12). These results imply that the slower value-added growth in manufacturing and services is primarily caused by less capital investments, rather than less labor or lower productivity.

Democracy also decreases international trade. We look at the import and export value indices, which are the current value of imports or exports converted to US dollars and expressed as a percentage of that in 2000. Columns 13-14 in Panel A show that more democratic nations experienced slower growth in imports. Panels B-G show that democracy causes the slower growth in imports. Adding a control for the percentage-share of imports in GDP at the baseline does not change the negative estimates. Column 13’s median estimate among the five IV strategies is a 146 (s.e. = 30.3) percentage-point decrease in import value relative to 2000 per year in 2001-2019 (45% of the mean). The coefficients in column 14 remain large and significant. Columns 15-16 exhibit similar estimates for exports. All coefficients in column 15 estimate that democracy causes slower growth in exports, with a 143.8 (s.e. = 27.8) percentage-point decrease as the median estimate (40% of the mean). We observe similar estimates in column 16. A potential explanation for the dampening effect of democracy on trade is that electoral competition could lead to trade barriers (Anderson, Rausser and Swinnen 2013).

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12Here, the agriculture sector includes forestry, hunting, and fishing, as well as the cultivation of crops and livestock production. The manufacturing sector consists of industries that physically or chemically transform materials into new products. The service sector includes services such as wholesale and retail trade, transport, education, healthcare, and finance.

13Change in value-added in industry $i$ in period $t$ can be expressed in logarithms as $\Delta \ln V_{it} = \frac{v_{Ki,t}}{v_{Vi,t}} \Delta \ln K_{it} + \frac{v_{Li,t}}{v_{Vi,t}} \Delta \ln L_{it} + \frac{1}{v_{Vi,t}} \Delta \ln A_{it}$. Here $\Delta \ln K_{it}, \Delta \ln L_{it},$ and $\Delta \ln A_{it}$ denote the log change in capital investments, labor inputs, and productivity for industry $i$ in period $t$, respectively. $v_{Ki,t}$ and $v_{Li,t}$ are the shares of capital or labor compensation in industry $i$’s gross output. $v_{Vi,t}$ is the share of industry value added in industry gross output. The bars denote that they are averages over the current and previous period, $t$ and $t-1$. See Jorgenson (2008) for details.

14We check whether democratic nations are less likely to trade with China in Table A16. We run 2SLS regressions with the share of the total value of imports from China or exports to China in GDP as the outcome variable. We find negative effects of democracy on imports from and exports to China.
The above analysis suggests that, in the 21st century, non-democracies better foster value-added growth in manufacturing and services through more capital investments and encourages more trade than democracies. In Table A17, we also consider taxation, school enrollment, child mortality, domestic conflict, R&D expenditure, R&D researchers, and the number of new businesses, but we do not find a strong causal effect of democracy. Ultimately, our results suggest that democracy might have stopped improving building blocks for growth. Appendix A2 provides separate analysis for policy channels in 2020.

VI Discussion

A Alternative Specifications

Our analysis may be sensitive to measurement and modeling choices, such as whether to control for baseline GDP and other important characteristics, how to measure democracy, how to weight countries, and how to measure economic performance in 2020. Extreme nations may also be driving our results. Below we check whether these concerns threaten our findings.

GDP per capita growth as the outcome. As an alternative way to measure economic growth, we check whether our results hold for per-capita GDP growth rates in Table A18. We continue to observe a strong negative democracy effect.

Separating the Great Recession. We check if our results are driven by the Great Recession. Table A19 conducts the same analysis separately for growth rates before, during, and after the recession period (2008-9). We find negative effects of democracy in every one of the periods.

Control for baseline GDP. We test whether our results are due to the mechanical reason that more developed countries tend to grow slower. Table A20 runs regressions with baseline total GDP or GDP per capita as controls. For economic growth in 2020, as an alternative way to control for baseline GDP, Table A21 uses as the outcome the difference in GDP growth rates between 2019 and 2020. The resulting estimates all continue to find democracy’s negative effect, confirming that baseline GDP conditions do not drive our results.

Control for continents. We additionally control for dummy variables for each continent in Table A22. Although the estimates are less precisely estimated, we continue to observe democracy’s negative effect on economic growth and public health. This suggests that the democracy treatment is significant regardless of continent.

Alternative democracy indices. We adopt alternative democracy indices by the Center for Systemic Peace, Freedom House, and the Economist Intelligence Unit. These indices are highly correlated with each other (Table A5). Importantly, Table A23 confirms that our results stay similar regardless of which democracy index to use.

Alternative weightings. Our 2SLS results so far weight countries by GDP. We believe that GDP weighting is reasonable, especially when the outcomes are GDP growth rates. Nonetheless, we compare our results with weighting by population or no weighting in Table A24. The qualitative pattern is the same among the three ways to weight countries.
Alternative sample definitions. To check if the US and China drive our results, we show our results without the two countries in Table A25. We also re-estimate our preferred specification without outlier countries with a standardized residual above 1.96 or below -1.96 in Table A26. Furthermore, we remove G7 countries from the sample in Table A27. In all cases, we continue to estimate democracy’s adverse effect. Limiting the sample to G20 countries also produces similar results. Thus, the negative impact of democracy is a global phenomenon and not driven by a small number of countries.

B Placebo Tests using 1980-2000

It is natural to ask whether our finding is specific to the 21st century. Additional evidence suggests so. We apply exactly the same analysis to data from the 20th century. The resulting estimates show that the negative association between democracy and economic growth did not exist in 1981-1990 or 1991-2000 (Figure A1). More importantly, for the same period, we do not observe a negative causal effect of democracy (Table A28). The reduced-form relationship between the IVs and economic growth in 1981-2000 are either insignificant or of the opposite sign to those in 2001-20 (Table A29). Therefore, the way democracy matters for economic growth might have changed around the turn of the 21st century.

VII Conclusion

We bring data to revisit skepticism about the performance of democratic political regimes, which is as old as the invention of democracy:

“having them [the multitude of the citizens] take part in the greatest offices is not safe: through injustice and imprudence they would act unjustly in some respects and err in others.” (Aristotle, Politics, 1281b25)

The collection of evidence from five different IVs, all leading to similar estimates of the impact of democracy, suggests that democracy dampens economic growth in this century. Likely channels behind democracy’s negative effect are less investments and trade. The negative effect of democracy is especially strong in 2020, in which year democracy also causes more Covid-19-related deaths. Overall, political institutions still matter for economic growth, but how they matter might have changed between the prior and current centuries.

Our analysis leads to a variety of avenues for future work. We plan to measure democracy’s effects on other outcome measures, such as economic inequality and citizen’s happiness. Likewise, we suggest studying how democracy affects policy outcomes within countries. We also need to see if the negative impact of democracy will result in geopolitical movements away from democracy. We leave these important directions to future work.

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15 See Pande and Enevoldsen (2021) for a related discussion.
16 It is also important to update the 2020 analysis with more accurate data for Covid-19 deaths. One potential solution is to look at excess deaths data like the World Mortality Dataset, but its coverage is limited. 2SLS estimates for excess deaths per million in Table A30 are too imprecise to exhibit a conclusive relationship.
The policy implication of our result is not straightforward. Needless to say, our analysis does not imply a general case against democracy, for at least two reasons. First, democracy per se has normative and procedural virtues, regardless of whether they result in good economic and health outcomes. Second, despite our findings on democracy’s negative impacts during the past 20 years, democracies may produce better outcomes in the long run or in other aspects. Our preferred interpretation of our findings is that there may be room for improvement in democracy’s performance in terms of particular outcomes over particular periods, so that governments can decisively and thoroughly take potentially unpopular, yet effective actions to support economic growth and protect citizen’s lives.
Figure 1: Correlation Between Democracy and Outcomes

(a) Mean GDP Growth Rate in 2001-2019

(b) GDP Growth Rate in 2020

(c) Covid-19-related Deaths Per Million in 2020

Notes: This figure shows the relationship between democracy and three outcomes: the mean GDP growth rate in 2001-2019 (Panel (a)), the GDP growth rate in 2020 (Panel (b)), and Covid-19 deaths per million in 2020 (Panel (c)). The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. The size of each circle (country) is proportional to its baseline GDP. The colors depend on the level of the democracy index (warmer colors for democracy and darker colors for autocracies). The line is the OLS regression fitted line without controls and weights countries by baseline GDP. The shaded area corresponds to the 95% confidence interval. Variable definitions and data sources are in Appendix Table A1.
## Table 1: Descriptive Statistics

| Variable                                                                 | N   | Mean   | St. Dev. | Min       | Median   | Max       |
|--------------------------------------------------------------------------|-----|--------|----------|-----------|----------|-----------|
| **Outcomes**                                                             |     |        |          |           |          |           |
| Mean GDP Growth Rate in 2001-2019                                        | 164 | 3.9    | 2.1      | −2.7      | 3.7      | 10.4      |
| GDP Growth Rate in 2020                                                  | 164 | −4.8   | 7.9      | −59.7     | −4.0     | 43.4      |
| Covid-19-related Deaths Per Million in 2020                             | 164 | 297.1  | 381.7    | 0.0       | 86.9     | 1,685.0   |
| **Treatments**                                                           |     |        |          |           |          |           |
| Democracy Index (V-Dem, 2000)                                            | 164 | 0.0    | 1.0      | −1.8      | 0.01     | 1.5       |
| Democracy Index (V-Dem, 2019)                                           | 164 | 0.0    | 1.0      | −2.1      | −0.02    | 1.5       |
| **Controls**                                                             |     |        |          |           |          |           |
| GDP (Current USD, Billions, 2000)                                        | 164 | 203.5  | 920.0    | 0.1       | 11.7     | 10,252.4  |
| GDP (Current USD, Billions, 2019)                                        | 164 | 524.8  | 2,094.7  | 0.4       | 53.4     | 21,433.2  |
| Absolute Latitude                                                        | 164 | 26.2   | 17.4     | 0         | 23       | 65        |
| Mean Temperature (°c, 1991-2000)                                         | 164 | 18.6   | 8.4      | −6.2      | 22.2     | −59.7     |
| Mean Temperature (°c, 1991-2016)                                         | 164 | 18.8   | 8.3      | −6.0      | 22.4     | 78.2      |
| Mean Precipitation (mm per Month, 1991-2000)                             | 164 | 91.4   | 63.8     | 2.7       | 78.9     | 59.8      |
| Mean Precipitation (mm per Month, 1991-2016)                             | 164 | 92.6   | 64.7     | 2.5       | 59.8     | 259.1     |
| Population Density (No. of People per km², 2000)                         | 164 | 152.6  | 475.6    | 1.5       | 81.1     | 5,755.5   |
| Population Density (No. of People per km², 2019)                         | 164 | 209.5  | 692.8    | 2.1       | 22.7     | 8,291.9   |
| Median Age (2000)                                                        | 164 | 25.6   | 9.2      | 2.0       | 29.6     | 22        |
| Median Age (2019)                                                        | 164 | 30.3   | 9.2      | 1         | 3.6      | 22        |
| Diabetes Prevalence (%)                                                 | 164 | 7.5    | 4.0      | 1.0       | 6.4      | 22        |
| **IVs**                                                                  |     |        |          |           |          |           |
| Log European Settler Mortality (Annual No. of Deaths per Thousand)      | 77  | 4.7    | 1.2      | 2.1       | 4.4      | 8.0       |
| Log Population Density in 1500s (No. of Inhabitants per km²)             | 89  | 0.6    | 1.6      | −3.8      | 0.4      | 4.6       |
| British Legal Origin                                                     | 93  | 0.4    | 0.5      | 0.0       | 0.0      | 1.0       |
| Fraction Speaking English                                                | 136 | 0.1    | 0.2      | 0.0       | 0.0      | 1.0       |
| Fraction Speaking European                                               | 136 | 0.2    | 0.4      | 0.0       | 0.0      | 1.0       |
| Bananas                                                                  | 142 | 0.7    | 0.5      | N/A       | N/A      | N/A       |
| Coffee                                                                   | 142 | 0.5    | 0.5      | N/A       | N/A      | N/A       |
| Copper                                                                   | 151 | 0.3    | 0.5      | N/A       | N/A      | N/A       |
| Maize                                                                    | 142 | 0.9    | 0.3      | N/A       | N/A      | N/A       |
| Millet                                                                   | 142 | 0.5    | 0.5      | N/A       | N/A      | N/A       |
| Rice                                                                     | 142 | 0.7    | 0.5      | N/A       | N/A      | N/A       |
| Rubber                                                                   | 142 | 0.2    | 0.4      | N/A       | N/A      | N/A       |
| Silver                                                                   | 148 | 0.4    | 0.5      | N/A       | N/A      | N/A       |
| Sugarcane                                                                | 142 | 0.6    | 0.5      | N/A       | N/A      | N/A       |
| Wheat                                                                    | 142 | 0.7    | 0.5      | N/A       | N/A      | N/A       |
| **Potential Mechanisms**                                                 |     |        |          |           |          |           |
| Mean Agriculture Value Added in 2001-2019 (Annual % Growth)              | 162 | 2.6    | 2.1      | −3.6      | 2.5      | 9.7       |
| Mean Manufacturing Value Added in 2001-2019 (Annual % Growth)            | 162 | 3.7    | 3.7      | −5.6      | 3.4      | 28.8      |
| Mean Services Value Added in 2001-2019 (Annual % Growth)                 | 160 | 4.5    | 2.1      | −0.5      | 4.2      | 11.9      |
| Mean Capital Formation in 2001-2019 (Annual % Growth)                    | 150 | 4.3    | 26.1     | −30.8     | 6.1      | 24.3      |
| Mean Total Labor Force in 2001-2019 (Annual % Growth)                    | 163 | −1.8   | 0.3      | −1.8      | −0.9     | −0.5      |
| Mean TFP in 2001-2019 (Annual % Growth)                                  | 115 | −1.1   | 5.3      | −22.9     | −0.9     | 18.5      |
| Mean Import Value Index in 2001-2019 (2000=100)                          | 163 | 330.6  | 145.6    | 122.5     | 301.9    | 781.1     |
| Mean Export Value Index in 2001-2019 (2000=100)                          | 163 | 364.4  | 371.7    | 286.5     | 270.4    | 1,315.5   |

**Notes:** Parentheses contain country names corresponding to the minimum, median and maximum values of each variable. When we observe multiple countries corresponding to the same minimum, median or maximum, we choose the first country in alphabetical order. When we do not find a country that corresponds exactly to the median, we choose the country with the closest value. Variable definitions and data sources are in Appendix Table A1.
Figure 2: Causal Effects of Democracy

(a) First-stage: Log European Settler Mortality IV

(b) First-stage: Log Population Density in 1500s IV

(c) First-stage: Fraction Speaking European IV

(d) Reduced form: Mean GDP Growth Rate in 2001-2019

(e) Reduced form: GDP Growth Rate in 2020

(f) Reduced form: Covid-19-related Deaths Per Million

Notes: Panels (a), (b), and (c) show the first-stage relationship between democracy in 2019 and three univariate IVs: the log European settler mortality IV, the log population density in 1500s IV, and the fraction speaking European IV. Panels (d), (e), and (f) show the reduced-form relationship between the log European settler mortality IV and three outcomes: mean GDP growth rates in 2001-2019, GDP growth rates in 2020, and Covid-19-related deaths per million. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. The size of each circle (country) is proportional to its baseline GDP. The colors depend on the level of the democracy index (warmer colors for democracy and darker colors for autocracies). The line is the OLS regression fitted line without controls and weights countries by baseline GDP. The shaded area corresponds to the 95% confidence interval. Variable definitions and data sources are in Appendix Table A1.
Table 2: 2SLS Regression Estimates of Democracy’s Effects

| Panel A: Two-Stage Least Squares | Dependent Variable is Mean GDP Growth Rate in 2001-2019 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|----------------------------------|-----------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Democracy Index (V-Dem, 2000)    |                                                    | -2.2| -3.3| -2.3| -3.4| -1.8| -1.5| -1.2| -1.3| -2.4| -1.8| -2.2| -2.7 |
|                                  |                                                    | (0.3)| (0.7)| (0.4)| (0.8)| (0.5)| (1.6)| (0.9)| (0.6)| (0.5)| (0.6)| (0.2)| (0.3) |
| p-value                          |                                                    | 0.00| 0.00| 0.00| 0.00| 0.00| 0.35| 0.18| 0.02| 0.00| 0.00| 0.00| 0.00 |
| p-value                          |                                                    | 0.00| 0.00| 0.00| 0.00| 0.00| 0.35| 0.18| 0.02| 0.00| 0.00| 0.00| 0.00 |

| Panel B: Ordinary Least Squares  | Dependent Variable is Mean GDP Growth Rate in 2001-2019 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|----------------------------------|-----------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Democracy Index (V-Dem, 2000)    |                                                    | -1.7| -1.8| -1.5| -1.7| -1.7| -1.5| -1.8| -1.9| -1.9| -1.8| -1.8| -1.8 |
|                                  |                                                    | (0.5)| (0.3)| (0.7)| (0.3)| (0.7)| (0.4)| (0.7)| (0.5)| (0.6)| (0.3)| (0.4)| (0.3) |
| p-value                          |                                                    | 0.00| 0.00| 0.04| 0.00| 0.01| 0.00| 0.01| 0.00| 0.00| 0.00| 0.00| 0.00 |

| Panel B: Ordinary Least Squares  | Dependent Variable is GDP Growth Rate in 2020 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|----------------------------------|------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Democracy Index (V-Dem, 2019)    |                                                    | 350.0| 332.3| 349.1| 363.7| 298.1| 308.3| 437.5| 432.0| 278.5| 359.0| 329.3| 369.2 |
|                                  |                                                    | (75.4)| (37.3)| (70.6)| (25.6)| (80.2)| (51.7)| (133.6)| (78.5)| (68.2)| (48.5)| (56.4)| (24.9) |
| p-value                          |                                                    | 0.00| 0.00| 0.00| 0.00| 0.00| 0.00| 0.00| 0.00| 0.00| 0.00| 0.00| 0.00 |

| Panel B: Ordinary Least Squares  | Dependent Variable is Covid-19-related Deaths Per Million in 2020 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|----------------------------------|-----------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Number of IVs                    | IVs                                                              |
|                                  | settlers mortality  | population density  | legal origin | language | crops & minerals all IVs |
| F-Statistic (First stage)        |                                                                  | 13.1| 46.7| 27.0| 133.6| 12.2| 17.1| 4.7| 14.9| 6.6| 5.7| 32.1| 331.7 |

Notes: Panel A reports the 2SLS estimates of democracy’s effect on mean GDP growth rates in 2001-2019, GDP growth rates in 2020, and Covid-19-related deaths per million, using five different IV strategies. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. The p-values are displayed as 0.00 if they are strictly smaller than the 0.005 threshold. The F-statistics are from the first-stage regressions of the IVs against the democracy index in 2019. The corresponding first-stage coefficients are in Appendix Table A1. Panel B reports the OLS estimates. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table 3: Potential Mechanisms Behind Democracy’s Effect in 2001-2019

| Panel A: OLS | Panel B: Instrument for Democracy by Settler Mortality | Panel C: Instrument for Democracy by Population Density in 1500s | Panel D: Instrument for Democracy by Legal Origin | Panel E: Instrument for Democracy by Language | Panel F: Instrument for Democracy by Crops and Minerals | Panel G: Use all IVs | Panel A: Use all Controls |
|-------------|------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|-------------------------------------------------|----------------------|------------------------|
| Democracy Index (V-Dem, 2000) | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| (V-Dem, 2000) | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| N | 162 | 161 | 162 | 161 | 160 | 159 | 163 | 162 |
| Panel B: Instrument for Democracy by Settler Mortality | Democracy Index (V-Dem, 2000) | -1.2 | -4.8 | -1.8 | -2.4 | -2.7 | -5.3 | -5.3 | -5.3 |
| (V-Dem, 2000) | (0.3) | (6.6) | (0.8) | (4.7) | (0.3) | (3.0) | (0.7) | (9.4) |
| N | 77 | 77 | 76 | 76 | 77 | 77 | 77 | 77 |
| Panel C: Instrument for Democracy by Population Density in 1500s | Democracy Index (V-Dem, 2000) | -0.8 | -0.3 | -2.7 | -8.9 | -2.8 | -3.6 | -3.8 | -3.0 |
| (V-Dem, 2000) | (0.2) | (1.1) | (0.8) | (9.5) | (0.4) | (25.4) | (0.7) | (2.9) |
| N | 88 | 88 | 87 | 87 | 87 | 87 | 87 | 87 |
| Panel D: Instrument for Democracy by Legal Origin | Democracy Index (V-Dem, 2000) | -1.0 | 1.1 | -0.2 | -28.8 | -2.3 | 37.4 | -3.6 | -1.6 |
| (V-Dem, 2000) | (0.3) | (11.4) | (0.8) | (95.7) | (0.4) | (251.9) | (0.7) | (2.9) |
| N | 92 | 92 | 91 | 91 | 91 | 83 | 93 | 93 |
| Panel E: Instrument for Democracy by Language | Democracy Index (V-Dem, 2000) | 1.5 | 1.4 | -2.7 | -2.8 | -1.4 | -10 | -1.9 | -1.5 |
| (V-Dem, 2000) | (2.1) | (0.5) | (0.9) | (0.9) | (0.1) | (0.5) | (1.6) | (0.7) |
| N | 135 | 134 | 135 | 134 | 134 | 133 | 124 | 123 |
| Panel F: Instrument for Democracy by Crops and Minerals | Democracy Index (V-Dem, 2000) | -1.4 | 0.3 | -2.3 | -1.4 | -2.8 | -1.4 | -3.6 | -1.4 |
| (V-Dem, 2000) | (0.5) | (0.5) | (0.6) | (0.9) | (0.5) | (0.7) | (0.8) | (0.9) |
| N | 140 | 139 | 139 | 139 | 139 | 138 | 128 | 127 |
| Panel G: Use all IVs | Democracy Index (V-Dem, 2000) | -0.7 | -0.7 | -1.8 | -0.1 | -2.6 | -2.4 | -3.7 | -2.6 |
| (V-Dem, 2000) | (0.1) | (0.2) | (0.7) | (1.0) | (0.2) | (0.3) | (0.4) | (0.9) |
| N | 73 | 73 | 72 | 72 | 73 | 73 | 67 | 67 |
| Baseline Controls & GDP Per Capita Control | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

Notes: This table reports the OLS (Panel A) and 2SLS regression (Panels B-G) estimates of democracy’s effect on potential mechanisms in 2001-2019. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. The dependent variables are the mean of each of the following variables in 2001-2019: agriculture value added (annual % growth) (columns 1-2), manufacturing value added (annual % growth) (columns 3-4), and services value added (annual % growth) (columns 5-6), capital stock formation (annual % growth) (columns 7-8), labor force (annual % growth) (columns 9-10), TFP (annual % growth) (columns 11-12), the import value index (2000=100) (columns 13-14), and the export value index (2000=100) (columns 15-16). For IVs, Panel B uses log European settler mortality, Panel C uses log population density in the 1500s, Panel D uses British legal origin, Panel E uses the fraction speaking English and the fraction speaking European, Panel F uses the ability to grow crops and mine minerals, and Panel G uses all the IVs together. Columns 1, 3, 5, 7, 9, 11, 13, 15 have no controls, while columns 2, 4, 6, 8, 10, 12, 14, and 16 control for baseline GDP per capita as well as the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. Robust standard errors are in parentheses. We report the global mean of the dependent variables in the bottom row. Variable definitions and data sources are in Appendix Table A1.
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A Appendix

A.1 Extending Easterly and Levine (2003)’s Dataset

Since Easterly and Levine (2003)’s dataset only covers 71 countries, we replicate their data gathering process to extend their dataset to 142 countries. For the dummy variables for crop production in 1990, we first use the values from the replication file. Then, we replace the missing values using data from the Food and Agriculture Association of the United Nations (2020) on crop production in 1990. This data is equivalent to the data that the authors describe in their work. Analogously, for the dummy variables for minerals production in 1990, we first use the replication file’s values and then replace the missing values using production data for 1990 from World Bureau of Metal Statistics (2019a) and World Bureau of Metal Statistics (2019b).

A.2 Policy Mechanisms Behind Democracy’s Effect in 2020

Does having a stronger democracy cause worse economic and public health outcomes during the Covid pandemic? Media and policy discussions point to the speed, coverage, and severity of containment policies as potential proximate mechanisms. Indeed, Paul Krugman blames “catastrophically slow and inadequate” responses by the US government for its failure.\footnote{Krugman, Paul. 2020. “3 Rules for the Trump Pandemic.” New York Times. March 19. https://www.nytimes.com/2020/03/19/opinion/trump-coronavirus.html} We explore whether this differential in policy responses explains democracy’s negative effect. Our findings suggest that a key channel for the negative impact of democracy is weaker and narrower containment policies at the beginning of the outbreak. In contrast, the speed of containment policies appears to be less important.

To measure the severity of policy, we use the Containment Health Index at the 10th confirmed case of Covid-19.\footnote{We get similar results when we use the index at the 100th confirmed case or the index’s mean during 2020.} To quantify how widely initial responses cover aspects of civilian life, we look at the percentage of 13 domains in which the government introduced containment measures at the 10th Covid-19 case. The domains are schools, workplaces, public events, gatherings, public transport, stay-at-home requirements, domestic travel, international travel, public information campaigns, testing, contact tracing, facial coverings, and vaccinations. To assess policy speed, we consider the number of days between the 10th confirmed case and the introduction of any containment policy.\footnote{We get similar results with the 100th confirmed case and January 1st, 2020 as the start date. The introduction date of any containment policy is the date when the Containment Health Index becomes positive.}

For each policy response mechanism $M$ (severity, coverage, or speed of containment response), we estimate the following 2SLS equations:

\begin{equation}
M_i = \alpha_2 + \beta_2 \text{Democracy}_i + \gamma_2 X_i + \epsilon_{2i},
\end{equation}

First Stage: \text{Democracy}_i = \alpha_1 + \beta_1 Z_i + \gamma_1 X_i + \epsilon_{1i}.

\footnote{We get similar results with the 100th confirmed case and January 1st, 2020 as the start date. The introduction date of any containment policy is the date when the Containment Health Index becomes positive.}
Table A31 summarizes the results from this analysis. Panel A shows that democracy causes less severe responses at the 10th confirmed case of Covid-19. The median estimate is that a standard deviation increase in democracy causes the Containment Health Index to decrease by 0.4 standard deviations, which corresponds to 20% of the mean. Democracy also narrows containment policies’ scope. The median estimate in Panel B suggests that a standard deviation increase in democracy causes a 9.3 percentage-point decrease in the coverage of initial policy. On the other hand, democracy does not appear to cause slower responses. In fact, in Panel C, all columns predict that democracy causes faster responses. This leads to the bottom line that the severity and coverage of initial containment policies is a more important mechanism for the adverse effect of democracy than their speed.

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20 We get similar results with alternative democracy indices, weighting, and sample definitions.
21 To quantify the significance of these channels, we conduct causal mediation analysis in Appendix Table A32.
### A.3 Additional Results

#### Table A1: Data Sources and Description

| Variable                                           | Data Source                                                                                     | Short Description                                                                 |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| **Outcomes**                                       |                                                                                               |                                                                                  |
| Mean GDP Growth Rate in 2001-2019                  | International Monetary Fund (2021)                                                             | Mean real GDP growth rates between 2001 to 2019.                                  |
| GDP Growth Rate in 2020                            | International Monetary Fund (2021)                                                             | Annual percentage change in real GDP between 2019 and 2020.                        |
| Covid-19-related Deaths Per Million in 2020        | Center for Systems Science and Engineering at Johns Hopkins University (2021)                 | Total number of deaths per million attributed to Covid-19 between 2020/01/22 (earliest available in dataset) and 2020/12/31. |
| Excess Deaths Per Million in 2020                  | Glaeske et al. (2021); Karlinsky and Kobal (2021)                                             | Number of deaths per million between 2020/01/01 and 2020/12/31 in excess of the baseline number of deaths we might normally have expected in 2020. The model to calculate the baseline fits a linear trend to years to adjust from long-term increases or decreases in deaths and fixed effects for each week or month. |
| **Treatments**                                     |                                                                                               |                                                                                  |
| Democracy Index (V-Dem)                            | Coppedge et al. (2021)                                                                        | The electoral democracy index from the Varieties of Democracy project. It is on a 0-1 scale and aggregates indices measuring freedom of association, clean elections, freedom of expression, elected officials, and suffrage. |
| Democracy Index (Polity)                           | Center for Systemic Peace (2018)                                                              |                                                                                  |
| Democracy Index (Freedom House)                    | Freedom House (2020)                                                                          |                                                                                  |
| Democracy Index (Economist Intelligence Unit)      | Economist Intelligence Unit (2021)                                                             |                                                                                  |
| **Weightings & Controls**                          |                                                                                               |                                                                                  |
| GDP (Current USD, Billions)                         | The World Bank Group (2021)                                                                   | Gross domestic product at purchasing power parity in current U.S. billion dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates. Gross domestic product divided by midyear population. Data are in current U.S. dollars. |
| GDP Per Capita (Current USD)                       | The World Bank Group (2021)                                                                   |                                                                                  |
| Population (Millions)                              | United Nations Department of Economic and Social Affairs, Population Division (2019)           | Total population in millions.                                                      |
| Absolute Latitude                                  | Google Dataset Publishing Language (2011)                                                      |                                                                                  |
| Mean Temperature                                   | The World Bank Group (2021)                                                                   | Absolute value of the latitude of the centroid of each country (i.e., a measure of distance from the equator). The average of average monthly temperature in degrees Celsius. The average of average monthly precipitation in millimeters. The number of people divided by land area, measured in square kilometers. |
| Mean Precipitation                                 | The World Bank Group (2021)                                                                   |                                                                                  |
| Population Density                                 | United Nations Department of Economic and Social Affairs, Population Division (2019)           |                                                                                  |
| Median Age                                         | United Nations Department of Economic and Social Affairs, Population Division (2019)           | UN projections of the median age of the population.                                |
| Diabetes Prevalence                                | International Diabetes Federation (2019)                                                      | Percentage of population with diabetes aged 20 to 79.                               |
| **IVs**                                            |                                                                                               |                                                                                  |
| Log European Settler Mortality                     | Acemoglu, Johnson and Robinson (2001)                                                         | The log of annualized deaths per thousand mean strength of European settlers between the seventeenth and nineteenth century. The log of the population density in the 1500s measured as the number of inhabitants per square kilometer. Dummy variables coded 1 if the country’s legal origin is British, and 0 otherwise. The fraction of the population speaking English as a mother tongue in 1992. The fraction of the population speaking English, French, German, Portuguese or Spanish as a mother tongue in 1992. Dummy variables coded 1 if the country produced any of the particular commodity in 1990, and 0 otherwise. Dummy variables coded 1 if the country mined any of the particular commodity in 1990, and 0 otherwise. |
| Log Population Density in 1500s                    | Acemoglu and Johnson (2003)                                                                   |                                                                                  |
| British Legal Origin                               | LaPorta, de Silanes and Shleifer (2008)                                                        |                                                                                  |
| Fraction Speaking English                          | Hall and Jones (1999)                                                                         |                                                                                  |
| Fraction Speaking European                         | Hall and Jones (1999)                                                                         |                                                                                  |
| Bananas, Coffee, Maize, Millet, Rice, Sugarcane, Rubber, Wheat | Easternly and Levine (2003); Food and Agriculture Association of the United Nations (2020); Easterly and Levine (2003); World Bureau of Metal Statistics (2019) |                                                                                  |
Table A1: Data Sources and Description

| Variable | Data Source | Short Description |
|----------|-------------|-------------------|
| Potential Mechanisms | Value Added, Agriculture (Annual % Growth) | The World Bank Group (2021) Annual growth rate for agricultural value added based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. Agriculture corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. |
| Value Added, Manufacturing (Annual % Growth) | The World Bank Group (2021) Annual growth rate for manufacturing value added based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. Manufacturing refers to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. |
| Value Added, Services (Annual % Growth) | The World Bank Group (2021) Annual growth rate for value added in services based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. Services correspond to ISIC divisions 50-99. They include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. |
| Capital Stock Formation (Annual % Growth) | The World Bank Group (2021) Annual growth rate of gross capital formation based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. Gross capital formation (formerly gross domestic investment) consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Fixed assets include land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. Inventories are stocks of goods held by firms to meet temporary or unexpected fluctuations in production or sales, and "work in progress." According to the 1993 SNA, net acquisitions of valuables are also considered capital formation. |
| Labor force (Annual % Growth) | The World Bank Group (2021) Annual growth rate of the labor force, which comprises people ages 15 and older who supply labor for the production of goods and services during a specified period. It includes people who are currently employed and people who are unemployed but seeking work as well as first-time job-seekers. Not everyone who works is included, however. Unpaid workers, family workers, and students are often omitted, and some countries do not count members of the armed forces. Labor force size tends to vary during the year as seasonal workers enter and leave. |
| TFP | Feenstra, Inklaar and Timmer (2015) Total Factor Productivity calculated using real GDP and factor input growth rates obtained from national accounts data. |
| Import Value Index | The World Bank Group (2021) The current value of imports converted to U.S. dollars and expressed as a percentage of the average for the base period (2000). |
| Export Value Index | The World Bank Group (2021) The current value of exports converted to U.S. dollars and expressed as a percentage of the average for the base period (2000). |
| Tex Revenue Share of GDP | The World Bank Group (2021) The ratio of tax revenues in current local currency to GDP in current local currency. Tax revenue refers to compulsory transfers to the central government for public purposes. Certain compulsory transfers such as fines, penalties, and most social security contributions are excluded. |
Table A1: Data Sources and Description

| Variable                              | Data Source                                      | Short Description                                                                                                                                 |
|---------------------------------------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Primary School Enrollment             | The World Bank Group [2021a]                     | The ratio of children of official school age who are enrolled in primary school to the population of the corresponding official school age.          |
| Secondary School Enrollment           | The World Bank Group [2021a]                     | The ratio of the number of students of official school age enrolled in secondary education to the population of the age group which officially corresponds to secondary education. |
| Child Mortality Rate                  | The World Bank Group [2021a]                     | The number of infants who die before reaching one year of age, per 1,000 live births in a given year.                                               |
| Conflict Index                        | Banks and Wilson [n.d.]                          | A measure of domestic conflict that takes the weighted average of indices measuring assassinations, strikes, guerilla warfare, government crises, purges, riots, revolutions, and anti-government demonstrations. |
| R&D Expenditure (% of GDP)            | UNESCO Institute for Statistics [2021]           | Gross domestic expenditures on research and development (R&D), expressed as a percent of GDP. They include both capital and current expenditures in the four main sectors: business enterprise, government, higher education and private non-profit. R&D covers basic research, applied research, and experimental development. |
| R&D Researchers (Per Million People)  | UNESCO Institute for Statistics [2021]           | The number of researchers engaged in Research & Development (R&D), expressed as per million. Researchers are professionals who conduct research and improve or develop concepts, theories, models techniques instrumentation, software of operational methods. |
| New Business Registrations (Per 1,000 People) | The World Bank Group [2021b]                 | New businesses registered are the number of new limited liability corporations registered in the calendar year. For cross-country comparability, only limited liability corporations that operate in the formal sector are included. |
| Policy Responses in 2020              | Blavatnik School of Government at the University of Oxford [2021] | A measure of the strictness of government responses. Calculated by taking the average of 13 sub-scores which record severity in a specific domain on an ordinal scale (for example, the school sub-index is on a 0 (no measure) to 4 (require closing) scale) and subtracts 0.5 if it is targeted. It is scaled to take a value between 0 and 100. The domains are schools, workplaces, public events, gatherings, public transport, stay-at-home requirements, domestic travel, international travel, public information campaigns, testing, contact tracing, facial coverings, and vaccinations. We use the index at the date when the 10th case of Covid-19 is confirmed. |
| Coverage of Containment Measures at 10th Covid-19 Case | Blavatnik School of Government at the University of Oxford [2021] | The percentage of the 13 domains in which the data records any policy introduction at the date when the 10th case of Covid-19 is confirmed. The number of days between the date when the 10th Covid-19 case is confirmed and the date when the containment health index becomes positive. |
| Variable                                                                 | N  | Mean | St. Dev. | Min       | Median     | Max        |
|-------------------------------------------------------------------------|----|------|----------|-----------|------------|------------|
| **Outcomes**                                                            |    |      |          |           |            |            |
| Mean GDP Growth Rate in 1981-1990                                        | 133| 2.8  | 2.6      | −3.8 (Libya) | 2.6 (Norway) | 10.9 (Botswana) |
| Mean GDP Growth Rate in 1991-2000                                        | 162| 3.4  | 4.8      | −9.3 (Moldova) | 3.1 (Republic of the Congo) | 44.8 (Equatorial Guinea) |
| Mean GDP Growth Rate in 2001-2010                                        | 164| 4.5  | 2.8      | −3.4 (Zimbabwe) | 4.0 (Namibia) | 16.5 (Equatorial Guinea) |
| Mean GDP Growth Rate in 2011-2019                                        | 164| 3.3  | 2.4      | −9.6 (Venezuela) | 3.3 (Fiji) | 9.5 (Ethiopia) |
| Mean GDP Per Capita Growth Rate in 2001-2019                             | 164| 2.4  | 1.9      | −3.0 (Yemen) | 2.2 (Guinea) | 8.5 (Burma) |
| GDP Per Capita Growth Rate in 2020                                       | 157| −5.5 | 6.7      | −32.2 (Maldives) | −4.7 (Brazil) | 42.8 (Guyana) |
| Excess Deaths Per Million in 2020                                       | 72 | 988.2| 870.4    | −434.8 (New Zealand) | 940.3 (Brazil) | 3,326.2 (Armenia) |
| **Treatments**                                                           |    |      |          |           |            |            |
| Democracy Index (V-Dem, 1980)                                            | 144| 0.0  | 1.0      | −1.1 (Saudi Arabia) | −0.5 (Gabon) | 2.0 (Denmark) |
| Democracy Index (V-Dem, 1990)                                            | 157| 0.0  | 1.0      | −1.5 (Saudi Arabia) | −0.2 (Algeria) | 1.7 (Sweden) |
| Democracy Index (V-Dem, 2000)                                           | 164| 0.0  | 1.0      | −1.8 (Saudi Arabia) | 0.01 (Madagascar) | 1.5 (Sweden) |
| Democracy Index (V-Dem, 2010)                                           | 157| 0.0  | 1.0      | −2.0 (Saudi Arabia) | 0.01 (North Macedonia) | 1.0 (Australia) |
| Democracy Index (Polity, 2000)                                          | 153| 0.0  | 1.0      | −2.1 (Bhutan) | 0.4 (Bangladesh) | 0.9 (Australia) |
| Democracy Index (Polity, 2018)                                          | 156| 0.0  | 1.0      | −2.4 (Bahrain) | 0.4 (Armenia) | 1.5 (Finland) |
| Democracy Index (Freedom House, 2003)                                    | 161| 0.0  | 1.0      | −2.2 (Iraq) | 0.01 (Georgia) | 1.5 (Luxembourg) |
| Democracy Index (Freedom House, 2019)                                    | 159| 0.0  | 1.0      | −1.9 (Eritrea) | 0.1 (Albania) | 1.9 (Sweden) |
| Democracy Index (Economist Intelligence Unit, 2006)                      | 158| 0.0  | 1.0      | −1.8 (Central African Republic) | 0.1 (Malawi) | 2.0 (Norway) |
| Democracy Index (Economist Intelligence Unit, 2019)                      | 154| 0.0  | 1.0      | −2.0 (Dem. Rep. of the Congo) | 0 (Dominican Republic) | 2.857.3 (United States) |
| **Controls**                                                             |    |      |          |           |            |            |
| GDP (Current USD, Billions, 1980)                                        | 130| 85.4 | 291.2    | 0.03 (Equatorial Guinea) | 7.6 (Guatemala) | 5,963.1 (United States) |
| GDP (Current USD, Billions, 1990)                                        | 139| 167.8| 615.1    | 0.1 (Sao Tome and Principe) | 9.5 (Sri Lanka) | 10,252.4 (United States) |
| GDP (Current USD, Billions, 2000)                                        | 164| 203.5| 920.0    | 0.1 (Sao Tome and Principe) | 11.7 (El Salvador) | 14,992.0 (United States) |
| GDP (Current USD, Billions, 2010)                                        | 164| 398.1| 1,406.6  | 0.2 (Sao Tome and Principe) | 37.9 (Burma) | 40,041.6 (United Arab Emirates) |
| GDP Per Capita (Current USD, 1980)                                       | 126| 4,344.1| 6,240.2 | 123.4 (Equatorial Guinea) | 1,323.6 (Dominican Republic) | 39,888.2 (Switzerland) |
| GDP Per Capita (Current USD, 1990)                                       | 138| 5,768.2| 8,617.1 | 87.2 (Sudan) | 1,675.8 (Ivory Coast) | 49,183.4 (Luxembourg) |
| GDP Per Capita (Current USD, 2000)                                       | 163| 6,521.7| 10,155.6 | 128.6 (Equatorial Guinea) | 1,675.8 (Paraguay) | 106,177.0 (Luxembourg) |
| GDP Per Capita (Current USD, 2010)                                       | 164| 12,888.6| 18,546.9 | 231.5 (Burundi) | 4,604.7 (Ecuador) | 115,838.8 (Luxembourg) |
| GDP Per Capita (Current USD, 2019)                                       | 164| 14,438.6| 20,184.2 | 257.4 (Burundi) | 5,879.9 (Jamaica) | 1,290.6 (China) |
| Population (Millions, 2000)                                              | 164| 36.6  | 133.4    | 0.1 (Seychelles) | 10.2 (Azerbaijan) | 1,439.3 (China) |
| Population (Millions, 2019)                                              | 164| 46.5  | 160.0    | 0.1 (Seychelles) | 10.2 (Azerbaijan) | 1,439.3 (China) |
| Mean Temperature (°c, 1971-1980)                                         | 164| 18.0  | 8.5      | −7.4 (Canada) | −7.4 (Azerbaijan) | 28.2 (Mali) |
Table A2: Additional Descriptive Statistics

| Variable                                           | N   | Mean   | St. Dev. | Min  | Median | Max   |
|----------------------------------------------------|-----|--------|----------|------|--------|-------|
| Mean Temperature (°C, 1981-1990)                   | 164 | 18.3   | 8.5      | 7.0  | 21.9   | 28.6  |
| (Canada)                                           |     |        |          |      |        |       |
| Mean Temperature (°C, 1991-2000)                   | 164 | 18.6   | 8.4      | −6.2 | 22.2   | 28.6  |
| (Canada)                                           |     |        |          |      |        |       |
| Mean Temperature (°C, 2001-2010)                   | 164 | 18.9   | 8.3      | −5.8 | 22.6   | 29.1  |
| (Canada)                                           |     |        |          |      |        |       |
| Mean Precipitation (mm per Month, 1971-1980)       | 164 | 92.6   | 64.5     | 3.0  | 81.6   | 280.3 |
| (Canada)                                           |     |        |          |      |        |       |
| Mean Precipitation (mm per Month, 1981-1990)       | 164 | 91.3   | 64.1     | 3.1  | 79.4   | 256.5 |
| (Canada)                                           |     |        |          |      |        |       |
| Mean Precipitation (mm per Month, 1991-2000)       | 164 | 91.4   | 63.8     | 2.7  | 81.2   | 252.7 |
| (Botswana)                                         |     |        |          |      |        |       |
| Mean Precipitation (mm per Month, 2001-2010)       | 164 | 94.1   | 66.4     | 2.2  | 81.6   | 256.5 |
| (Botswana)                                         |     |        |          |      |        |       |
| Population Density (No. of People per km², 1980)   | 164 | 108.7  | 294.5    | 1.1  | 41.5   | 3,445.3 |
| (Mongolia)                                         |     |        |          |      |        |       |
| Population Density (No. of People per km², 1990)   | 164 | 129.1  | 363.0    | 1.4  | 50.4   | 3,547.9 |
| (Mongolia)                                         |     |        |          |      |        |       |
| Population Density (No. of People per km², 2000)   | 164 | 152.6  | 475.6    | 1.5  | 59.8   | 4,755.5 |
| (Mongolia)                                         |     |        |          |      |        |       |
| Population Density (No. of People Per km², 2010)   | 164 | 182.8  | 605.2    | 1.8  | 72.6   | 4,470.2 |
| (Bosnia and Herzegovina)                           |     |        |          |      |        |       |
| Median Age (1980)                                  | 164 | 22.3   | 6.3      | 15.0 | 19.2   | 37.0  |
| (Kenya)                                            |     |        |          |      |        |       |
| Median Age (1990)                                  | 164 | 23.6   | 7.2      | 14.0 | 20.8   | 38.0  |
| (Yemen)                                            |     |        |          |      |        |       |
| Median Age (2000)                                  | 164 | 25.6   | 8.0      | 15.0 | 22.7   | 41.0  |
| (Burundi)                                          |     |        |          |      |        |       |
| Median Age (2010)                                  | 164 | 27.9   | 8.6      | 15.0 | 26.1   | 44.7  |
| (Niger)                                            |     |        |          |      |        |       |
| Mechanisms in 2001-2019                            |     |        |          |      |        |       |
| Mean Tax Revenue Share of GDP in 2001-2019         | 132 | 16.6   | 6.6      | 0.3  | 16.0   | 37.0  |
| (United Arab Emirates)                             |     |        |          |      |        |       |
| Mean Primary School Enrollment Rate in 2001-2019   | 156 | 88.2   | 11.9     | 40.6 | 92.1   | 99.7  |
| (Liberia)                                          |     |        |          |      |        |       |
| Mean Secondary School Enrollment Rate in 2001-2019 | 148 | 65.8   | 26.6     | 10.0 | 76.2   | 99.7  |
| (Angola)                                           |     |        |          |      |        |       |
| Mean Child Mortality Rate per 1000 in 2001-2019    | 164 | 28.2   | 25.1     | 2.1  | 18.1   | 30.0  |
| (Iceland)                                          |     |        |          |      |        |       |
| Mean Conflict Index in 2001-2019                    | 158 | 0.1    | 0.8      | −0.1 | −0.1   | −0.1  |
| (Liberia)                                          |     |        |          |      |        |       |
| Mean R&D Expenditure in 2001-2019 (% of GDP)       | 133 | 0.8    | 0.9      | 0.01 | 0.4    | 4.2   |
| (Mauritania)                                       |     |        |          |      |        |       |
| Mean R&D Researchers per Million People in 2001-2019| 123 | 1,443.3| 1,894.7  | 10.6 | 545.0  | 7,775.8 |
| (Dem. Rep. of the Congo)                           |     |        |          |      |        |       |
| Mean No. of New Business Registrations per 1000 People in 2001-2019 | 136 | 2.9    | 3.8      | 0.1  | 0.02   | 0.2   |
| (Liberia)                                          |     |        |          |      |        |       |
| Mean Total Value of Imports from China in 2001-2019 (% of GDP) | 159 | 0.02   | 0.03     | 0.005| 0.02   | 0.2   |
| (Luxembourg)                                       |     |        |          |      |        |       |
| Mean Total Value of Exports to China in 2001-2019 (% of GDP) | 159 | 0.02   | 0.03     | 0.005| 0.02   | 0.2   |
| (Luxembourg)                                       |     |        |          |      |        |       |
| Policy Responses in 2020                           |     |        |          |      |        |       |
| Containment Health Index at 10th Covid-19 Case      | 155 | 1.8    | 1.0      | 0.0  | 1.7    | 3.9   |
| (Algeria)                                          |     |        |          |      |        |       |
| Coverage of Containment Policy at 10th Covid-19 Case| 156 | 48.9   | 23.6     | 0.0  | 46.2   | 92.3  |
| (Algeria)                                          |     |        |          |      |        |       |
| Days Between 10th Covid-19 Case Until Any Containment Measure | 156 | −42.8  | 33.0     | 270.0 | 34.0   | 34.0  |
| (Solomon Islands)                                  |     |        |          |      |        |       |

Notes: Parentheses contain country names corresponding to the minimum, median and maximum values of each variable. When we observe multiple countries corresponding to the same minimum, median or maximum, we choose the first country in alphabetical order. When we do not find a country that corresponds exactly to the median, we choose the country with the closest value. Variable definitions and data sources are in Appendix Table A1.
Figure A1: Correlation Between Democracy and Economic Growth by Decade

(a) 1981-1990
(b) 1991-2000
(c) 2001-2010
(d) 2011-2019

Notes: Panels (a)-(d) show the relationship between democracy and the mean GDP growth rates in four periods: 1981-1990, 1991-2000, 2001-2010, and 2011-2019. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. The size of each circle (country) is proportional to its baseline GDP. The colors depend on the level of the democracy index (warmer colors for democracy and darker colors for autocracies). The line is the fitted line from a univariate OLS regression of the outcome against the democracy index that weights observations by baseline GDP. The shaded area corresponds to the 95% confidence interval. Variable definitions and data sources are in Appendix Table A1.
Figure A2: Economic Growth of Democracies vs Non-democracies in 1980-2020

(a) Total GDP Growth

(b) GDP Per Capita Growth

Notes: These figures show the mean GDP growth rate (Panel (a)) and mean GDP per capita growth rate (Panel (b)) in 1980-2020 among two groups: countries with the democracy index in 2000 above (red, plain line) and below (blue, dotted line) the median. Variable definitions and data sources are in Appendix Table A1.
Table A3: Democracy Index Rankings for 30 Countries with Largest Total GDP in 2019

| Country          | Democracy Index (V-Dem, 2000) | Rank | Democracy Index (V-Dem, 2019) | Rank |
|------------------|-------------------------------|------|-------------------------------|------|
| United States    | 1.3                           | 22   | 1.1                           | 32   |
| China            | -1.5                          | 155  | -1.9                          | 162  |
| Japan            | 1.2                           | 35   | 1.1                           | 30   |
| Germany          | 1.4                           | 3    | 1.4                           | 11   |
| India            | 0.8                           | 50   | -0.3                          | 95   |
| United Kingdom   | 1.3                           | 27   | 1.3                           | 17   |
| France           | 1.3                           | 16   | 1.4                           | 13   |
| Italy            | 1.2                           | 30   | 1.3                           | 21   |
| Brazil           | 1.3                           | 21   | 0.6                           | 55   |
| Canada           | 1.2                           | 33   | 1.3                           | 24   |
| Russia           | -0.4                          | 97   | -1.1                          | 135  |
| South Korea      | 1.2                           | 31   | 1.3                           | 23   |
| Spain            | 1.4                           | 5    | 1.4                           | 14   |
| Australia        | 1.4                           | 9    | 1.2                           | 26   |
| Mexico           | 0.4                           | 62   | 0.5                           | 59   |
| Indonesia        | 0.6                           | 56   | 0.3                           | 71   |
| Netherlands      | 1.3                           | 26   | 1.4                           | 16   |
| Saudi Arabia     | -1.8                          | 164  | -2.1                          | 164  |
| Turkey           | 0.4                           | 65   | -1.0                          | 131  |
| Switzerland      | 1.4                           | 8    | 1.4                           | 5    |
| Poland           | 1.3                           | 17   | 0.6                           | 58   |
| Iran             | -1.0                          | 134  | -1.3                          | 146  |
| Thailand         | 0.0                           | 81   | -1.4                          | 147  |
| Belgium          | 1.3                           | 14   | 1.4                           | 9    |
| Sweden           | 1.5                           | 1    | 1.5                           | 2    |
| Nigeria          | -0.1                          | 89   | -0.1                          | 86   |
| Austria          | 1.3                           | 25   | 1.2                           | 25   |
| Argentina        | 1.2                           | 34   | 1.0                           | 40   |
| United Arab Emirates | -1.8                     | 162  | -1.8                          | 160  |
| Norway           | 1.4                           | 6    | 1.4                           | 6    |

Notes: This table reports the democracy index in 2000 and 2019 and the corresponding rank in the dataset (N=164) for 30 countries with the largest total GDP in 2019. The countries are ordered by GDP size. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one.
|                      | Democracy Index (V-Dem, 1980) | Democracy Index (V-Dem, 1990) | Democracy Index (V-Dem, 2000) | Democracy Index (V-Dem, 2010) | Democracy Index (V-Dem, 2019) |
|----------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Democracy Index (V-Dem, 1980)   | 1                              |                                |                                |                                |                                |
| Democracy Index (V-Dem, 1990)   | 0.824                          | 1                              |                                |                                |                                |
| Democracy Index (V-Dem, 2000)   | 0.703                          | 0.882                          | 1                              |                                |                                |
| Democracy Index (V-Dem, 2010)   | 0.666                          | 0.822                          | 0.916                          | 1                              |                                |
| Democracy Index (V-Dem, 2019)   | 0.690                          | 0.776                          | 0.849                          | 0.904                          | 1                              |

Notes: This table reports the pairwise correlations among the democracy indices in 1980, 1990, 2000, 2010, and 2019. Variable definitions and data sources are in Appendix Table A1.
Table A5: Correlation Among Democracy Indices

|                                | V-Dem | Polity | Freedom House | Economist Intelligence Unit |
|--------------------------------|-------|--------|---------------|-----------------------------|
| **Panel A: Democracy Index for 2019** |       |        |               |                             |
| V-Dem (2019)                   | 1     |        |               |                             |
| Polity (2018)                  | 0.860 | 1      |               |                             |
| Freedom House (2019)           | 0.946 | 0.842  | 1             |                             |
| Economist Intelligence Unit (2019) | 0.894 | 0.781  | 0.947         | 1                           |
| **Panel B: Democracy Index for 2000** |       |        |               |                             |
| V-Dem (2000)                   | 1     |        |               |                             |
| Polity (2000)                  | 0.900 | 1      |               |                             |
| Freedom House (2003)           | 0.935 | 0.888  | 1             |                             |
| Economist Intelligence Unit (2006) | 0.910 | 0.853  | 0.919         | 1                           |

*Notes:* This table reports the pairwise correlations among the V-Dem, Polity, Freedom House, and Economist Intelligence Unit’s democracy indices for democracy levels in 2019 (Panel A) and 2000 (Panel B). The publication year of each index is in parentheses. When data for democracy levels in 2019 or 2000 are unavailable, we use the index from the nearest available year. Variable definitions and data sources are in Appendix Table A1.
Table A6: Correlation Between Democracy and Economic Growth With Control for Baseline GDP

|                          | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Democracy Index (V-Dem, 2000) |     |     |     |     |     |     |     |     |
|                          | -1.7| -1.2| -1.3| -1.0| -1.7| -1.1| -1.2| -1.1|
|                          | (0.4)| (0.6)| (0.5)| (0.4)| (0.4)| (0.5)| (0.4)| (0.4)|
| Democracy Index (V-Dem, 2019) |     |     |     |     |     |     |     |     |
|                          | -1.9| -1.6| -2.9| -2.6| -1.9| -1.8| -2.5| -2.6|
|                          | (0.5)| (0.3)| (0.5)| (0.5)| (0.3)| (0.3)| (0.5)| (0.5)|
| Baseline Controls Other Than Baseline GDP | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   |
| Baseline GDP Per Capita Control | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   |
| Baseline Total GDP Control | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   | ✓   |
| N                         | 163 | 163 | 163 | 163 | 163 | 163 | 163 | 163 |

Notes: This table reports the results of OLS regressions of GDP growth rates on the democracy index with additional controls for baseline GDP per capita and total GDP. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 2, 4, 6, 8 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For the GDP growth rate in 2020, we also control for diabetes prevalence. Columns 3, 4, 7, and 8 additionally control for baseline GDP per capita. Columns 5, 6, 7, 8 additionally control for baseline total GDP. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A7: Covariate Balance Regression Results

|                     | Log European Settler Mortality | Log Population Density in 1500s | British Legal Origin | Fraction Speaking English | Fraction Speaking European | Bananas | Coffee | Copper | Maize | Millet | Rice | Rubber | Silver | Sugarcane | Wheat |
|---------------------|--------------------------------|---------------------------------|----------------------|--------------------------|----------------------------|---------|--------|--------|-------|--------|------|--------|--------|-----------|-------|
| Name Begins With A-M|                                |                                 |                      |                          |                            | 0.06    | 0.1    | -0.3   | -0.01 | 0.04   | 0.1  | -0.05  | -0.08  | 0.06      | 0.06  |
|                     | (0.3)                          | (0.4)                           | (0.1)                | (0.04)                   | (0.07)                     | (0.08)  | (0.09) | (0.08) | (0.06) | (0.09) | (0.08)| (0.08) | (0.08) | (0.08)    | (0.08) |
| Name Ends With A-M  | -0.2                           | -0.3                            | 0.2                  | 0.03                     | 0.06                       | -0.2    | 0.1    | 0.07   | 0.02  | 0.1    | 0.06| 0.04   | 0.1    | -0.03     | 0.03  |
|                     | (0.3)                          | (0.3)                           | (0.10)               | (0.04)                   | (0.07)                     | (0.08)  | (0.08) | (0.08) | (0.06) | (0.09) | (0.08)| (0.08) | (0.08) | (0.08)    | (0.08) |
| Length of Name      | -0.0003                         | -0.05                           | -0.003               | 0.009                    | 0.010                      | 0.02    | 0.02   | -0.004 | -0.0005 | -0.01 | -0.001| 0.02   | 0.004  | 0.002    | -0.03 |
|                     | (0.02)                          | (0.02)                          | (0.008)              | (0.006)                  | (0.009)                    | (0.007) | (0.008)| (0.01) | (0.006) | (0.01) | (0.006)| (0.009)| (0.008)  | (0.01) | (0.009)   | (0.01) |
| p-value             | 0.89                            | 0.19                            | 0.01                 | 0.36                     | 0.34                       | 0.00    | 0.03   | 0.09   | 0.80  | 0.53   | 0.91| 0.01   | 0.22   | 0.92      | 0.17  |
| N                   | 77                              | 89                              | 93                   | 136                      | 136                        | 142     | 142    | 151    | 142   | 142    | 142| 142    | 142    | 142       | 142   |

Notes: This table checks for covariates by conducting OLS regressions against the IVs for three covariates: a dummy for whether the country name begins with a letter between A and M, a dummy for whether the country name ends with a letter between A and M, and the length of the country name. Robust standard errors are in parentheses. We also report the joint significant p-value that is associated with the F-statistic. Variable definitions and data sources are in Appendix Table A1.
| Panel A: Africa & Asia vs. Americas & Oceania | Panel B: Africa & Oceania vs. Americas & Asia | Panel C: Africa & S. America vs. N. America, Asia, & Oceania | Panel D: Africa & N. America vs. S. America, Asia, & Oceania |
|---------------------------------------------|---------------------------------------------|---------------------------------------------|---------------------------------------------|
| Dependent Variable is Democracy Index (V-Dem, 2019) | Dependent Variable is Democracy Index (V-Dem, 2019) | Dependent Variable is Democracy Index (V-Dem, 2019) | Dependent Variable is Democracy Index (V-Dem, 2019) |
| Log European Settler Mortality | -0.2 | -0.3 | -0.2 | -0.3 |
| (0.3) | (0.1) | (0.04) | (0.07) |
| Log Population Density in 1500s | -0.3 | -0.1 | -0.3 | -0.1 |
| (0.2) | (0.02) | (0.06) | (0.06) |
| British Legal Origin | 1.3 | 1.5 | 0.2 | 1.5 |
| (0.3) | (0.3) | (0.04) | (0.07) |
| N | 47 | 40 | 48 | 48 |
| Log European Settler Mortality | -0.3 | -1.2 | -1.2 | -0.8 |
| (0.04) | (0.09) | (0.09) | (0.09) |
| Log Population Density in 1500s | -0.2 | -0.2 | -0.2 | -0.2 |
| (0.02) | (0.02) | (0.06) | (0.06) |
| British Legal Origin | 0.5 | 1.5 | 0.5 | 1.5 |
| (0.01) | (0.04) | (0.06) | (0.06) |
| N | 60 | 49 | 58 | 58 |
| Baseline Controls | ✓ | ✓ | ✓ | ✓ |

Notes: This table conducts monotonicity checks for the relationship between the univariate IVs and democracy by dividing the sample into two by random combinations of continents. Panel A has Africa and Asia as the sample for the regressions in the first three rows and the Americas and Oceania as the sample in the following three rows. Similarly, Panel B compares Africa and Oceania with the Americas and Asia. Panel C compares Africa and South America with North America, Asia, and Oceania. Panel D compares Africa and North America with South America, Asia, and Oceania. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5 have no controls, while columns 2, 4, 6 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, median age, and diabetes prevalence. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A9: Correlation Among IVs

| Log European Settler Mortality | Log Population Density in 1500s | British Legal Origin | Fraction Speaking English | Fraction Speaking European | Bananas | Coffee | Copper | Maize | Millet | Rice | Rubber | Silver | Sugarcane | Wheat |
|--------------------------------|---------------------------------|----------------------|--------------------------|---------------------------|---------|--------|--------|-------|-------|------|-------|-------|----------|-------|
| Log European Settler Mortality | 1                               |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Log Population Density in 1500s | 0.373                           | -0.0681              | -0.239                   | -0.416                    | -0.443  | -0.101 | 0.170  | -0.390 | 0.181  | 0.340 | 0.383  | 0.0961 | -0.460  | 0.106  |
| British Legal Origin           |                                 | -0.131               | -0.0612                  | 0.0346                    | 0.146   | 0.0762 | 0.0662 | -0.221 | 0.0662 | 0.338 | 0.199  | 0.169  | -0.334  | 0.127  |
| Fraction Speaking English      |                                 | -0.127               | 0.0102                   | 0.283                     | -0.191  | -0.131 | -0.048  | -0.210 | -0.210 | 0.146 | -0.215 | -0.0148 | -0.239  | -0.0923 |
| Fraction Speaking European     |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Bananas                        |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Coffee                         |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Copper                         |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Maize                          |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Millet                         |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Rice                           |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Rubber                         |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Silver                         |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Sugarcane                      |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |
| Wheat                          |                                 |                      |                          |                           |         |        |        |       |       |      |       |        |          |        |

Notes: This table reports the pairwise correlations among the IVs. Variable definitions and data sources are in Appendix Table A1.
Table A10: Directions of Potential Bias in the IV Estimates

| IV                     | Base Sample                                                                 | $Cov(Z, Democracy)$                                                                 | $Cov(Z, PotentialOmittedVar)$                                                                 | Likely Direction of Bias |
|------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------|
| European settler mortality IV | N = 77 (countries formerly under European rule with data available) | Negative (Higher settler mortality led settlers to establish extractive institutions, which correspond to lower levels of democracy) | Likely negative (Worse disease environments may directly hamper growth) | Positive |
| Population density in 1500s IV | N = 89 (countries formerly under European rule with data available) | Negative (Higher population density at the beginning of colonial rule led European colonizers to establish extractive institutions, which correspond to lower levels of democracy) | Likely positive (Higher population density may positively affect growth through higher returns to scale and agglomeration effects) | Negative |
| British legal origin IV | N = 93 (countries formerly under European rule with data available) | Positive (British colonial rule led to the establishment of a common-law legal system, which is correlated with less restrictions on individual freedoms and higher levels of democracy) | Likely positive (Being formerly subjected to British rule instead of other European countries such as French, Spanish, Portuguese, or German rule may lead to greater advantages in an Anglo-centric world economy through linguistic or cultural influence) | Positive |
| Fraction speaking English or European IVs | N = 136 (all countries with data available) | Positive (The fraction of the population speaking English or European corresponds to the extent of Western influence, which is positively related to higher levels of democracy) | Likely positive (Higher fractions of the population speaking English or a European language may result in more globally competitive human capital) | Positive |
| Crops and minerals IVs | N = 142 (all countries with data available) | Depends on the commodity | Depends on the commodity | Depends on the commodity |
Table A11: Reduced Form Relationship Between IVs and Economic Growth in 2001-2019

|                                | (1)     | (2)     | (3)     | (4)     | (5)     | (6)     | (7)     | (8)     | (9)     | (10)    | (11)    | (12)    |
|--------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Log European Settler Mortality | 1.5     | 1.9     | (0.6)   | (1.0)   | 0.3     | 0.7     |         |         |         |         |         |         |
| Log Population Density in 1500s| 0.8     | 1.2     | (0.2)   | (0.2)   | 0.07    | 0.5     |         |         |         |         |         |         |
| British Legal Origin           | -2.3    | -1.1    | (1.5)   | (1.8)   | -1.2    | 0.4     |         |         |         |         |         |         |
| Fraction Speaking English      | 0.5     | -0.009  | (0.2)   | (0.8)   | 2.9     | -0.6    |         |         |         |         |         |         |
| Fraction Speaking European     | -1.3    | -1.1    | (1.1)   | (0.6)   | -5.6    | -3.5    |         |         |         |         |         |         |
| Bananas                        | 0.3     | 0.07    | -1.0    | -0.5    |         |         |         |         |         |         |         |         |
| Coffee                         | 0.7     | -0.7    | -0.07   | -1.0    |         |         |         |         |         |         |         |         |
| Copper                         | 1.0     | -0.1    | 0.3     | -0.3    |         |         |         |         |         |         |         |         |
| Maize                          | -1.3    | -1.1    | -1.6    | 4.2     |         |         |         |         |         |         |         |         |
| Millet                         | 1.5     | 1.0     | 0.04    | 0.02    |         |         |         |         |         |         |         |         |
| Rice                           | -0.1    | -0.3    | -0.7    | -1.4    |         |         |         |         |         |         |         |         |
| Rubber                         | 3.8     | 3.7     | 1.1     | 0.5     |         |         |         |         |         |         |         |         |
| Silver                         | -1.2    | -0.2    | 1.4     | 1.8     |         |         |         |         |         |         |         |         |
| Sugarcane                      | -1.8    | -0.4    | 1.4     | 1.9     |         |         |         |         |         |         |         |         |
| Wheat                          | -1.2    | -1.9    | 1.0     | 1.4     |         |         |         |         |         |         |         |         |
| Baseline Controls              | X       | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       | ✓       |
| N                              | 77      | 77      | 89      | 89      | 93      | 93      | 136     | 136     | 142     | 142     | 73      | 73      |

Notes: This table shows the results of reduced form regressions of the five sets of IVs against the mean GDP growth rate in 2001-2019. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, and columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Columns 1, 3, 5, 7, and 9 have no controls, while columns 2, 4, 6, 8, and 10 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
|                             | (1)   | (2)   | (3)   | (4)   | (5)   | (6)   | (7)   | (8)   | (9)   | (10)  | (11)  | (12)  |
|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Log European Settler Mortality | 1.6   | 2.3   |       |       |       |       |       |       |       |       |       | 0.2   | 1.7   |
| (0.8)                       |       | (0.6) |       |       |       |       |       |       |       |       |       | (0.7) | (1.1) |
| Log Population Density in 1500s | 0.7   | 0.8   |       |       |       |       |       |       |       |       |       | -0.6  | -0.5  |
| (0.4)                       |       | (0.2) |       |       |       |       |       |       |       |       |       | (0.4) | (0.5) |
| British Legal Origin        | -3.4  | -3.0  |       |       |       |       |       |       |       |       |       | -7.5  | -5.6  |
| (2.0)                       |       | (1.3) |       |       |       |       |       |       |       |       |       | (1.6) | (1.7) |
| Fraction Speaking English   | 3.0   | 0.1   |       |       |       |       |       |       |       |       |       | 14.8  | 14.4  |
| (1.5)                       |       | (1.4) |       |       |       |       |       |       |       |       |       | (2.3) | (3.2) |
| Fraction Speaking European  | -5.0  | -3.5  |       |       |       |       |       |       |       |       |       | -10.3 | -9.7  |
| (2.0)                       |       | (1.2) |       |       |       |       |       |       |       |       |       | (2.3) | (2.4) |
| Bananas                     | 1.4   | 1.1   |       |       |       |       |       |       |       |       |       | 2.1   | 1.7   |
| (0.9)                       |       | (1.2) |       |       |       |       |       |       |       |       |       | (1.7) | (2.2) |
| Coffee                      | 0.07  | -2.1  |       |       |       |       |       |       |       |       |       | -0.6  | -3.3  |
| (0.8)                       |       | (1.3) |       |       |       |       |       |       |       |       |       | (1.4) | (2.2) |
| Copper                      | 4.7   | 2.3   | 1.8   |       | -0.6  |       |       |       |       |       |       | 1.3   | 8.5   |
| (0.6)                       |       | (1.1) |       |       | (1.7) |       |       |       |       |       |       | (1.9) | (4.9) |
| Maize                       | -2.1  | -4.5  | 1.3   |       |       |       |       |       |       |       |       | 2.2   | 1.2   |
| (1.3)                       |       | (2.1) |       |       | (2.4) |       |       |       |       |       |       | (1.4) | (2.1) |
| Millet                      | 2.2   | 1.2   |       | -0.06 |       |       |       |       |       |       |       | 1.1   | 1.2   |
| (1.1)                       |       | (1.1) |       |       | (1.4) |       |       |       |       |       |       | (2.1) | (4.9) |
| Rice                        | 0.6   | 1.8   | 0.3   | -2.0  |       |       |       |       |       |       |       | (1.3) | (1.9) |
| (1.3)                       |       | (1.9) |       |       | (2.6) |       |       |       |       |       |       | (3.5) | (3.5) |
| Rubber                      | 3.9   | 4.2   | 3.7   | 2.6   |       |       |       |       |       |       |       | (2.1) | (2.4) |
| (2.1)                       |       | (0.9) |       | (1.6) |       |       |       |       |       |       |       | (1.6) | (1.1) |
| Silver                      | -5.1  | -5.8  | -6.2  | 4.1   |       |       |       |       |       |       |       | (0.9) | (2.4) |
| (0.9)                       |       | (1.3) |       | (2.4) |       |       |       |       |       |       |       | (2.4) | (2.4) |
| Sugarcane                   | -2.6  | -1.4  | -2.2  | 0.3   |       |       |       |       |       |       |       | (1.0) | (3.1) |
| (1.0)                       |       | (1.4) |       | (3.1) |       |       |       |       |       |       |       | (1.7) | (3.7) |
| Wheat                       | 1.7   | -1.7  | 3.3   | 4.1   |       |       |       |       |       |       |       | (1.5) | (1.8) |
| (1.5)                       |       | (1.8) |       | (1.7) |       |       |       |       |       |       |       | (2.1) | (2.1) |

Baseline Controls

Notes: This table shows the results of reduced form regressions of the five sets of IVs against the GDP growth rate in 2020. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A13: Reduced Form Relationship Between IVs and Covid-19 Mortality in 2020

|                                | (1)    | (2)    | (3)    | (4)    | (5)    | (6)    | (7)    | (8)    | (9)    | (10)   | (11)   | (12)   |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Log European Settler Mortality | -337.7 | -415.4 | -38.6  | -64.1  | 28.6   | 64.1   |        |        |        |        |        |
|                               | (97.0) | (100.0)| (53.0) | (72.0) | (50.0) | (72.0) |        |        |        |        |        |
| Log Population Density in 1500s| -162.6 | -176.8 | -0.7   | -10.9  | -0.7   | -10.9  |        |        |        |        |        |
|                               | (35.5) | (19.5) | (38.7) | (31.7) | (38.7) | (31.7) |        |        |        |        |        |
| British Legal Origin          | 590.3  | 611.8  | 611.8  | 133.0  | -17.5  |        |        |        |        |        |
|                               | (259.8)| (241.0)| (209.8)| (105.7)| (209.8)| (105.7)|        |        |        |        |        |
| Fraction Speaking English     | 174.8  | 232.1  | 174.8  | 232.1  | 174.8  | 232.1  |        |        |        |        |        |
|                               | (179.8)| (243.9)| (179.8)| (243.9)| (179.8)| (243.9)|        |        |        |        |        |
| Fraction Speaking European    | 647.4  | 592.3  | 945.4  | 945.2  | 154.4  | (166.7)|        |        |        |        |        |
|                               | (164.1)| (160.4)| (164.1)| (160.4)| (164.1)| (160.4)|        |        |        |        |        |
| Bananas                       | -87.4  | 45.3   | -48.8  | -200.3 |        |        |        |        |        |        |        |
|                               | (141.8)| (177.2)| (137.6)| (161.5)|        |        |        |        |        |        |        |
| Coffee                        | 728.1  | 874.9  | 545.1  | 287.0  |        |        |        |        |        |        |        |
|                               | (176.0)| (157.7)| (286.0)| (146.4)|        |        |        |        |        |        |        |
| Copper                        | -381.0 | -207.0 | 31.8   | 5.0    |        |        |        |        |        |        |        |
|                               | (164.7)| (179.5)| (206.5)| (173.9)|        |        |        |        |        |        |        |
| Maize                         | 7.5    | 205.8  | -232.5 | -1023.1|        |        |        |        |        |        |        |
|                               | (185.3)| (234.9)| (206.9)| (424.4)|        |        |        |        |        |        |        |
| Millet                        | -197.1 | -231.7 | 99.0   | -83.8  |        |        |        |        |        |        |        |
|                               | (175.7)| (177.1)| (126.4)| (149.5)|        |        |        |        |        |        |        |
| Rice                          | 48.5   | 173.3  | 288.7  | 646.2  |        |        |        |        |        |        |        |
|                               | (217.6)| (191.9)| (140.5)| (219.0)|        |        |        |        |        |        |        |
| Rubber                        | -837.5 | -780.9 | -402.1 | -82.9  |        |        |        |        |        |        |        |
|                               | (140.4)| (114.5)| (188.2)| (133.6)|        |        |        |        |        |        |        |
| Silver                        | 373.5  | 291.1  | 71.5   | 299.5  |        |        |        |        |        |        |        |
|                               | (188.5)| (199.5)| (235.0)| (226.8)|        |        |        |        |        |        |        |
| Sugarcane                     | -64.5  | -68.6  | -183.0 | 235.4  |        |        |        |        |        |        |        |
|                               | (217.2)| (205.8)| (289.8)| (286.0)|        |        |        |        |        |        |        |
| Wheat                         | 335.4  | 412.3  | 31.4   | 43.6   |        |        |        |        |        |        |        |
|                               | (173.5)| (275.4)| (139.2)| (176.9)|        |        |        |        |        |        |        |

Notes: This table shows the results of reduced form regressions of the five sets of IVs against the total number of Covid-19 deaths per million in 2020. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
### Table A14: First-stage Regression Estimates of IVs’ Effects on Democracy

| Dependent Variable is Democracy Index (V-Dem, 2019) | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|--------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| Log European Settler Mortality                   | -1.0| -1.3|     |     |     |     |     |     |     |     | 0.1  | -0.3 |
|                                                  | (0.3)| (0.2)|    |    |    |    |    |    |    |    | (0.2)| (0.1)|
| Log Population Density in 1500s                  | -0.5| -0.5| 0.009| 0.004|     |     |     |     |     |     |     |      |
|                                                  | (0.09)| (0.04)|    |    |    |    |    |    |    |    | (0.08)| (0.06)|
| British Legal Origin                             | 2.0 | 2.0 | 1.3 | 0.7 |     |     |     |     |     |     |     |      |
|                                                  | (0.6)| (0.5)|    |    |    |    |    |    |    |    | (0.3)| (0.2)|
| Fraction Speaking English                        | -0.04| 0.7 | -0.9 | -0.3 |     |     |     |     |     |     |     |      |
|                                                  | (0.2)| (0.5)|    |    |    |    |    |    |    |    | (0.5)| (0.5)|
| Fraction Speaking European                       | 1.8 | 1.2 | 2.3 | 2.1 |     |     |     |     |     |     |     |      |
|                                                  | (0.6)| (0.3)|    |    |    |    |    |    |    |    | (0.4)| (0.3)|
| Bananas                                          | -0.2| 0.1 | -0.7 | -0.7 |     |     |     |     |     |     |     |      |
|                                                  | (0.5)| (0.4)| (0.3)| (0.2)|    |    |    |    |    |    |    |      |
| Coffee                                           | -0.04| 0.9 | -0.3 | -0.09|     |     |     |     |     |     |     |      |
|                                                  | (0.3)| (0.3)| (0.2)| (0.3)|    |    |    |    |    |    |    |      |
| Copper                                           | -0.7| -0.1| -0.06| 0.5 |     |     |     |     |     |     |     |      |
|                                                  | (0.4)| (0.4)| (0.3)| (0.4)|    |    |    |    |    |    |    |      |
| Maize                                            | 0.8 | 1.2 | 1.0 | 2.5 |     |     |     |     |     |     |     |      |
|                                                  | (0.4)| (0.4)| (0.3)| (0.4)|    |    |    |    |    |    |    |      |
| Millet                                           | -0.5| -0.3| -0.2 | -0.2 |     |     |     |     |     |     |     |      |
|                                                  | (0.4)| (0.4)| (0.3)| (0.2)|    |    |    |    |    |    |    |      |
| Rice                                             | -0.9| -0.8| -0.06| 0.5 |     |     |     |     |     |     |     |      |
|                                                  | (0.6)| (0.4)| (0.4)| (0.3)|    |    |    |    |    |    |    |      |
| Rubber                                           | -2.2| -2.2| -0.4 | 0.1 |     |     |     |     |     |     |     |      |
|                                                  | (0.5)| (0.3)| (0.2)| (0.3)|    |    |    |    |    |    |    |      |
| Silver                                           | 1.3 | 0.7 | 0.6 | 0.3 |     |     |     |     |     |     |     |      |
|                                                  | (0.4)| (0.3)| (0.4)| (0.4)|    |    |    |    |    |    |    |      |
| Sugarcane                                        | 1.1 | 0.5 | 1.0 | 0.5 |     |     |     |     |     |     |     |      |
|                                                  | (0.6)| (0.5)| (0.4)| (0.4)|    |    |    |    |    |    |    |      |
| Wheat                                            | -0.4| 0.8 | -1.1 | -1.0 |     |     |     |     |     |     |     |      |
|                                                  | (0.5)| (0.5)| (0.4)| (0.3)|    |    |    |    |    |    |    |      |

**F-Statistic (First stage)**

|                                      | 13.1| 46.7| 27.0| 133.6| 12.2| 17.1| 4.7| 14.9| 6.6| 5.7| 52.1| 331.7 |
|--------------------------------------|-----|-----|-----|------|-----|-----|----|-----|----|----|------|-------|
| Baseline Controls                    |    |    |    |      |    |    |    |    |    |    |      |       |
| N                                   | 77  | 77  | 89  | 89   | 93  | 93  | 136| 136 | 142| 142| 73   | 73    |

**Notes:** This table reports the first-stage regression estimates of the effect of the five different sets of IVs on democracy levels in 2019. It complements Table 2’s 2SLS estimates of democracy’s effects on outcomes. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, median age, and diabetes prevalence. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A15: GDP and Covid-19 Deaths After Accounting for Political Regimes’ Effect

| Panel          | (1) | (2) | (3) | (4) | (5) | (6) |
|----------------|-----|-----|-----|-----|-----|-----|
|                | Africa | Asia | Europe | N. America | Oceania | S. America |
| Panel A: Mean GDP Growth Rate in 2001-2019 | 4.3 | 5.5 | 2.8 | 2.8 | 3.1 | 2.9 |
| Observed Mean  | 1.2 | 1.5 | -1.9 | -1.3 | -0.6 | -1.5 |
| (Observed Mean) - (Political Regimes’ Effect) | 3.2 | 3.9 | 4.6 | 4.2 | 3.8 | 4.4 |
| Panel B: GDP Growth Rate in 2020 | -3.8 | -4.5 | -4.8 | -7.6 | -7.0 | -5.0 |
| Observed Mean  | 0.7 | 1.2 | -1.3 | -0.8 | -0.8 | -0.9 |
| (Observed Mean) - (Political Regimes’ Effect) | -4.5 | -5.7 | -3.6 | -6.9 | -6.2 | -4.1 |
| Panel C: Total Covid-19-related Deaths Per Million in 2020 | 51.5 | 138.5 | 678.5 | 364.8 | 7.4 | 594.8 |
| Observed Mean  | -138.2 | -248.7 | 267.5 | 160.2 | 165.5 | 180.6 |
| (Observed Mean) - (Political Regimes’ Effect) | 189.7 | 387.2 | 411.0 | 204.6 | -158.1 | 414.1 |
| N              | 52 | 38 | 42 | 14 | 6 | 12 |

Notes: This table reports each continent’s mean GDP growth rates in 2001-2019 (Panel A), mean GDP growth rates in 2020 (Panel B), and total Covid-19-related deaths per million (Panel C) before and after subtracting the estimated effect of democracy in Table 2’s column 1. To calculate the estimated effect of democracy for each continent, we multiply the coefficient estimated in Table 2’s column 1 with the democracy index (normalized to have mean zero and standard deviation one) for each country and take the average across the countries in the continent.
### Table A16: Additional Mechanisms in 2001-2019: Trade With China

| Panel | Democracy Index (V-Dem, 2000) | N | Share of Total Value of Imports from China in GDP | Share of Total Value of Exports to China in GDP |
|-------|-------------------------------|---|-----------------------------------------------|-----------------------------------------------|
| A     |                               |    | (1)                                            | (2)                                            | (3)                                           | (4)                                           |
|       |                               |    | [-0.003, -0.002]                              | [-0.003, -0.002]                              | [-0.003, -0.002]                              | [-0.002, -0.002]                              |
|       |                               |    | (0.002)                                        | (0.002)                                        | (0.002)                                       | (0.002)                                       |
|       |                               | 159 |                                               |                                               |                                               |                                               |
|       |                               | 159 |                                               |                                               |                                               |                                               |
|       |                               | 159 |                                               |                                               |                                               |                                               |
|       |                               | 159 |                                               |                                               |                                               |                                               |
| B     |                               | 75  | [-0.001, 0.007]                               | [-0.001, 0.006]                               | [0.001, 0.006]                                | [0.006, 0.006]                                |
|       |                               | (0.002) | | (0.009)                                        | (0.002)                                       | (0.009)                                       |
|       |                               | 75  |                                               |                                               |                                               |                                               |
|       |                               | 75  |                                               |                                               |                                               |                                               |
|       |                               | 75  |                                               |                                               |                                               |                                               |
| C     |                               | 87  | [-0.002, 0.001]                               | [-0.002, 0.001]                               | [-0.002, 0.001]                              | [-0.001, 0.001]                              |
|       |                               | (0.002) | | (0.003)                                        | (0.002)                                       | (0.003)                                       |
|       |                               | 87  |                                               |                                               |                                               |                                               |
|       |                               | 87  |                                               |                                               |                                               |                                               |
|       |                               | 87  |                                               |                                               |                                               |                                               |
| D     |                               | 91  | [-0.002, -0.001]                              | [-0.002, -0.001]                              | [-0.002, -0.001]                              | [-0.001, -0.001]                              |
|       |                               | (0.002) | | (0.006)                                        | (0.002)                                       | (0.006)                                       |
|       |                               | 91  |                                               |                                               |                                               |                                               |
|       |                               | 91  |                                               |                                               |                                               |                                               |
| E     |                               | 133 | [-0.01, -0.005]                               | [-0.01, -0.005]                               | [-0.005, -0.005]                              | [-0.005, -0.005]                              |
|       |                               | (0.007) | | (0.004)                                        | (0.008)                                       | (0.004)                                       |
|       |                               | 133 |                                               |                                               |                                               |                                               |
|       |                               | 133 |                                               |                                               |                                               |                                               |
| F     |                               | 138 | [-0.007, -0.004]                              | [-0.007, -0.004]                              | [-0.005, -0.005]                              | [-0.005, -0.005]                              |
|       |                               | (0.004) | | (0.004)                                        | (0.004)                                       | (0.005)                                       |
|       |                               | 138 |                                               |                                               |                                               |                                               |
|       |                               | 138 |                                               |                                               |                                               |                                               |
| G     |                               | 138 | [-0.003, -0.001]                              | [-0.003, -0.001]                              | [-0.003, -0.003]                              | [-0.002, -0.002]                              |
|       |                               | (0.003) | | (0.002)                                        | (0.003)                                       | (0.002)                                       |
|       |                               | 71  |                                               |                                               |                                               |                                               |
|       |                               | 71  |                                               |                                               |                                               |                                               |
|       |                               | 71  |                                               |                                               |                                               |                                               |
|       |                               | 71  |                                               |                                               |                                               |                                               |

**Baseline Controls**

- ✓: Controls included
- ✓: Controls not included

**Notes:** This table reports the OLS (Panel A) and 2SLS (Panels B-F) regression estimates of democracy’s effect on trade with China in 2001-2019. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. The dependent variables are the mean of the share of the total value of imports from China (Columns 1-2) or exports to China (Columns 3-4) in GDP between 2001-2019. For IVs, Panel B uses log European settler mortality, Panel C uses log population density in the 1500s, Panel D uses British legal origin, Panel E uses the fraction speaking English and the fraction speaking European, Panel F uses the ability to grow crops and mine minerals, and Panel G uses all the IVs together. Columns 1 and 3 have no controls, while columns 2 and 4 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A3.
Table A17: Additional Mechanisms in 2001-2019: Other Mechanisms

| Democracy Index (V-Dem, 2000) | Log of Tax Share in GDP | Log of Primary-School Enrollment | Log of Secondary-School Enrollment | Log of Child Mortality | Conflict Index | R&D Expenditure (% of GDP) | R&D Researchers (Per Million People) | New Business Registrations (Per 1,000 People Aged 15-64) |
|-------------------------------|-------------------------|---------------------------------|-----------------------------------|------------------------|---------------|----------------------------|----------------------------------------|--------------------------------------|
| Panel A: OLS                 |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Democracy Index (V-Dem, 2000) |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| N                             |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Panel B: Instrument for Democracy by Settler Mortality |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Democracy Index (V-Dem, 2000) |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| N                             |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Panel C: Instrument for Democracy by Population Density in 1500s |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Democracy Index (V-Dem, 2000) |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| N                             |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Panel D: Instrument for Democracy by Legal Origin |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Democracy Index (V-Dem, 2000) |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| N                             |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Panel E: Instrument for Democracy by Language |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Democracy Index (V-Dem, 2000) |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| N                             |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Panel F: Instrument for Democracy by Crops and Minerals |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Democracy Index (V-Dem, 2000) |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| N                             |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Panel G: Use all IVs          |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Democracy Index (V-Dem, 2000) |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| N                             |                         |                                 |                                   |                        |               |                           |                                        |                                      |
| Baseline Controls             | x                       | x                               | x                                | x                     | x             | x                          | x                                      | x                                    |
| Control for Baseline GDP      | x                       | x                               | x                                | x                     | x             | x                          | x                                      | x                                    |

Notes: This table reports the OLS (Panel A) and 2SLS (Panels B-G) regression estimates of democracy’s effect on potential mechanisms in 2001-2019. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. The dependent variables are the mean of each of the following variables in 2001-2019: log tax share in GDP (columns 1-2), log primary school enrollment (columns 3-4), log secondary school enrollment (columns 5-6), log infant mortality (columns 7-8), the conflict index (columns 9-10), R&D expenditure as a % of GDP (columns 11-12), R&D researchers per million (columns 13-14), and new business registrations per 1000 (columns 15-16). The reported coefficient for democracy is multiplied by 100. For IVs, Panel B uses log European settler mortality, Panel C uses log population density in the 1500s, Panel D uses British legal origin, Panel E uses the fraction speaking English and the fraction speaking European, Panel F uses the ability to grow crops and mine minerals, and Panel G uses all the IVs together. Columns 1, 3, 5, 7, 9, 11, 13, and 15 have no controls, while columns 2, 4, 6, 8, 10, 12, 14 have baseline GDP per capita as a control as well as the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A18: 2SLS Regression Estimates of Democracy’s Effects on GDP per Capita Growth

|                      | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) | (11) | (12) |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| **Panel A: Two-Stage Least Squares** |      |      |      |      |      |      |      |      |      |      |      |      |
| Democracy Index (V-Dem, 2000) |      |      |      |      |      |      |      |      |      |      |      |      |
| Dependent Variable is Mean GDP Per Capita Growth Rate in 2001-2019 |      |      |      |      |      |      |      |      |      |      |      |      |
| Democracy Index (V-Dem, 2019) |      |      |      |      |      |      |      |      |      |      |      |      |
| Dependent Variable is GDP Per Capita Growth Rate in 2020 |      |      |      |      |      |      |      |      |      |      |      |      |
| Dependent Variable is Covid-19-related Deaths Per Million in 2020 |      |      |      |      |      |      |      |      |      |      |      |      |
| IVs | settle mortality | population density | legal origin | language | crops & minerals | all IVs |      |      |      |      |      |      |
| Number of IVs | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| F-Statistic (First stage) | 13.1 | 46.7 | 27.0 | 133.6 | 12.2 | 17.1 | 4.7 | 14.9 | 6.6 | 5.7 | 52.1 | 331.7 |

| **Panel B: Ordinary Least Squares** |      |      |      |      |      |      |      |      |      |      |      |      |
| Democracy Index (V-Dem, 2000) |      |      |      |      |      |      |      |      |      |      |      |      |
| Dependent Variable is Mean GDP Per Capita Growth Rate in 2001-2019 |      |      |      |      |      |      |      |      |      |      |      |      |
| Democracy Index (V-Dem, 2019) |      |      |      |      |      |      |      |      |      |      |      |      |
| Dependent Variable is GDP Per Capita Growth Rate in 2020 |      |      |      |      |      |      |      |      |      |      |      |      |
| Dependent Variable is Covid-19-related Deaths Per Million in 2020 |      |      |      |      |      |      |      |      |      |      |      |      |
| Baseline Controls |      |      |      |      |      |      |      |      |      |      |      |      |
| N | 77 | 77 | 89 | 89 | 93 | 93 | 136 | 136 | 142 | 142 | 73 | 73 |

Notes: Panel A reports the 2SLS estimates of democracy’s effect on mean GDP per capita growth rates in 2001-2019, GDP per capita growth rates in 2020, and Covid-19-related deaths per million, using five different IV strategies. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. The p-values are displayed as 0.00 if they are strictly smaller than the 0.005 threshold. The reported F-statistics are from the first-stage regressions of the IVs against the democracy index in 2019. The corresponding first-stage coefficients are in Appendix Table A14. Panel B reports the OLS estimates. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A3.
Table A19: 2SLS Regression Estimates of Democracy’s Effects Before, During, and After the Great Recession

| Panel A: Two-Stage Least Squares | Dependent Variable is Mean GDP Growth Rate in 2001-2007 |
|----------------------------------|---------------------------------------------------------|
| Democracy Index (V-Dem, 2000)    | -2.6  -4.0  -2.6  -3.4  -2.3  -2.4  -1.7  -1.9  -2.7  -2.3  -2.5  -2.9 (0.4) (1.1) (0.5) (0.8) (0.6) (1.5) (1.0) (0.5) (0.5) (0.6) (0.3) (0.4) |
| p-value                          | 0.00  0.00  0.00  0.00  0.12  0.09  0.00  0.00  0.00  0.00  0.00  0.00 |
| Democracy Index (V-Dem, 2007)    | -3.7  -4.3  -3.5  -4.0  -3.2  -2.8  -2.2  -2.0  -3.8  -3.1  -3.4  -3.8 (0.4) (0.6) (0.5) (0.6) (0.6) (1.0) (0.9) (0.9) (0.7) (0.7) (0.2) (0.3) |
| p-value                          | 0.00  0.00  0.00  0.00  0.01  0.02  0.02  0.00  0.00  0.00  0.00  0.00 |
| Democracy Index (V-Dem, 2009)    | -1.5  -1.8  -1.9  -2.5  -1.2  -1.1  -1.3  -1.0  -1.9  -1.6  -1.7  -1.8 (0.2) (0.3) (0.3) (0.5) (0.4) (0.6) (0.5) (0.4) (0.3) (0.4) (0.1) (0.1) |
| p-value                          | 0.00  0.00  0.00  0.00  0.01  0.01  0.01  0.00  0.00  0.00  0.00  0.00 |
| IVs                              | settler mortality, population density, legal origin, language, crops & minerals, all IVs |
| Number of IVs                    | 1 1 1 1 1 1 1 1 1 1 1 1 |

| Panel B: Ordinary Least Squares | Dependent Variable is Mean GDP Growth Rate in 2001-2007 |
|----------------------------------|---------------------------------------------------------|
| Democracy Index (V-Dem, 2000)    | -2.4  -2.5  -2.3  -2.4  -2.3  -2.4  -2.2  -1.7  -2.1  -1.7  -2.4  -2.5 (0.4) (0.5) (0.4) (0.6) (0.4) (0.6) (0.4) (0.5) (0.4) (0.5) |
| Democracy Index (V-Dem, 2007)    | -3.1  -3.2  -3.0  -3.0  -3.0  -3.0  -2.5  -1.9  -2.5  -1.8  -3.1  -3.2 (0.3) (0.4) (0.4) (0.5) (0.4) (0.5) (0.7) (0.9) (0.7) (0.9) (0.3) (0.4) |
| Democracy Index (V-Dem, 2009)    | -1.5  -1.5  -1.5  -1.5  -1.5  -1.5  -1.3  -1.0  -1.3  -1.0  -1.5  -1.5 (0.2) (0.2) (0.2) (0.2) (0.2) (0.2) (0.4) (0.4) (0.4) (0.4) (0.2) (0.3) |
| Baseline Controls                | ✗ ✓ ✗ ✓ ✓ ✓ ✗ ✓ ✓ ✓ ✗ ✓ |
| N                                | 77 77 89 89 93 93 136 136 142 142 73 73 |

**Notes:** Panel A reports the 2SLS estimates of democracy’s effect on mean GDP growth rates in 2001-7, 2008-9, and 2010-19, using five different IV strategies. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. The p-values are displayed as 0.00 if they are strictly smaller than the 0.005 threshold. The reported F-statistics are from the first-stage regressions of the IVs against the democracy index in 2019. The corresponding first-stage coefficients are in Appendix Table A14. Panel B reports the OLS estimates. Columns 1, 3, 5, 7, and 9 have no controls, while columns 2, 4, 6, 8, and 10 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A20: Democracy’s Effect on Economic Growth With Control for Baseline GDP

| Panel A: No Control for Baseline GDP |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Dependent Variable is Mean GDP Growth Rate in 2001-2019 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Democracy Index (V-Dem, 2000) | -2.2 | -3.3 | -2.3 | -3.4 | -1.8 | -1.5 | -1.2 | -1.3 | -2.4 | -1.8 | -2.2 | -2.7 |
| (0.3) | (0.7) | (0.4) | (0.8) | (0.5) | (1.6) | (0.9) | (0.6) | (0.5) | (0.6) | (0.2) | (0.3) |
| Democracy Index (V-Dem, 2000) | -0.2 | -3.9 | -0.4 | -3.5 | 0.7 | -0.5 | -1.8 | -3.0 | -2.2 | -3.4 | -1.3 | -3.4 |
| (1.4) | (1.2) | (1.3) | (0.9) | (2.1) | (2.4) | (1.8) | (1.2) | (1.0) | (1.4) | (0.9) | (0.5) |

| Panel B: Control for Baseline GDP Per Capita |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Dependent Variable is Mean GDP Growth Rate in 2001-2019 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Democracy Index (V-Dem, 2000) | -1.6 | -3.3 | -2.5 | -3.4 | 2.5 | 22.9 | -1.9 | -1.0 | -2.3 | -1.4 | -2.1 | -2.1 |
| (1.0) | (3.6) | (0.7) | (1.1) | (6.2) | (95.1) | (0.7) | (0.5) | (0.8) | (0.7) | (0.3) | (0.3) |
| Democracy Index (V-Dem, 2019) | -4.8 | -5.6 | -2.9 | -3.2 | -4.5 | -8.7 | -3.8 | -4.3 | -3.9 | -4.1 | -3.4 | -4.4 |
| (1.4) | (1.5) | (0.6) | (0.9) | (1.4) | (21.4) | (0.8) | (1.2) | (0.5) | (0.7) | (0.4) | (0.6) |

| Panel C: Control for Baseline Total GDP |  |  |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Dependent Variable is Mean GDP Growth Rate in 2001-2019 | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| Democracy Index (V-Dem, 2000) | -2.2 | -3.6 | -2.5 | -3.4 | -1.1 | 0.2 | -1.5 | -1.2 | -2.6 | -1.9 | -2.2 | -2.6 |
| (0.4) | (1.2) | (0.5) | (0.8) | (1.5) | (3.1) | (1.0) | (0.7) | (0.5) | (0.8) | (0.2) | (0.3) |
| Democracy Index (V-Dem, 2019) | -2.2 | -2.2 | -1.9 | -1.9 | -2.3 | -2.0 | -2.4 | -2.2 | -2.3 | -2.2 | -2.2 | -2.2 |
| (0.3) | (0.3) | (0.4) | (0.4) | (0.4) | (0.4) | (0.6) | (0.3) | (0.4) | (0.3) | (0.2) | (0.3) |

Notes: This table compares the 2SLS regression estimates of democracy’s effect on the mean GDP growth rate in 2001-2019 and the GDP growth rate in 2020 without controls for baseline GDP (Panel A), with additional controls for baseline GDP per capita (Panel B), and with additional controls for baseline total GDP (Panel C). The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 2, 4, 6, 8, 10, and 12 also have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For the GDP growth rate in 2020, we also control for diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. The sample sizes are slightly different from those in Table 2 because this table uses only observations for which all GDP per capita and total GDP data are available. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
### Table A21: Democracy’s Effect on Change in GDP Growth Rates Between 2019 and 2020

| Democracy Index (V-Dem, 2019) | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) |
|-------------------------------|------|------|------|------|------|------|------|------|------|------|
|                               | -0.5 | -0.6 | -0.1 | -0.2 | -0.7 | -0.5 | -0.9 | -1.0 | -0.8 | -0.8 |
|                               | (0.4) | (0.2) | (0.7) | (0.4) | (0.5) | (0.3) | (0.6) | (0.4) | (0.5) | (0.3) |

| IVs                          | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) |
|------------------------------|------|------|------|------|------|------|------|------|------|------|
| Baseline Controls            |      |      |      |      |      |      |      |      |      |      |
| settler mortality            | ✓    | ✓    |      |      |      |      |      |      |      |      |
| population density           |      |      | ✓    |      |      |      |      |      |      |      |
| legal origin                 |      |      |      | ✓    |      |      |      |      |      |      |
| language                     |      |      |      |      |      | ✓    |      |      |      |      |
| crops & minerals             |      |      |      |      |      |      |      |      | ✓    |      |
| N                            | 77   | 77   | 89   | 89   | 93   | 93   | 136  | 136  | 142  | 142  |

**Notes:** This table shows the 2SLS regression estimates of democracy’s effect on (GDP growth rate in 2020)-(GDP growth rate in 2019). The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, median age, and diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A22: 2SLS Regression with Continent Controls

| Democracy Index (V-Dem, 2000) | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Dependent Variable is Mean GDP Growth Rate in 2001-2019 | -1.4 | -2.4 | -1.0 | -1.4 | -0.8 | -0.7 | -0.2 | -6.7 | -3.0 | -1.7 | -0.8 | -0.3 |
| (0.8) | (1.8) | (0.8) | (0.5) | (0.5) | (0.5) | (1.2) | (7.5) | (0.6) | (0.6) | (0.4) | (0.4) | |
| Democracy Index (V-Dem, 2019) | -3.4 | -3.0 | 1.2 | -1.0 | -3.4 | -1.7 | -3.0 | -4.2 | -2.4 | -1.4 | -3.8 | -2.5 |
| (2.6) | (1.3) | (4.0) | (1.6) | (2.1) | (1.3) | (1.9) | (3.6) | (0.7) | (1.4) | (1.2) | (1.0) | |
| Democracy Index (V-Dem, 2019) | 220.7 | 194.0 | -44.9 | 118.3 | 92.1 | 153.8 | 206.0 | -349.2 | 32.7 | 33.1 | 50.1 | 133.5 |
| (106.6) | (44.0) | (201.5) | (76.4) | (30.9) | (42.2) | (216.3) | (390.4) | (37.7) | (118.2) | (28.2) | (41.8) | |
| Baseline Controls | | | | | | | | | | | | |
| N | 77 | 77 | 89 | 89 | 93 | 93 | 136 | 136 | 142 | 142 | 73 | 73 |

Notes: This table shows the 2SLS regression estimates of democracy’s effect on the mean GDP growth rate in 2001-2019, the GDP growth rate in 2020, and Covid-19 deaths per million in 2020 that adds dummy variables for each continent (Africa, Asia, Europe, North America, Oceania, and South America) as controls. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 only control for continents, while columns 2, 4, 6, 8, 10, and 12 also have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
### Table A23: 2SLS Regression with Alternative Democracy Indices

| Panel A | Dependent Variable is Mean GDP Growth Rate in 2001-2019 |
|---------|--------------------------------------------------------|
|         | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) | (11) | (12) |
| Democracy Index (V-Dem, 2000) | -2.2 | -3.3 | -2.3 | -3.4 | -1.8 | -1.5 | -1.2 | -1.3 | -2.4 | -1.9 | -2.2 | -2.7 |
|         | (0.3) | (0.8) | (0.4) | (0.8) | (0.5) | (1.6) | (0.9) | (0.6) | (0.5) | (0.6) | (0.2) | (0.3) |
| Democracy Index (Polity, 2000) | -2.5 | -2.8 | -2.8 | -3.8 | -2.0 | -1.2 | -1.6 | -1.7 | -3.1 | -2.3 | -2.4 | -2.5 |
|         | (0.3) | (0.5) | (0.6) | (1.0) | (0.5) | (1.4) | (1.1) | (0.6) | (0.6) | (0.5) | (0.2) | (0.3) |
| Democracy Index (Freedom House, 2003) | -2.0 | -2.6 | -2.4 | -3.7 | -1.6 | -1.2 | -1.1 | -1.3 | -2.2 | -1.7 | -2.2 | -2.6 |
|         | (0.4) | (0.4) | (0.4) | (0.9) | (0.6) | (1.3) | (0.9) | (0.6) | (0.4) | (0.7) | (0.3) | (0.2) |
| Democracy Index (Economist Intelligence Unit, 2006) | -2.3 | -2.9 | -2.7 | -4.7 | -1.8 | -1.4 | -1.5 | -1.7 | -2.4 | -1.8 | -2.4 | -2.9 |
|         | (0.5) | (0.6) | (0.6) | (1.4) | (0.7) | (1.7) | (1.1) | (0.7) | (0.6) | (0.8) | (0.4) | (0.6) |

| Panel B | Dependent Variable is GDP Growth Rate in 2020 |
|---------|-----------------------------------------------|
|         | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) | (11) | (12) |
| Democracy Index (V-Dem, 2019) | -1.6 | -1.9 | -1.5 | -1.7 | -1.7 | -1.5 | -1.8 | -1.9 | -2.1 | -2.0 | -2.0 | -1.9 |
|         | (0.5) | (0.3) | (0.7) | (0.3) | (0.7) | (0.4) | (0.7) | (0.5) | (0.6) | (0.3) | (0.4) | (0.3) |
| Democracy Index (Polity, 2018) | -2.1 | -2.2 | -2.0 | -2.2 | -2.0 | -1.7 | -2.7 | -2.7 | -2.7 | -2.5 | -2.6 | -2.6 |
|         | (0.4) | (0.3) | (0.6) | (0.3) | (0.6) | (0.4) | (0.8) | (0.7) | (0.4) | (0.4) | (0.2) | (0.3) |
| Democracy Index (Freedom House, 2019) | -1.8 | -2.2 | -1.7 | -2.1 | -1.9 | -1.7 | -2.2 | -2.2 | -2.4 | -2.3 | -2.3 | -2.5 |
|         | (0.5) | (0.3) | (0.7) | (0.3) | (0.7) | (0.5) | (0.8) | (0.6) | (0.6) | (0.4) | (0.4) | (0.3) |
| Democracy Index (Economist Intelligence Unit, 2019) | -1.8 | -2.1 | -1.7 | -2.2 | -1.8 | -1.7 | -2.1 | -2.1 | -2.4 | -2.4 | -2.3 | -2.5 |
|         | (0.5) | (0.3) | (0.7) | (0.4) | (0.7) | (0.5) | (0.8) | (0.6) | (0.6) | (0.4) | (0.4) | (0.3) |

| Panel C | Dependent Variable is Covid-19 Deaths Per Million in 2020 |
|---------|-----------------------------------------------------------|
|         | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) | (11) | (12) |
| Democracy Index (V-Dem, 2019) | 348.3 | 332.0 | 348.7 | 363.7 | 297.4 | 308.3 | 437.0 | 432.2 | 277.4 | 358.2 | 329.1 | 369.1 |
|         | (75.0) | (37.2) | (70.3) | (25.7) | (80.1) | (51.6) | (133.6) | (78.6) | (68.2) | (48.5) | (56.1) | (24.9) |
| Democracy Index (Polity, 2018) | 453.9 | 400.1 | 471.8 | 463.6 | 348.7 | 355.9 | 598.5 | 612.9 | 310.5 | 388.7 | 330.3 | 416.0 |
|         | (146.5) | (60.1) | (162.6) | (58.8) | (130.0) | (79.2) | (257.4) | (165.8) | (103.1) | (84.6) | (76.1) | (58.1) |
| Democracy Index (Freedom House, 2019) | 388.2 | 398.4 | 412.2 | 450.0 | 317.5 | 342.5 | 532.7 | 507.9 | 293.0 | 381.0 | 348.0 | 421.6 |
|         | (95.1) | (51.1) | (105.7) | (45.4) | (103.8) | (74.9) | (190.4) | (106.2) | (88.6) | (67.8) | (71.1) | (38.3) |
| Democracy Index (Economist Intelligence Unit, 2019) | 373.2 | 383.7 | 407.3 | 460.5 | 311.7 | 342.4 | 521.2 | 498.2 | 304.2 | 406.6 | 334.0 | 417.7 |
|         | (93.1) | (56.5) | (104.3) | (46.2) | (103.9) | (80.0) | (173.9) | (105.7) | (83.3) | (65.4) | (72.8) | (41.3) |

**Notes:** This table compares the results of 2SLS regressions on the mean GDP growth rate in 2001-2019 (Panel A), the GDP growth rate in 2020 (Panel B), and Covid-19-related deaths per million in 2020 (Panel C) using democracy indices by V-Dem, Polity, Freedom House, and the Economist Intelligence Unit. When data for the democracy index does not exist for the baseline year, we use the value from the closest year. We normalize all indices to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. The estimates in this table are slightly different from those in Table 2 because this table uses only observations for which all of the democracy indices are available. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
| Panel A | Dependent Variable is Mean GDP Growth Rate in 2001-2019 |
|---------|------------------------------------------------------|
| Democracy Index (Weighting: GDP) | -2.2 | -3.3 | -2.3 | -3.4 | -1.8 | -1.5 | -1.2 | -1.3 | -2.4 | -1.8 | -2.2 | -2.7 |
| (0.3) | (0.7) | (0.4) | (0.8) | (0.5) | (1.6) | (0.9) | (0.6) | (0.5) | (0.2) | (0.3) |
| Democracy Index (Weighting: Population) | -1.5 | -2.2 | -3.9 | -4.4 | -0.9 | -1.0 | -3.0 | -2.8 | -3.3 | -1.7 | -1.6 | -1.9 |
| (0.9) | (1.0) | (2.2) | (1.5) | (1.0) | (1.0) | (0.7) | (0.7) | (1.0) | (0.7) | (0.5) | (0.5) |
| Democracy Index (Weighting: None) | -1.4 | 0.9 | -1.6 | -1.9 | -1.3 | -2.1 | -1.4 | -1.5 | -1.2 | -0.7 | -1.6 | -2.0 |
| (0.6) | (3.1) | (0.4) | (0.7) | (2.3) | (5.3) | (0.3) | (0.5) | (0.3) | (0.7) | (0.3) | (0.6) |

| Panel B | Dependent Variable is GDP Growth Rate in 2020 |
|---------|-----------------------------------------------|
| Democracy Index (Weighting: GDP) | -1.7 | -1.8 | -1.5 | -1.7 | -1.7 | -1.5 | -1.8 | -1.9 | -2.2 | -2.0 | -2.0 | -1.9 |
| (0.5) | (0.3) | (0.7) | (0.3) | (0.7) | (0.4) | (0.7) | (0.5) | (0.6) | (0.3) | (0.4) | (0.3) |
| Democracy Index (Weighting: Population) | -5.2 | -2.8 | -1.2 | -2.0 | -5.0 | -3.5 | -2.4 | -2.2 | -2.6 | -3.1 | -3.1 | -2.5 |
| (3.7) | (1.4) | (1.9) | (0.8) | (3.0) | (1.6) | (1.1) | (0.7) | (1.3) | (0.9) | (0.7) | (0.5) |
| Democracy Index (Weighting: None) | -5.2 | -73.2 | -0.8 | 1.1 | 6.8 | 7.0 | -2.8 | -2.2 | -2.8 | -4.2 | -2.1 | 1.4 |
| (4.0) | (554.4) | (2.9) | (4.9) | (8.1) | (7.0) | (1.9) | (3.0) | (1.1) | (2.2) | (2.0) | (3.5) |

| Panel C | Dependent Variable is Covid-19 Deaths Per Million in 2020 |
|---------|----------------------------------------------------------|
| Democracy Index (Weighting: GDP) | 350.0 | 332.3 | 349.1 | 363.7 | 298.1 | 308.3 | 437.5 | 432.0 | 278.5 | 359.0 | 329.3 | 369.2 |
| (75.4) | (37.3) | (70.6) | (25.6) | (80.2) | (51.7) | (133.6) | (78.5) | (68.2) | (48.5) | (56.4) | (24.9) |
| Democracy Index (Weighting: Population) | 514.4 | 305.5 | 414.7 | 391.9 | 41.1 | 155.3 | 467.2 | 433.6 | 307.2 | 291.7 | 260.9 | 323.0 |
| (267.2) | (56.1) | (113.3) | (52.0) | (170.5) | (132.8) | (88.3) | (65.0) | (88.6) | (62.6) | (81.9) | (40.0) |
| Democracy Index (Weighting: None) | 366.8 | -271.4 | 208.6 | 166.3 | -367.1 | -141.3 | 300.4 | 296.4 | 273.9 | -154.1 | 195.9 | 90.6 |
| (150.7) | (3870.6) | (73.3) | (88.4) | (340.0) | (275.2) | (73.2) | (132.8) | (65.2) | (130.4) | (59.3) | (57.5) |

| IVs | settler mortality | population density | legal origin | language | crops & minerals | all IVs |
|-----|------------------|--------------------|-------------|---------|-----------------|--------|
| Baseline Controls | X | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| N | 77 | 77 | 89 | 89 | 93 | 93 | 136 | 136 | 142 | 142 | 73 | 73 |

**Notes:** This table compares the results of 2SLS regressions on the mean GDP growth rate in 2001-2019 (Panel A), the GDP growth rate in 2020 (Panel B), and Covid-19-related deaths per million in 2020 (Panel C) with weighting of observations by baseline GDP, weighting by baseline population, and no weighting. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
| Panel A | Dependent Variable is Mean GDP Growth Rate in 2001-2019 |
|---------|--------------------------------------------------------|
| Democracy Index (V-Dem, 2000) | | |
| | (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) |
| | -2.2 -3.3 -2.3 -3.4 -1.8 | -1.5 | -1.2 | -1.3 | -2.4 | -1.8 | -2.2 | -2.7 |
| | (0.3) (0.7) (0.4) (0.8) (0.5) | (1.6) | (0.9) | (0.6) | (0.5) | (0.6) | (0.2) | (0.3) |
| Include US & China? | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| N | 77 77 89 89 93 93 136 136 142 142 73 73 |
| Democracy Index (V-Dem, 2000) | (1.5) | -0.5 | -2.3 | -5.1 | 4.6 | -20.1 | -0.8 | -1.2 | -1.7 | -0.08 | -1.4 | -0.7 |
| | (0.8) | (3.0) | (1.3) | (4.9) | (8.8) | (62.2) | (1.2) | (0.7) | (0.5) | (1.0) | (0.5) | (0.7) |
| Include US & China? | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| N | 75 75 87 87 91 91 134 134 140 140 71 71 |
| Panel B | Dependent Variable is GDP Growth Rate in 2020 |
| Democracy Index (V-Dem, 2019) | | | |
| | -1.7 -1.8 -1.5 -1.7 | -1.7 | -1.5 | -1.8 | -1.9 | -2.2 | -2.0 | -2.0 | -1.9 |
| | (0.5) | (0.3) | (0.7) | (0.3) | (0.7) | (0.4) | (0.7) | (0.5) | (0.6) | (0.3) | (0.4) |
| Include US & China? | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| N | 77 77 89 89 93 93 136 136 142 142 73 73 |
| Democracy Index (V-Dem, 2019) | -1.5 | -22.7 | 0.2 | 3.1 | 4.0 | -15.7 | -2.4 | -3.0 | -1.8 | -3.7 | -0.8 | -1.7 |
| | (2.1) | (202.7) | (1.4) | (4.1) | (20.2) | (82.3) | (1.2) | (1.3) | (0.9) | (2.0) | (1.2) | (2.6) |
| Include US & China? | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| N | 75 75 87 87 91 91 134 134 140 140 71 71 |
| Panel C | Dependent Variable is Covid-19-related Deaths Per Million |
| Democracy Index (V-Dem, 2019) | | |
| | 350.0 | 332.3 | 349.1 | 363.7 | 298.1 | 308.3 | 437.5 | 432.0 | 278.5 | 359.0 | 329.3 | 369.2 |
| | (75.4) | (37.3) | (70.6) | (25.6) | (80.2) | (51.7) | (133.6) | (78.5) | (68.2) | (48.5) | (56.4) | (24.9) |
| Include US & China? | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| N | 77 77 89 89 93 93 136 136 142 142 73 73 |
| Democracy Index (V-Dem, 2019) | -64.2 | 16004.9 | 205.7 | 364.1 | -4976.4 | -9580.3 | 449.7 | 534.6 | 208.1 | 150.2 | 237.7 | 466.1 |
| | (197.2) | (149508.4) | (150.6) | (274.2) | (21202.9) | (42301.8) | (207.6) | (219.3) | (117.3) | (143.1) | (122.2) | (172.6) |
| Include US & China? | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| N | 75 75 87 87 91 91 134 134 140 140 71 71 |
| IVs | Baseline Controls |
| settler mortality | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| population density | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| legal origin | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| language | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| crops & minerals | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |
| all IVs | ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ ✔ |

Notes: This table compares the results of 2SLS regressions on the mean GDP growth rate in 2001-2019 (Panel A), the GDP growth rate in 2020 (Panel B), and Covid-19-related deaths per million in 2020 (Panel C) under two sample definitions (include the US and China vs. exclude the US and China). The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
|                                | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|--------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| **Democracy Index (V-Dem, 2000)** |     |     |     |     |     |     |     |     |     |      |      |      |
| Dependent Variable is Mean GDP Growth Rate in 2001-2019 | -2.1 | -2.0 | -2.0 | -1.9 | -2.0 | -2.0 | -0.9 | -0.9 | -2.1 | -2.2 | -2.1 | -2.1 |
| N                              | 72  | 75  | 84  | 86  | 87  | 86  | 127 | 126 | 133 | 134  | 68   | 71   |
|                                | (0.3) | (0.4) | (0.3) | (0.4) | (0.4) | (0.4) | (1.0) | (1.0) | (0.4) | (0.4) | (0.3) | (0.3) |
| **Democracy Index (V-Dem, 2019)** |     |     |     |     |     |     |     |     |     |      |      |      |
| Dependent Variable is GDP Growth Rate in 2020 | -1.7 | -1.7 | -1.5 | -1.5 | -1.8 | -1.8 | -1.8 | -2.1 | -2.1 | -2.0 | -2.0 | -2.0 |
| N                              | 75  | 75  | 86  | 86  | 90  | 90  | 134 | 134 | 137 | 136  | 71   | 71   |
|                                | (0.5) | (0.5) | (0.7) | (0.7) | (0.6) | (0.6) | (0.7) | (0.7) | (0.6) | (0.6) | (0.4) | (0.4) |
| **Democracy Index (V-Dem, 2019)** |     |     |     |     |     |     |     |     |     |      |      |      |
| Dependent Variable is Covid-19-related Deaths Per Million in 2020 | 355.9 | 350.0 | 350.1 | 349.1 | 301.5 | 300.4 | 442.6 | 440.9 | 273.1 | 276.5 | 332.6 | 329.3 |
| N                              | 76  | 74  | 88  | 88  | 92  | 89  | 132 | 132 | 138 | 138  | 72   | 72   |
|                                | (74.5) | (75.2) | (69.6) | (70.5) | (78.6) | (78.7) | (136.3) | (135.8) | (71.3) | (70.6) | (55.4) | (56.3) |
| IVs                           | settler mortality | population density | legal origin | language | crops & minerals | all IVs |
| Baseline Controls | √ | √ | √ | √ | √ | √ | √ | √ | √ |

**Notes:** This table shows the results of 2SLS regressions on the mean GDP growth rate in 2001-2019, the GDP growth rate in 2020, and Covid-19-related deaths per million in 2020 excluding countries with a standardized residual above 1.96 or below -1.96. For each 2SLS regression, we run the baseline specification, calculate the fitted values, use the fitted values to calculate the residual in the second stage regression, standardize the residuals to have mean zero and variance one, and finally rerun the 2SLS regression with the sample definition limited to countries that have a standardized residual between -1.96 and 1.96. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A27: 2SLS Regression Excluding G7 Countries

|                      | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| Democracy Index (V-Dem, 2000) | -2.0 | -0.5 | -2.5 | -3.6 | 0.2 | -25.5 | -2.3 | -2.9 | -1.9 | -1.1 | -2.2 | -2.1 |
|                      | (0.5) | (4.6) | (0.7) | (1.6) | (2.8) | (98.4) | (0.6) | (0.8) | (0.6) | (0.5) | (0.3) | (0.4) |

Dependent Variable is GDP Growth Rate in 2001-2019

| Democracy Index (V-Dem, 2019) | -3.1 | -2.8 | -2.1 | -1.4 | -3.7 | 2.9 | -2.5 | -2.9 | -2.3 | -2.0 | -3.0 | -2.8 |
|                                | (1.4) | (1.2) | (0.9) | (1.4) | (1.9) | (16.3) | (0.7) | (1.0) | (0.7) | (0.9) | (0.5) | (0.8) |

Dependent Variable is GDP Growth Rate in 2020

| Democracy Index (V-Dem, 2019) | 88.2 | 9.3 | 203.4 | 334.6 | -108.8 | -2866.5 | 302.9 | 504.2 | 205.0 | 204.5 | 192.5 | 335.0 |
|                                | (91.5) | (158.4) | (108.7) | (98.3) | (178.0) | (7920.8) | (98.4) | (113.3) | (47.4) | (114.1) | (64.8) | (68.0) |

Dependent Variable is Covid-19-related Deaths Per Million in 2020

| IVs                      | settlers mortality | population density | legal origin | language | crops & minerals | all IVs |
|--------------------------|--------------------|--------------------|--------------|----------|-----------------|---------|
| Baseline Controls        | ✓                  | ✓                  | ✓            | ✓        | ✓               | ✓       |
| N                        | 75                 | 75                 | 87           | 87       | 91              | 91      |

Notes: This table shows the 2SLS regression estimates of democracy’s effect on the mean GDP growth rate in 2001-2019, the GDP growth rate in 2020, and Covid-19 deaths per million in 2020 that excludes G7 countries (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) from the sample definitions. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. For outcomes in 2020, we also control for diabetes prevalence. For IVs, columns 1 and 2 use log European settlers mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A28: Democracy’s Effect on Economic Growth by Decade

| Panel A: No Control for Baseline GDP | Dependent Variable is Mean GDP Growth Rate in 1981-1990 |
|------------------------------------|------------------------------------------------------|
| Democrat Index (V-Dem, 1980)      | (1) 0.3 0.1 -1.1 -62.0 0.1 0.6 -0.6 -0.5 -1.0 -0.1 -0.1 0.2 |
|                                    | (0.6) (1.4) (0.8) (420.2) (0.7) (1.0) (0.8) (1.0) (0.6) (1.0) (0.7) (1.0) |
| Democrat Index (V-Dem, 1990)      | (2) -0.9 -7.1 -1.2 -5.2 -0.7 -4.5 0.3 0.6 -1.0 0.3 -1.1 -1.8 |
|                                    | (0.7) (6.6) (0.6) (2.9) (0.7) (6.4) (1.2) (1.0) (0.6) (1.2) (0.6) (0.9) |
| Democrat Index (V-Dem, 2000)      | (3) -2.9 -4.2 -2.8 -3.5 -2.6 -2.8 -1.7 -1.9 -3.0 -2.5 -2.7 -3.1 |
|                                    | (0.4) (1.0) (0.5) (0.9) (0.5) (1.7) (1.1) (0.7) (0.6) (0.6) (0.3) (0.4) |
| Democrat Index (V-Dem, 2010)      | (4) -1.4 -1.7 -1.9 -2.4 -1.0 -1.0 -1.3 -1.3 -1.9 -1.7 -1.6 -1.7 |
|                                    | (0.3) (0.2) (0.3) (0.5) (0.5) (0.6) (0.5) (0.3) (0.4) (0.3) (0.1) (0.2) |

| Panel B: Control for Baseline GDP Per Capita | Dependent Variable is Mean GDP Growth Rate in 1981-1990 |
|---------------------------------------------|------------------------------------------------------|
| Democrat Index (V-Dem, 1980)              | 2.0 1.6 90.4 8.6 1.9 1.4 -0.2 -0.2 -0.7 0.5 1.5 1.5 |
|                                            | (0.9) (0.9) (1941.6) (10.6) (0.7) (0.6) (1.3) (0.9) (1.0) (0.8) (0.7) (0.6) |
| Democrat Index (V-Dem, 1990)              | -0.4 -0.9 -2.5 -4.4 2.4 9.2 0.1 0.7 -0.1 0.3 -1.5 -1.3 |
|                                            | (2.3) (6.5) (1.3) (2.6) (9.6) (342.2) (1.1) (0.8) (0.6) (0.9) (0.9) (0.4) |
| Democrat Index (V-Dem, 2000)              | -1.8 -2.3 -2.2 -3.0 1.2 17.5 -2.2 -1.3 -2.6 -1.8 -2.2 -1.8 |
|                                            | (1.1) (3.5) (0.7) (1.2) (4.7) (662.2) (0.8) (0.5) (0.8) (0.6) (0.5) (0.3) |
| Democrat Index (V-Dem, 2010)              | -0.9 1.5 -3.1 -5.0 1.7 13.1 -1.8 -1.3 -2.4 -1.5 -1.7 -1.0 |
|                                            | (1.2) (4.8) (1.1) (2.5) (3.3) (249.2) (0.7) (0.4) (0.6) (0.4) (0.4) (0.9) |

| Panel C: Control for Baseline Total GDP | Dependent Variable is Mean GDP Growth Rate in 1981-1990 |
|---------------------------------------|------------------------------------------------------|
| Democrat Index (V-Dem, 1980)          | -0.7 -0.2 -3.5 -12.8 0.2 0.6 -3.6 -3.2 -1.0 -0.9 -0.3 0.09 |
|                                       | (0.9) (1.5) (3.1) (14.6) (1.1) (1.1) (3.4) (3.5) (0.6) (1.6) (1.0) (1.0) |
| Democrat Index (V-Dem, 1990)          | -1.1 -7.5 -1.7 -5.1 -0.8 -4.5 -0.5 0.7 -1.4 0.3 -1.5 -2.0 |
|                                       | (0.9) (7.8) (0.7) (2.3) (1.3) (7.5) (1.2) (0.8) (0.6) (1.1) (0.7) (0.8) |
| Democrat Index (V-Dem, 2000)          | -2.7 -4.1 -2.6 -3.5 -1.9 -0.8 -1.7 -1.3 -3.2 -2.3 -2.5 -2.7 |
|                                       | (0.5) (1.6) (0.6) (0.9) (1.4) (3.5) (1.3) (0.7) (0.6) (0.8) (0.4) (0.4) |
| Democrat Index (V-Dem, 2010)          | -1.6 -2.1 -2.1 -2.7 -1.0 -0.7 -1.6 -1.8 -2.1 -2.2 -1.7 -2.0 |
|                                       | (0.2) (0.4) (0.4) (0.5) (0.7) (0.8) (0.4) (0.6) (0.4) (0.3) (0.1) (0.3) |

Notes: This table shows the 2SLS regression estimates of democracy’s effect on mean GDP growth rates in 1981-1990, 1991-2000, 2001-2010, and 2011-2019. Panel A does not control for baseline GDP. Panel B controls for baseline GDP per capita. Panel C controls for baseline total GDP. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 2, 4, 6, 8, 10, and 12 also have the following controls: absolute latitude, mean temperature, population density, and median age. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. The sample size is slightly different from that in Table A27 because this table uses only observations for which all GDP per capita and total GDP growth rate data are available. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A3.
### Table A29: Reduced Form Relationship Between IVs and Economic Growth in 1981-2000

|                                | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) | (11) | (12) |
|--------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Log European Settler Mortality | 0.4  | 0.5  |      |      |      |      |      |      |      | -1.0 | -0.4 |      |
|                                | (0.6)| (0.8)|      |      |      |      |      |      |      | (1.0)| (0.6)|      |
| Log Population Density in 1500s| 0.4  | 1.2  |      |      |      |      |      |      |      | 0.6  | 0.9  |      |
|                                | (0.3)| (0.3)|      |      |      |      |      |      |      | (0.4)| (0.3)|      |
| British Legal Origin           |      |      | -0.3 | -0.2 |      |      |      |      |      |      | -2.1 | -0.7 |
|                                |      |      | (1.3)| (1.4)|      |      |      |      |      |      | (2.0)| (1.0)|      |
| Fraction Speaking English      |      |      | 1.2  | 0.5  |      |      |      |      |      |      | 2.9  | -0.01|
|                                |      |      | (0.2)| (0.6)|      |      |      |      |      |      | (2.5)| (2.0)|      |
| Fraction Speaking European     |      |      | -1.2 | -0.5 |      |      |      |      |      |      | -2.1 | -0.8 |
|                                |      |      | (0.6)| (0.4)|      |      |      |      |      |      | (3.0)| (1.2)|      |
| Bananas                        |      |      | 1.1  | 1.1  | 0.5  | 1.4  |      |      |      |      |      |      |
|                                |      |      | (0.7)| (0.7)| (1.1)| (1.0)|      |      |      |      |      |      |
| Coffee                         |      |      | 0.2  | 0.4  | 0.3  | -1.2 |      |      |      |      |      |      |
|                                |      |      | (0.3)| (0.6)| (0.7)| (1.3)|      |      |      |      |      |      |
| Copper                         |      |      | 0.5  | -0.3 | 0.7  | 1.4  |      |      |      |      |      |      |
|                                |      |      | (0.5)| (0.5)| (1.3)| (1.0)|      |      |      |      |      |      |
| Maize                          |      |      | -0.7 | -0.7 | -1.4 | -2.7 |      |      |      |      |      |      |
|                                |      |      | (0.4)| (0.7)| (3.0)| (1.5)|      |      |      |      |      |      |
| Millet                         |      |      | 0.6  | 0.1  | 0.5  | -1.7 |      |      |      |      |      |      |
|                                |      |      | (0.6)| (0.5)| (1.2)| (1.6)|      |      |      |      |      |      |
| Rice                           |      |      | -0.8 | 0.7  | -1.1 | 2.7  |      |      |      |      |      |      |
|                                |      |      | (0.7)| (0.9)| (2.1)| (1.9)|      |      |      |      |      |      |
| Rubber                         |      |      | 1.9  | 2.3  | 0.7  | 1.8  |      |      |      |      |      |      |
|                                |      |      | (1.7)| (1.4)| (0.8)| (1.1)|      |      |      |      |      |      |
| Silver                         |      |      | 0.03 | -0.4 | -0.03| -1.8 |      |      |      |      |      |      |
|                                |      |      | (0.4)| (0.6)| (1.1)| (1.1)|      |      |      |      |      |      |
| Sugarcane                      |      |      | -0.4 | 0.4  | -0.6 | 0.5  |      |      |      |      |      |      |
|                                |      |      | (0.9)| (0.9)| (2.1)| (1.5)|      |      |      |      |      |      |
| Wheat                          |      |      | -0.3 | -1.1 | -0.6 | -1.0 |      |      |      |      |      |      |
|                                |      |      | (1.3)| (1.1)| (1.8)| (1.3)|      |      |      |      |      |      |

**Baseline Controls**

| N   | 72  | 72  | 81  | 81  | 84  | 84  | 123 | 123 | 129 | 129 | 69  | 69  |

**Notes:** This table shows the results of reduced form regressions of the five sets of IVs against the mean GDP growth rate in 1981-2000. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Columns 1, 3, 5, 7, and 9 have no controls, while columns 2, 4, 6, 8, and 10 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, and median age. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
**Table A30: Democracy’s Effect on Excess Deaths in 2020**

| IVs                                      | Baseline Controls | N   |
|------------------------------------------|-------------------|-----|
| Democracy Index (V-Dem, 2019)            |                   |     |
|                                          | (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) |
| Dependent Variable is Excess Deaths Per Million in 2020 | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 |
| -774 (945)                               | -889 (842)        | -177 (1909) | -889 (842) | -177 (1909) | -889 (842) | -177 (1909) | -889 (842) | -177 (1909) | -889 (842) | -177 (1909) | -889 (842) | -177 (1909) |
| 17631 (76623)                            | 2242 (8109)       | 6708 (11461) | 1170 (1408) | 98 (385)    | 180 (448)   | 1931 (617)   | 180 (448)   | 1931 (617)   | 180 (448)   | 1931 (617)   | 180 (448)   | 1931 (617)   |

Notes: This table shows the results of 2SLS regressions on excess deaths per million in 2020. Excess deaths per million in 2020 is the total number of deaths in 2020 in excess of the number of deaths which we might normally have expected in 2020. The model to calculate the baseline fits a linear trend to years to adjust from long-term increases or decreases in deaths and fixed effects for each week or month. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, median age, and diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A31: Potential Policy Mechanisms Behind Democracy’s Effect in 2020

|                  | (1)  | (2)  | (3)  | (4)  | (5)  | (6)  | (7)  | (8)  | (9)  | (10) | (11) | (12) |
|------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| **Panel A: Severity** |      |      |      |      |      |      |      |      |      |      |      |      |
| Democracy Index (V-Dem, 2019) | -0.5 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.3 | -0.4 | -0.4 | -0.4 |
|                  | (0.07)| (0.04)| (0.05)| (0.03)| (0.06)| (0.04)| (0.08)| (0.05)| (0.06)| (0.04)| (0.04)| (0.02)|
| **Panel B: Coverage** |      |      |      |      |      |      |      |      |      |      |      |      |
| Democracy Index (V-Dem, 2019) | -11.7| -8.9 | -10.4| -9.5 | -9.1 | -8.3 | -9.2 | -9.8 | -9.7 |
|                  | (2.0 )| (0.8) | (1.5 )| (1.7 )| (1.3 )| (2.4 )| (1.2 )| (1.4 )| (0.8 )| (1.2 )| (0.6 )|      |
| **Panel C: Speed** |      |      |      |      |      |      |      |      |      |      |      |      |
| Democracy Index (V-Dem, 2019) | -0.8 | -2.6 | -3.2 | -4.2 | -4.5 | -4.5 | -1.3 | -5.3 | -3.9 | -2.8 |
|                  | (3.2 )| (1.1 )| (2.3 )| (1.3 )| (2.7 )| (1.7 )| (2.3 )| (1.5 )| (1.7 )| (0.8 )|      |      |
| IVs              | Settlement mortality | Population density | Legal origin | Language | Crops & Minerals | All IVs |
| N                | 76 | 76 | 87 | 87 | 91 | 91 | 133 | 133 | 136 | 136 | 72 | 72 |

Notes: This table reports the 2SLS estimates of democracy’s effect on potential policy mechanisms behind democracy’s negative impact in 2020, using five different IV strategies. Panel A reports the 2SLS estimates of democracy’s effect on the containment health index at the 10th confirmed case of Covid-19. It is normalized to have standard deviation one. Panel B reports the 2SLS estimates of democracy’s effect on the coverage of containment measures at the 10th confirmed case of Covid-19. Panel C reports the 2SLS estimates of democracy’s effect on the number of days between the 10th confirmed case of Covid-19 and the introduction of any containment measure. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. Columns 1, 3, 5, 7, 9, and 11 have no controls, while columns 2, 4, 6, 8, 10, and 12 have the following baseline controls: absolute latitude, mean temperature, mean precipitation, population density, median age, and diabetes prevalence. For IVs, columns 1 and 2 use log European settler mortality, columns 3 and 4 use log population density in the 1500s, columns 5 and 6 use British legal origin, columns 7 and 8 use the fraction speaking English and the fraction speaking European, columns 9 and 10 use the ability to grow crops and mine minerals, and columns 11 and 12 use all the IVs together. Robust standard errors are in parentheses. Variable definitions and data sources are in Appendix Table A1.
Table A32: Causal Mediation Analysis of Potential Policy Mechanisms in 2020

|                | Severity | Coverage | Speed |
|----------------|----------|----------|-------|
| **Panel A**    |          |          |       |
| Total Effect of Democracy | -2.8     | -2.8     | -2.8  |
|                 | (3.6)    | (3.6)    | (3.6) |
| Direct Effect of Democracy | -1.5     | -1.6     | -1.3  |
|                 | (1.2)    | (1.0)    | (2.2) |
| Indirect Effect Through Mediator | -1.3     | -1.3     | -1.5  |
|                 | (4.4)    | (4.2)    | (6.4) |
| **Panel B**    |          |          |       |
| Total Effect of Democracy | 363.3    | 363.3    | 363.3 |
|                 | (149.9)  | (149.9)  | (149.9)|
| Direct Effect of Democracy | 109.2    | 119.5    | 91.5  |
|                 | (49.9)   | (42.7)   | (202.4)|
| Indirect Effect Through Mediator | 254.0    | 243.7    | 271.7 |
|                 | (173.4)  | (157.1)  | (701.8)|
| N               | 76       | 76       | 76    |

Notes: This table reports the results of causal mediation analyses of democracy’s effect on each outcome in 2020 with three potential mediators: severity, coverage, and speed of policy responses. All regressions use log European settler mortality as an IV. The Democracy Index (V-Dem) is normalized to have mean zero and standard deviation one. We proxy for severity by Oxford COVID-19 Government Response Tracker’s Containment Health Index at the 10th confirmed Covid-19 case, for coverage by the number of domains the policy covers at the 10th confirmed Covid-19 case, and for speed by the number of days between the 10th case of Covid-19 and the date when the government introduces any containment measure. This analysis implements the causal mediation analysis framework for linear IV models introduced by Dippel et al. (2020). It estimates three effects: (i) the total effect of a single treatment variable (democracy) on the outcome (GDP per capita growth rates in 2020 or Covid-19 deaths per million in 2020), where the treatment variable is instrumented by a single IV (log European settler mortality), (ii) the direct effect of treatment on the outcome, net of the effect of the mediator, and (iii) the indirect effect (mediation effect) of a mediator (severity, coverage or speed of initial response) through which the treatment variable affects the outcomes. Under linearity, the resulting identification framework is estimated using three separate 2SLS estimations of the effect of treatment on the mediator, the effect of treatment on the outcome, and the effect of the mediator on the outcome conditional on treatment. All regressions are unweighted. The estimates in this table are slightly different from those in Table A24 because this table uses only observations for which data for all mediators are available. Robust standard errors are in parentheses.
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