# Economic Development and Democracy: Predispositions and Triggers

Scholars continue to disagree about the relationship between economic development and democracy. I review the history of the debate and summarize patterns visible in data available today. I show there is a strong and consistent relationship between higher income and both democratization and democratic survival in the medium term (10-20 years), but not necessarily in shorter time windows. Building on several recent studies, I sketch out a new "conditional modernization theory," which can account for such lags. The key idea is that the effect of development on democracy is triggered by disruptive events such as economic crises, military defeats, or—most generally—leader change. Political outcomes depend on both the development level and—at intermediate income ranges—how citizens coordinate. Waves of leader turnover in autocracies correlate with temporarily stronger links between income and democratization, which, in turn, coincide with the first two waves of democracy.

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## Introduction

Does economic development cause societies to adopt democratic systems of government? Are democracies with higher income more likely to survive? These questions have been asked and answered many times. Yet, they return periodically, as new generations reignite the old debates with expanded datasets, novel statistical models, and reframed historical arguments.

The idea that economic advances lead to positive changes in political practices can be traced to the Enlightenment conception of progress, in the works of Turgot, Condorcet, Adam Smith, and others. Some credit Aristotle with first linking democracy to affluence, although he associated good government with equality rather than higher income per se. Later, Marx and Durkheim saw the roots of social and political modernity in the economic transformations of the Industrial Revolution. Liberals like Viscount Bryce (1921, pp.31-2) attributed the broadening of British democracy to "the upward economic progress of the middle and humbler classes, which made it seem unfair to keep them in tutelage."

Like Marx, the post-war "modernization theorists" saw the forces that reshaped $19^{th}$ Century Europe as a systematic package that—they conjectured—would repeat in the decolonizing countries of Asia and Africa. There, too, industrialization, urbanization, occupational specialization, social differentiation, broader education, and consequent cultural changes would undermine traditional power structures. Unlike Marx, they envisioned as endpoint not communist utopia but popular government. Their belief in a universal logic was criticized by some as ethnocentric and insensitive to the ways that global capitalism limited development in the periphery. But were the modernization theorists right?

A first wave of challenges focused on exceptions. Germany and Japan industrialized but did not immediately become stable democracies. The Soviet Union and its East European satellites remained communist, even as their scientists probed space and pioneered missile technology. In the 1970s, military juntas took over the most economically advanced countries of Latin America. These cases motivated theories of alternative, illiberal paths to modernity (Moore 1966, O'Donnell 1988).

What is most interesting now about these counterexamples is that none lasted. Germany, Japan, Argentina, Chile, and Uruguay have been democratic for decades. The Soviet Union collapsed, yielding 15 new countries and liberating its East European allies. Almost all are more democratic today than 30 years ago. Fascist and bureaucratic-authoritarian regimes have proved both rare and temporary deviations from a common path rather than pioneers of alternative ones. Even communism, although far more durable than fascism, turned out to be more detour than destination.[1]

The second wave of attacks on modernization theory, in the late 1990s and 2000s, was primarily empirical and methodological. First, Adam Przeworski and colleagues found strong evidence that higher income prevented democracies from reverting to dictatorship—but none that development caused democratization. Failing "to detect any thresholds of development that would make the emergence of democracy predictable,"

[1] Other anomalies include poor countries that have sustained democracy, such as India. However, if modernization theory is to be interpreted probabilistically—as Lipset, for example, clearly intended (1959, p.72)—some exceptions, of both types, are to be expected.

they concluded that “modernization theory appears to have little, if any, explanatory power” (Przeworski et al. 2000, p.137).

Second, Daron Acemoglu, James Robinson, and their colleagues also failed to find an effect of income on democratization. Once fixed effects for countries and years were included in regressions, the estimated impact of income was close to zero and not statistically significant. They proposed an alternative view of the development process, rooted in colonial era history. Countries that had adopted “inclusive institutions” more than 500 years ago developed both productive economies and democracy—but without the first causing the second. Countries that had adopted “extractive institutions” developed neither productive economies nor democracy (Acemoglu et al. 2008, Acemoglu et al. 2014).

If that seemed like the last word, it wasn’t. A series of papers soon questioned the empirical critique. Both the Przeworski et al. analysis and the main models of Acemoglu et al. had focused on years between 1950 and 2000 (although Acemoglu et al. also examined a 25-year panel extending back to 1875). Boix & Stokes (2003), Boix (2011), and Murtin & Wacziarg (2014) showed that, when all years since the mid-19$^{th}$ Century were included, economic development—proxied by income or primary education—did significantly predict democratization, as well as democratic survival. (Acemoglu et al.’s 25-year panels apparently failed to pick this up because they only included 25 countries for which data were available for all years.)

Other papers showed that indicators of development had a larger and more significant effect when the democracy measures were adjusted for top-censoring (Benhabib et al. 2011) or when the system-GMM estimator was used (Bobba & Coviello 2007). (This performs better than dynamic fixed effects or Arellano-Bond difference-GMM in the presence of slowly changing regressors. Acemoglu & Robinson (2018) argue, however, that the assumptions necessary for system-GMM are not met in this context.) I found that the effect of income was large and statistically significant when measured in the medium run (10-20 years) rather than the very short run (1-5 years) (Treisman 2015).

At the same time, alternative accounts of the spread of democracy seemed less than fully convincing. Differences in colonial history could well be important. Yet the argument of Acemoglu, Robinson, and colleagues left mechanisms and dynamics—as well as the precise components of "extractive" and "inclusive" institutions—unspecified. Political systems around the globe have changed dramatically since the colonial era. But little of the variation in political orders today can be explained by countries' colonial era institutions. Less than one fifth of the variation in current regime type can be predicted using the origin of countries' legal systems and their colonial history (whether they were colonized and if so by whom). Among former colonies, less than one tenth of the variation in democracy today can be explained by colonial era settler mortality, supposedly a key exogenous cause of institutional divergence (see Table A1 in Supplemental Materials).[2]

[2] As North, Wallis, and Weingast (2009, p.15) point out, the "same institution produces different results depending on the context." In an innovative new treatment, they introduce the concept of an "open access order" (OAO), which means something like a liberal democracy with open political competition and impartially enforced rule of law, including protection of the right of citizens to form political and economic organizations. Since they do not provide a developed theory of how, where, and when OAOs emerge (beyond positing three "doorstep conditions" and suggesting that elites broaden access in their own interest) and since as they note "no straightforward measures of our concepts exist" (2009, p.263), it is not completely clear how this maps conceptually or empirically onto the debates and evidence about economic development and democracy.

If the early modern world was characterized by "reversals of fortune," as Britain and its offshoots outstripped the tropical and Asian powerhouses of the past (Acemoglu et al. 2002), the late 20th Century saw considerable political catchup. Countries with some of the worst colonial era institutions have since adopted systems of free government. Panama and Indonesia, where settler mortality was high, have both been democratic now for decades. An explanation in terms of critical junctures reached five hundred years ago leaves the puzzle of how to account for all this subsequent change.

## Stylized facts c. 2020

What do currently available data reveal about economic development and democracy? A few points stand out. I illustrate with graphs or tables either in the text or in the accompanying supplemental materials, available on the journal's website. To measure development, the literature generally uses per capita income, although—as will become clear—it is at best an imperfect proxy. I mostly use the Maddison project's historical GDP per capita estimates (Bolt et al. 2018), occasionally turning to other indicators such as education levels. Scholars differ on the best way to measure democracy and democratization. I, therefore, use five alternative thresholds to identify regime changes. These are:

1) a score of 6 or higher on the 21-point Polity2 scale, which ranges from -10 ("pure autocracy") to +10 ("pure democracy") (Marshall & Jaggers 2018);

2) the holding of at least minimally competitive elections (from the Lexical Index of Electoral Democracy (LIED) database (Skaaning et al. 2015)).

3) the holding of competitive elections in which at least 50 percent adult males may vote (Boix et al. 2013);

4) the holding of at least minimally competitive elections in which all adult males may vote (from LIED (Skaaning et al. 2015));

5) classification as a "liberal democracy" (on the VDEM project's regime index (Coppedge et al. 2019)).

Democratization is defined as upward movement across—and authoritarian reversion as downward movement across—the given threshold. When a quasi-continuous measure of regime type is needed, I use the full Polity2 scale.

### *Transitions over time*

Over the last 200 years, as authoritarian states have grown richer they have transitioned to democracy more often. As democracies have grown richer, they have reverted to authoritarianism less often. Both these statements are true in the medium—but not necessarily the short—run. And they express probabilistic relationships rather than deterministic rules: some poor countries democratize and some rich ones remain authoritarian, although both tend to return to the pattern over time.

Table 1 demonstrates, using the five democracy indicators. For ease of interpretation, I use the base 10 logarithm of income and estimate linear probability models, including country and year fixed effects, and using panels constructed to contain every first, fifth, tenth, or twentieth year in the data since 1820. The table shows the estimated increase in the frequency of transition that is associated with a tenfold increase in GDP per capita.

The results are quite consistent across indicators. While the effect of income on democracy is weak and imprecisely estimated in the 1-year and most 5-year panels, it is strong in the 20-year and generally also the 10-year ones. While a country's income today provides little information about whether regime change will occur in the coming year, income is strongly related to whether transition will occur during the next 20 years. For instance, the estimated probability that an authoritarian state will transition to a system with at least minimally competitive elections during the next two decades is .69 higher if the country has per capita income of $10,000 a year than if it has income of $1,000 a year. The estimated probability that the richer country will adopt competitive elections with universal male suffrage is .55 higher, and that it will transition to liberal democracy .23 higher. As for the impact on democratic survival, a (Polity2) democracy's estimated probability of still being democratic 20 years later rises from around 0 to certainty as the country's income per capita increases from $2,000 to $10,000 a year.[3]

### *Crossnational correlations*

In most years since 1850, income has correlated crossnationally with democracy, as measured by the Polity2 scale (Figure A1 in Supplemental Materials). From 1850 to 1972, correlations varied between a low of r = .39 in 1968 and a high of r = .74 in 1919. The correlation remained strong even as individual states moved around in the distributions. Particular countries temporarily appeared exceptional. Nazi Germany,

[3] Boix (2011) gets similar results instrumenting for income in four alternative ways. (Although no instrument is perfect, the consistency of results increases confidence in a causal relationship.) He also shows that income Granger causes democratization, but democracy does not Granger cause income growth. Acemoglu et al. (2019) contend, however, that "democracy does cause growth."

fascist Italy, and authoritarian Argentina all seemed at one time or another to be "too rich" for their autocratic institutions. Yet all three democratized in subsequent decades.[4] From 1973, the crossnational correlation became much more variable, disappearing completely in some years. The main reason was the emergence of rich, authoritarian oil exporters. Excluding countries that annually produced more than $2,000-worth of oil or gas per capita, the correlations between income and Polity2 in years since 1973 remain high, ranging from r = .40 in 2014 to r = .68 in 1977.

[4] The proximate cause in all three cases was military defeat; I return to this.

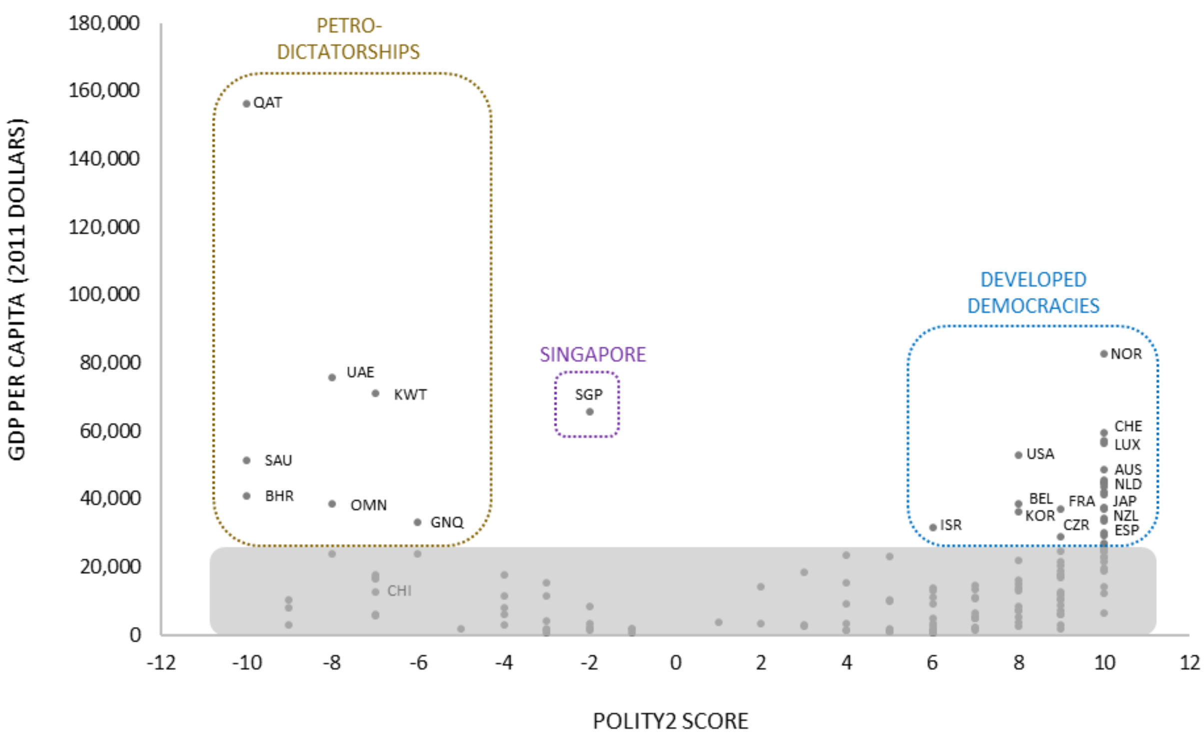
**Table 1: Estimated effect of a 10-fold increase in GDP per capita on the frequency of transition to or from democracy**

| | *A. To democracy* | | | | *B. From democracy* | | | |
|---|---|---|---|---|---|---|---|---|
| ***Type of panel:*** | **1-year** | **5-year** | **10-year** | **20-year** | **1-year** | **5-year** | **10-year** | **20-year** |
| ***Democracy threshold:*** | | | | | | | | |
| **Polity2 at or above 6**[a] | 0.003 | 0.034 | 0.213 | 0.497 | 0.047 | 0.276 | 0.606 | 1.415 |
| | (0.012) | (0.058) | (0.099) | (0.193) | (0.035) | (0.147) | (0.223) | (0.374) |
| N | 7,978 | 1,591 | 771 | 327 | 4,692 | 863 | 362 | 123 |
| **Competitive elections (LIED)**[b] | 0.015 | 0.103 | 0.369 | 0.692 | 0.0120 | 0.0283 | 0.0538 | 1.280 |
| | (0.015) | (0.058) | (0.117) | (0.204) | (0.034) | (0.133) | (0.196) | (0.426) |
| N | 7,249 | 1,475 | 713 | 307 | 5,394 | 1,d031 | 443 | 146 |
| **Competitive elections with at least 50% male suffrage (BMR)**[c] | 0.008 | 0.090 | 0.267 | 0.550 | 0.015 | -0.056 | 0.161 | 1.411 |
| | (0.014) | (0.051) | (0.113) | (0.241) | (0.033) | (0.13) | (0.219) | (0.489) |
| N | 7,743 | 1,571 | 765 | 324 | 5,036 | 970 | 416 | 147 |
| **Competitive elections with universal male suffrage (LIED)**[b] | 0.001 | 0.053 | 0.247 | 0.549 | 0.0322 | 0.0647 | 0.165 | 1.033 |
| | (0.014) | (0.054) | (0.105) | (0.189) | (0.040) | (0.163) | (0.238) | (0.469) |
| N | 7,999 | 1,623 | 789 | 343 | 4,644 | 883 | 367 | 110 |
| **Liberal democracy (VDEM)**[d] | 0.014 | 0.070 | 0.129 | 0.227 | -0.082 | -0.131 | -0.114 | 1.006 |
| | (0.008) | (0.036) | (0.056) | (0.126) | (0.038) | (0.101) | (0.167) | (0.531) |
| N | 10,212 | 2,006 | 945 | 375 | 2,265 | 413 | 177 | 57 |

Main figure shown is the marginal effect of log(10) GDP per capita on the probability of transition, estimated with a linear probability model: $d_{i,t} = by_{i,t-1} + \gamma_i + \varphi_t + \varepsilon_{i,t}$ (Panel A: if $d_{i,t-1} = 0$; Panel B: if $d_{i,t-1} = 1$), where: $d_{i,t} \equiv$ democracy dummy, $y_{i,t} \equiv$ log(10) of GDP per capita in 2011 dollars, and $\gamma_i$ and $\varphi_t$ are country and year fixed effects. $t$ refers to panel period, not necessarily year. Panels contain every $t$'th observation. Robust standard errors clustered by country in parentheses. Liberal democracy dummy is constructed from VDEM's *v2x_regime* variable. Income data are from Maddison dataset 2018 version (Bolt et al. 2018). [a] Data from Polity IV (Marshall & Jaggers 2018). [b] Data from LIED (Skaaning et al. 2015). [c] Data from Boix et al. (2013). [d] Data from VDEM 9.0 (Coppedge et al. 2019).

### *The three types of rich country*

In the history of the world there have been three—and only three—groups of countries with income above about $25,000 per capita: A) a growing contingent of developed democracies, B) a handful of repressive dictatorships with massive oil revenues, and C) the affluent and moderately authoritarian Singapore (Figure 1). Of course, other development paths may be possible in future. But so far countries have become extremely rich in only these three ways—as democracies, as authoritarian states with enormous oil revenues, or as Singapore. China, with its rapid growth over the past three decades, is sometimes thought exceptional. But, as the graph shows, with GDP per capita in 2016 under $15,000, it is still in a range where authoritarianism remains quite common. It is not yet more anomalous than Uzbekistan or Iran.




<u>Figure 1: Income and Democracy, 2016</u>

Data from Bolt et al. (2018), Polity IV.

## Oil and modernization

As Figure 1 documents, certain major oil producers have remained authoritarian despite having the highest GDP per capita in the world. These countries were not always exceptional. “Until the 1970s, oil producers were just as democratic—or undemocratic—as other countries,” according to Ross (2012, p.63). And oil has never impeded democracy in Latin America (Dunning 2008), for reasons scholars debate (Ross 2012, pp.85-6).

However, since the 1970s skyrocketing oil prices have coincided with—and likely caused—a trend towards control of hydrocarbons by governments rather than international corporations (Guriev, Kolotilin, and Sonin 2011). Massive oil wealth, controlled by authoritarian incumbents, may impede democratization in several ways. It may enable rulers to buy off citizens—with cheap gasoline and state jobs—rather than bargain with them over tax rates (Ross 2012, pp.66-7). It may increase rulers’ fear of power-sharing because the assets they control are easy to expropriate (Boix 2003). Finally, oil rents may preempt the growth of manufacturing and the associated socioeconomic changes that modernization theorists saw as driving political reform.

Rather than an exception to modernization theory, the Persian Gulf petro-dictatorships may actually fit the pattern. Although extremely wealthy, they show a deficit in industrialization, incorporation of women, and education levels. A comparative advantage in oil retards manufacturing by pushing up the exchange rate (“Dutch Disease”). The lack of light industries such as textiles and clothing slows the absorption of women into the workforce and with it their social and political emancipation (Ross

2012, pp.111-32). Education rates in major oil producers are low for their level of income (Figure A2). Although enrollments have risen, the education stock within the population—both male and female—is lower than typical. Rather than developing autonomy, citizens in petrostates remain dependent on the government for rents. Given these facts, it seems more accurate to say that the Persian Gulf states have grown rich without modernizing than that their experience contradicts modernization theory (Inglehart and Welzel 2005, p.45). Indeed, the failure of oil-rich states to democratize despite partial modernization offers clues about which aspects of development matter most for political reform.

## Conditional modernization theory

Table 1 showed that income correlates with democratization mostly in the medium to long run. Why? One reason could be that economic development creates only a predisposition towards democracy. Some additional factor is required to trigger regime change. And such triggering factors occur only intermittently. Within any given year, the trigger may be quite unlikely to fire, but within a 10-year period the odds are much higher.

What might such factors be? Recent work suggests several possibilities. One is economic crisis. Kennedy (2010) showed that such crises increase the probability of regime change, the direction of which is then determined by the country's level of development. In richer autocracies, the change is to democracy; in poorer ones, it is usually to another authoritarian regime. Miller (2012) argued that violent leader replacement activates the income effect. He interpreted coups or revolutions as signs of underlying regime fragility.

Whereas strong, united autocracies could weather the stresses of modernization, those weakened by internal divisions succumbed—if they were wealthy—to pressures for popular government.[5]

I found (Treisman 2015) that all types of leader turnover in autocracies—even peaceful handovers and those caused by natural deaths in office—trigger the income effect. (I confirmed Kennedy's finding that economic crisis activates the effect—but only if the crisis prompts leader change. Similarly, military defeat catalyzes the effect of income, but only if it forces out the ruler.) A corollary of this is that economic development prompts democratization mostly during a new leader's early years. Incumbents that survive for some time become entrenched and less vulnerable to challenges even if their countries modernize.

Elections might also trigger the development effect—again, if they result in leader change. Knutsen et al. (2019) find that subcomponents of democracy related to electoral competition are more strongly linked to income than others such as deliberation or egalitarianism. In modern autocracies, elections that are meant just for show sometimes prove unexpectedly competitive, endangering the incumbent leader and regime (Lindberg 2009).

One can view these arguments as variants of an emerging "conditional modernization theory." Each sees economic development as driving democratization, but only when activated by some short-term, triggering event, which opens the door to regime change.

[5] Jones and Olken (2009) find that assassinations of authoritarian leaders increase the odds of democratization.

In the rest of this section, I suggest how such a theory could improve upon both the original modernization theory and its rivals, accounting better for historical experience and explaining additional aspects of the democratization process.

For instance, conditional modernization arguments may help explain the temporal clustering of regime change. Democratization episodes have unfolded in three waves, with two reverse waves of authoritarian backsliding in between (Huntington 1993). In fact, almost three quarters of the net increase in the number of (Polity2) democracies since 1820 occurred in just four concentrated bursts—1917-21, 1944-50, 1988-95, and 1999-2007. The most intense reversal came in the 1930s, when the number of democracies fell from 22 to 10 in eight years (Figure A3).

Some attribute such clustering to diffusion of ideas or learning, as regime opponents are emboldened by the fall of nearby dictatorships (Brinks and Coppedge 2006, Weyland 2014). This could, indeed, have contributed. Another possibility is that waves occur when some international phenomenon causes triggers to fire around the same time in multiple autocracies. For instance, global recessions and financial crises, world wars, or sudden shifts in the international system may transmit similar shocks to many authoritarian states, dislodging leaders and opening the door to regime change, which takes a democratic form in the more developed dictatorships (on international power shifts, see Gunitsky 2017).

There is some evidence for this. Across the world's dictatorships, the rate of leader change has varied significantly over time (see bars in Figure 2). Did global surges of leader turnover activate the development effect worldwide?

Measuring change in the influence of development is methodologically tricky, and there are problems with just about any way of doing it. So to examine this I used three alternative models, all regressing regime type on the lagged log of income in 10-year panels. The first model included country and decade fixed effects and interacted income with all the decade dummies; the second did the same except without country fixed effects; the third consisted of a series of regressions, including both country and decade fixed effects, and interacting income with (a different) one of the decade dummies in each regression (the exact equations are in the Supplemental Materials). Although the level of the estimated income effect varied across models, the pattern of change over time turned out to be similar for all (see middle lines in Figure 2).

As Figure 2 shows, the strength of the relationship between income and democratization closely tracks the ups and downs in leader turnover. Both leader turnover and the income effect spike during the first and second democratization waves. During the third wave, leader turnover rose by a smaller amount—and so did the income effect. In that wave, poorer countries such as Haiti and Pakistan were swept up among richer ones such as Hungary and South Korea. In short, surges in leader change coincide with—and seem to trigger—a stronger tendency for more developed autocracies to democratize. Such surges may help explain the first two democratization waves, but leader change was less important in the third.

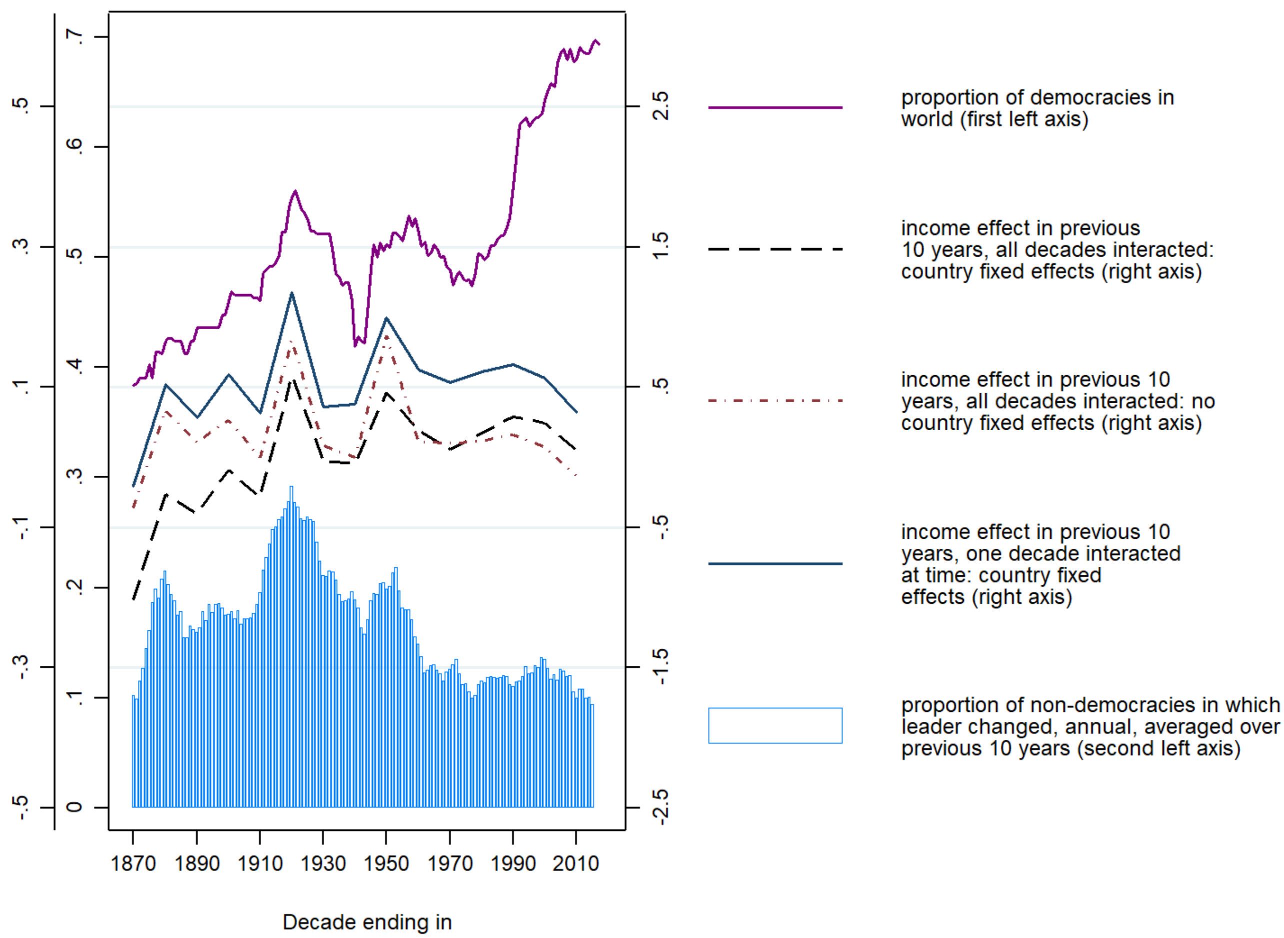



Figure 2: Leader Turnover, Income Effects, and Democratization (Polity 2 Democracies)

Data from Bolt et al. (2018), Polity IV, and Archigos (Goemans et al. 2009).

Conditional modernization theory offers insight into another recurring question in the democratization literature. Scholars have struggled to understand how static or slowly changing social, economic, and cultural characteristics of countries ("structure") interact with contingent actions and events ("agency") to produce regime change. Some—e.g., the original modernization theorists, Inglehart and Welzel (2005)—focus on structure; others—e.g. O'Donnell and Schmitter (1986)—emphasize agency. Yet, structural theories have difficulty explaining the exact timing of democratization episodes, while agency-based alternatives can say little about why democratization occurs in some countries and not others. Conditional modernization theory suggests one way to reconcile the two perspectives. Structure—here, a country's level of economic development—determines its readiness for democracy; agency—here, choices of key actors, or events that they precipitate—pins down the timing of transition.[6]

Slightly more formally, one might think of regime change as a game with multiple equilibria. For some range of income levels, both democratic and authoritarian equilibria exist; which occurs depends on how actors coordinate to oppose or support the incumbent. Coordination matters because, given the risk of punishment, citizens will only revolt if they believe many others will join them (see, e.g., Kuran 1991, Edmond 2013). Similar coordination issues govern elite defection. As development advances, the parameter space consistent with only democratic equilibrium grows; that consistent with only authoritarian equilibrium shrinks; and that consistent with both types of equilibrium at first expands and then shrinks (Figure 3). Exogenous shocks or endogenous events can perturb the coordination scheme—the set of mutually consistent beliefs of actors about the preferences and strategies of others—perhaps leading, when both types of equilibrium

[6] Some other conditional arguments see the effect of development as activated not by some short-term event but by some other structural factor—e.g., the level of state intervention in the economy (Tang and Woods 2014) or the international dominance of a democratic power (Boix 2011). Such approaches, focused on the interaction of two rarely or slowly changing factors, would seem to predict stable or gradually changing propensities to democratize rather than the rapid bursts that we see in the data. Gunitsky (2017) sees democratization as triggered not by the existence of a democratic hegemon (à la Boix) but by sudden changes in the system. This fits the data better. Still, this raises the question why the most intense bursts of democratization seem to have begun (in 1917 and 1944) slightly before the military victories that left democrats regionally or globally dominant or (in 1988) before the collapse of an anti-democratic superpower.

exist, to a switch from one to the other. The same perturbations, when only one type of equilibrium exists, produce only change of leader, not regime.

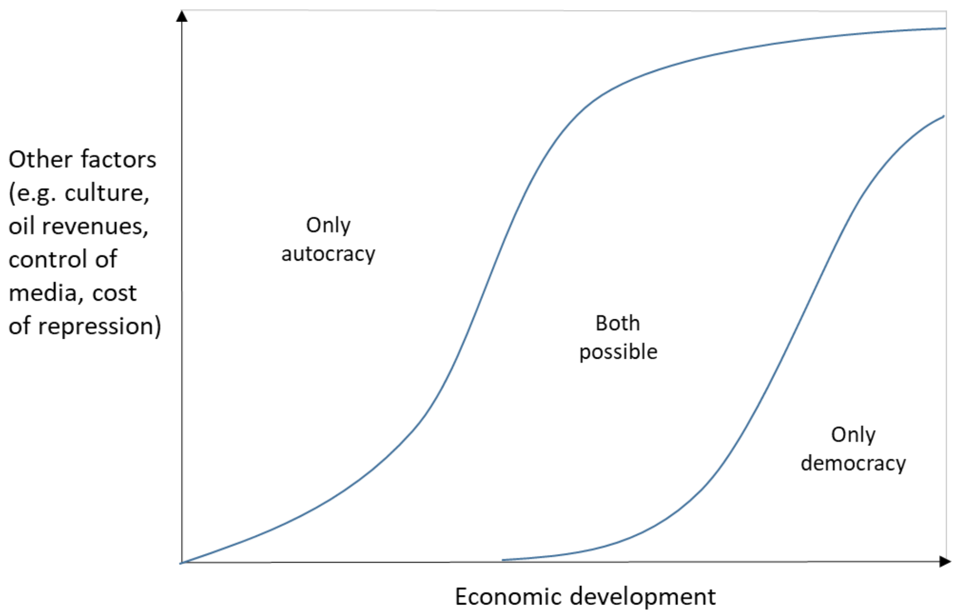



Figure 3: Economic Development and Regime Equilibrium Possibilities

This view can accommodate various observations sometimes thought to contradict modernization theory. First, there need not be any income threshold at which all autocracies democratize. Within the parameter space where both equilibria are possible, triggering factors can tip actors from coordinating on one equilibrium to coordinating on the other. An economic crisis, military defeat, or even a natural disaster may provide a focal point, mobilizing opposition (Ahlerup 2013). Such transitions may occur at a range of development levels. Conversely, even at relatively low development levels within the intermediate parameter space, democracy may be sustained by broad, coordinated beliefs about the limits of the state and inadmissibility of electoral fraud (e.g., Fearon 2011, Weingast 1997).

Second, other factors also matter. Given plentiful oil revenues or an undemocratic culture, an authoritarian equilibrium may still exist even at high levels of economic development. (Some—although not all—versions of modernization theory assumed development would homogenize cultures and weaken religious attachments. In fact, as Inglehart and Welzel (2005) show, cultural differences remain and condition the speed at which socioeconomic modernization leads to democracy.) Third, at intermediate development levels, countries can switch back and forth between democracy and autocracy for reasons that have little to do with development per se. Argentina, for instance, was consistently authoritarian until 1912, when its income reached almost $7,000. It then flipped back and forth between authoritarianism and at least minimally competitive democracy until 1983, when its income approached $13,000, before remaining consistently democratic after that as income rose to around $19,000.[7]

Triggers may fire for reasons beyond the incumbent autocrat's control. A global recession may undermine his economy. He may die of natural causes. But often economic crises, wars, and other causes of leader turnover arise endogenously, at least in part because of mistakes made by the ruler. Germany, Italy, and Argentina democratized after Hitler, Mussolini, and Galtieri proved—mercifully—fallible on the battlefield or in palace politics. In a study of all past democratizations, I found that roughly two thirds were prompted by non-optimal decisions by incumbents (Treisman 2017). Indeed, such

[7] Income levels from Bolt et al. (2018); democracy indicators here from LIED and BMR.

mistakes may be a common element behind many of the processes that trigger democratization.

How do triggers prompt regime change? As suggested, they may disrupt the prevailing coordination scheme, creating focal points for mass opposition or insider defection. But they may also work in other ways. Economic crises may reduce state revenues needed for repression and lower the opportunity cost of popular rebellion. They may expose the incumbent's incompetence, eroding his support. Economic crises and wars may tempt incumbents—especially new ones—to experiment with political reforms that end up weakening the state.

## Income and growth

Growth is simply the first derivative of income. Thus, many assume both must have the same impact on regime change. In fact, their effects are quite different. High income, if associated with other key aspects of development, threatens autocrats. It makes authoritarian states more likely to democratize, at least when change is triggered. High growth, by contrast, tends to entrench authoritarian leaders and regimes by increasing public contentment and state revenues (Bueno de Mesquita and Smith 2010, Kennedy 2010).

This creates a dilemma for dictators. Should they support economic growth, or try to prevent it? In the short run, higher growth helps them survive. But in the long run, it transforms society, rendering citizens richer, more educated and independent and hence readier to demand self-government. When a dictator does step down after modernizing, he often struggles to hand over to a successor who will preserve the old regime.

In theory, authoritarian rulers might be able to separate growth from the riskier aspects of modernization. As noted, some major oil-producers have combined high income with continuing patriarchy, relatively low education levels, and limited industrialization. Other authoritarian states such as China and Russia are clearly trying to defuse the dangers of development by manipulating news media and restricting political organization (Bueno de Mesquita and Downs 2005, Roberts 2018). But so far, among states without enormous oil revenues, only Singapore has managed to do this for any length of time without undermining growth.

The disjunction between growth and income helps explain why apparent exceptions to modernization theory continually emerge—only to transit unexpectedly to democracy. Dictatorships that enjoy booming economies look deceptively secure because of the stabilizing impact of growth. Yet, continuing development in fact renders them increasingly vulnerable. In Indonesia, per capita income tripled under Suharto's authoritarian leadership, topping $6,000 a year. As of 1996, his rule looked as steady as ever (Liddle 1996). Two years later, street protests forced him out, prompting a jump to democracy. In the Soviet Union under Brezhnev, no democratization occurred even as the country urbanized and education rates soared. Only after Gorbachev's arrival a few years later did the dénouement arrive. In both cases, the transformative effect of gradually accumulated development was triggered by a sharp shock to growth.

## How modernization contributes

By what mechanisms does economic development promote democratization? Although high income is a useful proxy for the entire process, it is probably not itself the main element. Aspects of modernization could work either by motivating and enabling ordinary people to demand power ("demand side factors") or by increasing the readiness of incumbents to share it ("supply side factors"). Consider first the demand side.

Industrialization transforms society. It draws former peasants, used to living side by side but interacting little—in Marx's words, "like potatoes in a sack"—into continual contact in the factories, streets, and slums of the new cities. Freed from dependence on landlords, far from the priest's sermons, workers can share grievances, form labor unions, and organize strikes and protests.

Thus, a first consequence of industrialization may be to **mobilize labor**. Some have emphasized the importance of this in democratization (Rueschemeyer, Stephens and Stephens 1992, Therborn 1979). Especially at times of war, the need to recruit mass armies from the ranks of urban workers, who are more organized and whose time has a higher opportunity cost than that of peasants, could motivate governments to extend political rights (on the politics of conscription, see Levi 1997). Yet, others see the workers' purported contribution in early cases as "overstated" (Collier 1999, p.14). The former peasant may merely replace his dependence on a landlord with dependence on an employer. When workers do protest and strike, their goal is often economic benefits, not political reform.[8]

Although there are certainly cases of militancy, the real revolution in early industrialization is more often that of Weber than that of Marx. Personal authority is

[8] Acemoglu and Robinson (2005), although dismissive of modernization theory, also see mass mobilization as key to democratization; they just see mobilization as prompted by exogenous shocks rather than economic development. Besley and Persson (2011, p.33) also view reforms as compromises made by incumbents in response to pressure from organized labor and others.

replaced by bureaucracy and formal rules. Traditional and religious values yield to "secular-rational" ones (Inglehart and Welzel 2005). This bureaucratic phase is not necessarily democratic: it can generate technocratic authoritarianism. In early industrialization, factor accumulation and reallocation drive growth more than productivity increases. And these, as Stalin showed, can be accomplished by force.

As industrialization progresses, it has other consequences. Besides turning peasants into workers, it creates a class of property owners and professionals, who seek political rights to protect their interests. From Marx and Engels (1848) to Barrington Moore (1966), and recently Ansell and Samuels (2014), writers have seen representative government as the triumph of a capitalist bourgeoisie over a landed aristocracy. Pressure for—at least partial—democracy may come from an increasingly affluent **middle class** (Fukuyama 2014, pp.436-44).

The bargaining power of new groups will depend on how easy they are to tax (Bates and Lien 1985). As the economy develops from farming (on immoveable land) to industry (with capital sunk in factories), to the information sector (with capital in the form of ideas and skills), asset owners become less vulnerable to confiscation. The emergence of international finance also allows them to shield wealth abroad. In order to raise revenues, rulers may feel obliged to offer something in return, giving tax-payers rights to monitor and influence how the money is spent. The increasing **intangibility of assets** can, thus, result in representative government and ultimately democracy.

Over time, development also boosts demand for **education**. In early 19th Century Britain, most workers were illiterate. Later, as new production processes increased the need for skilled labor, industrialists lobbied for public schooling. Between 1870 and 1900, enrollment of 10-year-olds in the UK rose from 40 to 100 percent (Galor 2011, pp.30-4). Murtin and Wacziarg (2014) estimate that half the increase in democracy worldwide between 1870 and 2000 resulted from the spread of primary education. Tertiary education may also be important (Sanborn and Thyne 2014).

Education may increase pressure for political reform in several ways. First, schools teach people skills they need to fight for political rights. Students learn to communicate effectively, organize groups, negotiate common plans, and navigate the legal environment. Second, education enhances individuals' sense of efficacy, giving them confidence to participate. Third, higher literacy creates a market for newspapers and other media, which can stimulate critical thinking about politics and coordinate public opinion. Fourth, tertiary education generates a key ingredient of many revolutions: college students, the "universal opposition" (Huntington 1993, p.144). Although some students agitate for undemocratic causes (e.g., Iran 1979), others call for democracy (e.g., Greece 1973-4).

Finally, education may cause value change, fostering a demand for equality and transparent government. Of course, this presupposes that curricula and pedagogical methods embody democratic values, rather than aiming to socialize participants into authoritarian beliefs and practices. Cantoni et al. (2017) found that a new Chinese school curriculum introduced in the 2000s fostered skepticism about "unconstrained democracy." Moreover, what matters may be the spread of education across society rather than the depth of education among elites; in 19th Century Europe, the highly literate often strongly opposed extending suffrage to the illiterate.

A third demand-side mechanism is the **changing nature of work** as modernization progresses. Early on, routinized tasks lend themselves to regimentation and discipline. But in the post-industrial knowledge economy, assignments require creativity, individual judgment, and flexibility. Rather than tightening screws, workers "spend their productive hours dealing with people, symbols and information" (Inglehart and Welzel 2005, pp.27-8). At this point, secular-rational values lose ground to "self-expression values," which emphasize individual autonomy, free choice, and political participation. Demands for democracy follow. Inglehart and Welzel (2005, pp.186-204) present considerable evidence that value change, driven by economic development, has in recent decades preceded regime change in many countries.

On the supply side, some argue that higher **income** should render the elite readier to share power. In this view, the wealthy resist democracy out of fear the poor majority will expropriate them. But, as their wealth grows, the diminishing marginal utility of income leads them to worry less. The upper classes give in, according to Lipset (1959, p.84), when "there is enough wealth in the country so that it actually does not make too much difference if some redistribution does take place."

This does not seem completely convincing. The rich may not care much about their marginal dollar, but it is not clear why the poor would expropriate only at the margin. Unless otherwise protected—for instance, by asset mobility (see below)—the rich should fear the poor will take it all. Moreover, the idea that democratization occurs when a wealthy elite agrees to it turns out not to fit most historical cases. Often, incumbents were overthrown by revolutions or forced out by generals who cared little about the former rulers' assets. When incumbents did agree to share power, they were often not wealthy elites but a left-wing junta or a discredited party (Treisman 2017).

As noted already, wealthy citizens can bargain harder for institutional concessions when their assets are hard to tax. Similarly, a rich ruling elite may be less afraid of expropriation by a poor majority if its wealth is in inaccessible forms (Boix 2003). The same evolution towards intangible **human and informational capital** that occurs in later stages of economic development could, thus, render rulers readier to accept power-sharing.

This argument, like the previous one, sees the main obstacle to democratization in the rich incumbent's fear that democracy will increase redistribution. But this assumption—common since Aristotle—may not be accurate. In fact, some autocracies are highly redistributive: there are left-wing dictators as well as right-wing ones. Albertus (2015, p.1) shows that authoritarian governments have seized and reallocated land more often than democratic ones. Moreover, democratization has often *not* increased redistribution. After a comprehensive examination of income and inheritance taxes in the West, Scheve and Stasavage (2016, p.14) conclude that: "Democracy alone was insufficient to produce heavier taxation of the rich." If democracy does not increase redistribution, and may even protect property more reliably than autocracy, then rich incumbents—except, perhaps, for the dictator himself—should favor democratization rather than resisting it. And they should favor it most of all before economic development renders their assets less vulnerable. In short, supply-side explanations have weaknesses.

By what mechanisms does economic development protect democracies against reversion? In fact, these are the same as those that facilitate transition. For instance, the organizational, communications, legal, and technical skills produced by **education** enable citizens to monitor incumbents and prevent reintroduction of authoritarian controls. Active independent **media** can scrutinize officials and coordinate resistance. Self-expression **values** motivate citizens to resist backsliding.

## Conclusion

To recap, as authoritarian states develop economically, they transition to democracy more frequently. As democracies develop economically, they less often revert to authoritarianism. These patterns are visible in the medium term (10-20 years), but not necessarily in shorter time windows. Past "exceptions" to modernization theory have mostly democratized, reaffirming the pattern. Today, various petrostates appear exceptional, but in fact their modernization is highly incomplete, so continuing autocracy is not surprising. The one anomaly that is harder to rationalize is Singapore.

The lags between development and democratic transition do not invalidate modernization theory. Rather, they suggest the value of a new, conditional version.[9] In this view, income—along with other factors such as history and resource endowments—determines what political regimes could constitute equilibria in a given setting. At low development levels, only authoritarian equilibria exist; at high levels, only democratic ones do. At

[9] Some might consider this less an adaptation of modernization theory than an alternative to it. So long as conditional modernization theory yields new insights and testable hypotheses, I am not sure that much rides on this distinction. Certainly, conditional modernization theory differs from that of Lipset and others.

intermediate levels, both authoritarian and democratic equilibria exist. Which occurs depends on how citizens coordinate. The coordination scheme in place may be disrupted by triggering factors such as leader change. If the origin of the disruption is international—for instance, a global recession or world war—it may affect multiple autocracies simultaneously, producing waves of democratization among those that have modernized. However, the trigger may also be endogenous, resulting from missteps by the individual ruler. While high income levels favor democracy, high growth rates entrench authoritarian incumbents. Thus, dictators face a dilemma: in selecting economic policy, they must trade off short term security against long term regime survival.

Economic development may affect democracy through various mechanisms. Among "demand side" factors, development could work by mobilizing workers, expanding and strengthening the bargaining power of the middle class, spreading education, and—in later stages—transforming the nature of work. Increasing education can, in turn, hasten transition by enhancing citizens' political skills and efficacy, fueling growth of independent media, swelling the cohort of protest-prone college students, and reshaping values. Education, independent media, and values change may also impede backsliding. On the supply side, some see higher income and greater asset mobility as attenuating redistributive conflicts, but I am not convinced such conflicts are central to democratization.

Questions remain. Will Singapore continue as the one glaring exception to the pattern, or will it democratize in coming years? Will new technologies of surveillance and censorship enable dictators to maintain control even as their economies modernize? Sergei Guriev and I (2015) have argued that Singapore's Lee Kuan Yew pioneered a new, less violent model of autocracy in which incumbents manipulate information to ensure mass support. We believe continuing modernization eventually undermines even this more sophisticated model. But it is hard to be sure. Just as the political logic of post-industrial society differs from that of the early industrial era, the age of artificial intelligence and big data may have surprises in store (Boix 2019).

A challenge for future research is to understand better how the different elements of modernization contribute to regime change. Given their complex interactions, the most promising approach may be close analysis of historical cases to trace the interplay between education, workplace changes, evolving values, and political reforms in particular countries. For those who see potential in the conditional modernization paradigm, the next step will be to develop it from a general approach into a fully specified theory, with novel, testable implications.

I remain skeptical about the ambition of certain institutionalist accounts that—to exaggerate slightly—present all political change as unfolding in a predetermined sequence from some institutional "big bang" in the 1500s. To be more convincing, such theories would need to state more precisely what are the institutions in question and how they can be observed rather than imputed from positive behaviors that they are supposed to explain. And they would need to trace out in detail the supposed autonomous path of institutional evolution that led to democracy, identifying the non-economic logic that drove the process forward at each point, and explaining variation in the timing of transitions across countries.

When, 60 years ago, Lipset published his now-seminal article, he did not think that, in linking democracy to economic development, he was saying anything new. This idea was already, as he put it, “[p]erhaps the most widespread generalization linking political systems to other aspects of society” (Lipset 1959, p.75). Since then, the median income of countries around the world has more than quadrupled, while the number of democracies has more than tripled. That the second of these changes followed from the first remains almost certainly the most widespread generalization in political economy. For all the methodological and evidentiary difficulties in proving it, there is plenty of reason to believe that it is true.

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