

ECONOMIC DEVELOPMENT AND DEMOCRACY

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■ **Abstract** In this essay, I review recent research on the effects of economic development on democracy. On the theoretical side, for the first time there has been a systematic attempt to bring the types of formal models developed by economists and political scientists outside of comparative politics to bear on the origins of democracy. I present a simple analytical framework that captures some of the results in this literature. On the empirical side, the issue of identifying causal relationships in the data is finally receiving attention. However, the application of techniques adopted from best-practice econometrics shows no evidence that economic development has a causal effect on democracy. Neither does it support the idea that economic development influences the probability of coups but not democratizations. More likely, and in line with the model I develop, income per capita and democracy are correlated because the same features of a society simultaneously determine how prosperous and how democratic it is. There is still a lot to learn on this topic.

1. INTRODUCTION

The modern world has been dominated by two great divergences. One is the “great divergence” (Pomeranz 2000) in per capita incomes that has taken place since 1800. The other, less discussed divergence is that which has taken place in democracy. Just as some countries started to become much more prosperous than others in the nineteenth century, some started to become much more democratic than others. Interestingly, these groups of countries are the same. In this essay, I discuss recent research on the extent to which these two divergences are causally related. To keep the discussion focused, I concentrate only on causality from economic development to democracy.

Trying to understand this correlation has not always been a focus of research by political scientists. Although it was central to the modernization research agenda laid out by Lipset (1959), other scholars, explicitly or implicitly, denied its validity. For instance, Moore (1966) saw no simple process of modernization in the modern world with higher income per capita leading to greater democracy. In his scheme, only under some specific circumstances would prosperity and democracy go together. Alternative conditions led to communist revolution or fascism rather than democracy. Indeed, the notion that the sort of modern technologies closely

connected with rising productivity and income per capita would lead to authoritarianism seems to have been very prevalent in the first half of the twentieth century (e.g., Orwell 1949). The connection between per capita income and democracy was also attacked by O'Donnell (1973) as lacking explanatory power in the context of Latin America. Research collected in *The Breakdown of Democratic Regimes* (Linz & Stepan 1978) rejected the formulating and testing of hypotheses about the origins of democracy in favor of a more case study-based research agenda with a focus on mechanisms and contingent events.

From our vantage point in the year 2005, neither national socialism nor communism, though fascinating social phenomena, appear to be interesting absorbing states for political development. Though one cannot know what might have happened if Germany and Japan had triumphed in the Second World War, the past 50 years have seen the successive collapse of nondemocratic regimes and a clear drift toward democracy. In consequence, following Rueschemeyer et al. (1992), it is important to place case study research in the context of these big empirical facts. Nevertheless, doing so does not imply a simple acceptance of modernization theory.

Recent research has generated one important achievement and begun to make progress on a second, but has yet to broach a third crucial issue. The main achievement is theoretical and comes from the persistent attempt to use mathematical models and game theory to model democratization. This has systematized a lot of what we knew from the case study literature and generated many new insights. In particular, it has begun to provide us with a framework that can help us reason more systematically about the relationship between economic development and democracy. In the next two sections, I present a simple model that captures some of these developments. The second area on which progress is beginning to be made is empirical. From Lipset (1959) right through to the past few years, empirical work on the determinants of democracy has estimated statistical models in which some measure of democracy is the dependent variable. Unfortunately, this literature has paid little attention to the issue of the identification of causal relationships. We know democracy and income per capita are correlated, but we still do not know they are causally related, even though it is very common to interpret the existing literature as telling us they are. There is some progress here, but there is much to be done. Finally, even the most recent empirical literature tends to test very general models of the impact of socioeconomic or institutional variables on democracy. There is a big gap between the theory and the testing, and as far as I know no empirical paper has ever tested an explicit theoretical mechanism. This is an exciting area for future research, but it will almost certainly entail moving beyond macro cross-country data.

2. A MODEL

To organize our thinking, I now introduce a simple model, derived from the work of Acemoglu & Robinson (2000, 2001, 2006), in order to discuss some of the ideas that have been suggested to explain the creation and consolidation of democracy.

This model particularly emphasizes the role of external pressure on a nondemocratic regime as the driving force that leads to democracy. I subsequently show how it can be extended to introduce other mechanisms. I conceive of a nondemocratic (I use this term and “dictatorship” interchangeably) society as being controlled by some group of people who, for want of a better word, I describe as the “elite.” The elite may be any group, such as the Chinese Communist Party, the Tutsi military in Burundi, or the landowners of the Pampas in nineteenth-century Argentina. Society consists of the elite and the citizens, and the latter are more numerous but disenfranchised in a dictatorship.

Although the elite are in power today, this power can be contested by the collective action of the citizens. Citizens can engage in riots, demonstrations, strikes, and, in the limit, revolution to force the elite from power. The elite can respond to such threats by making concessions of various types. However, concessions to defuse collective action are not necessarily credible when the elite maintain power. This is because the ability to solve the collective action problem is inherently transitory. Today there may be a window of opportunity to have a revolution, but tomorrow the chance may be gone. Faced with the threat of revolt today, a nondemocratic elite may want to offer policy concessions in order to make the political status quo more tolerable for the citizens. Yet if they maintain power, they will have no incentive to deliver on these promises once the threat vanishes.

If concessions are not credible, then they will not reconcile the citizens to the existing regime. In this case, the elite have two options: They can either repress the citizens and use force rather than concessions to stay in power, or they can give that power away—they can democratize.

To see when these options are relevant and thus to study the circumstances under which democracy arises, consider Figure 1. Think of time as consisting of a today and a tomorrow. For simplicity, it is also useful to think of policy concessions in terms of income redistribution, although more generally this could be any policy over which the elite and the citizens have diverging preferences, such as labor market institutions, market regulation, immigration policy, or foreign policy. On the horizontal axis is plotted income redistribution chosen by the elite today. On the vertical axis is income redistribution promised for tomorrow. Because redistribution from the elite to the citizens is a “good” for the citizens, we can think of their utility increasing as we move to the top right of the figure. A typical indifference curve of the citizens is drawn in the figure. This shows the combinations of current and future redistribution that give the citizens a particular level of utility U^c . For the elite, redistribution is a “bad,” and the better off the citizens are, the worse off the elite are. This implies that the utility of the elite is greater the closer we are to the origin. The figure also shows an indifference curve of the elite, labeled U^e . These two indifference curves embody the standard assumption of diminishing marginal rate of substitution between redistribution today and redistribution tomorrow, and the reason they slope in different ways is that redistribution is a good for the citizens and a bad for the elite.

We can think of the citizens’ ability to engage in collective action as implying a “revolution constraint” (Acemoglu & Robinson 2006, Ch. 5). In the terms of our

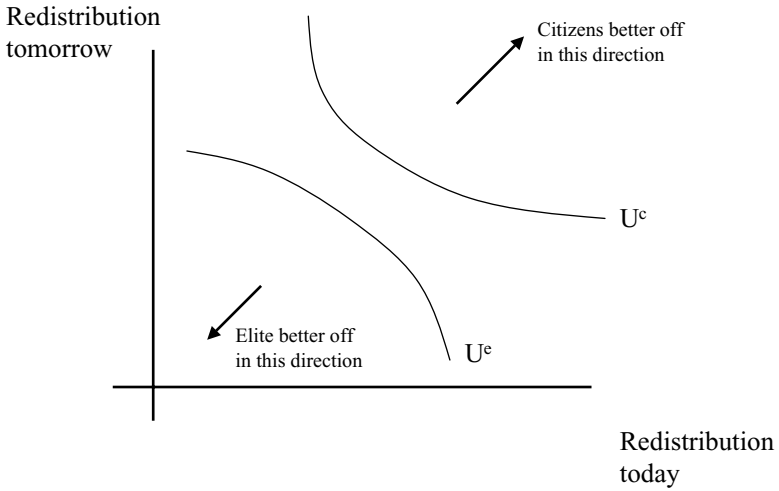


Figure 1 Preferences over income redistribution.

diagram, this means that the elite have to deliver a particular level of utility, which I denote U^R , to avoid a revolution. The indifference curve corresponding to U^R is marked in Figure 2. The position of this indifference curve will be determined by many factors. For instance, to the extent that the citizens have an ideological dislike for living under a dictatorship, the elite will have to provide more redistribution to avoid a revolution (at least if utility is transferable, i.e., money can substitute for ideology). This means that U^R will be further from the origin and consequently harder to satisfy.

The first thing to understand is the circumstances under which promises of redistribution by the elite will be sufficient to avoid revolution. To show when this happens, I have drawn in Figure 2 a locus CC that represents a combination of redistribution today and tomorrow that the elite can promise. This vertical line cuts the x axis at a particular amount of redistribution today. Consider a situation where the citizens can threaten a revolution today, but tomorrow the threat may be gone. This implies that today the maximum amount of redistribution that the elite can offer is the amount most preferred by the citizens. Think of CC as vertical at this point, which I label T^c . This is the level of redistribution that the citizens themselves would choose if they had power. The lack of perfect credibility means that the elite cannot offer this amount tomorrow. If they could, then the top of CC would correspond to T^c on the vertical axis. However, because tomorrow the threat of revolution may vanish, the maximum amount of redistribution that the elite can promise is less than T^c ; I denote this T^{\max} . The less credibility the elite has, the lower T^{\max} is relative to T^c . The crucial question is whether CC intersects the upper contour set of U^R . If it does, then there is a credible amount of redistribution today and tomorrow that can give the citizens U^R and will therefore keep the elite

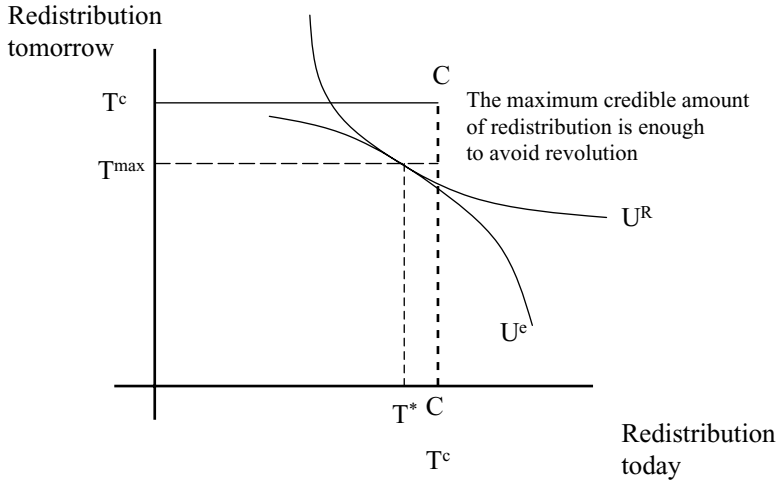


Figure 2 When redistribution satisfies the revolution constraint.

in power. In this case, the outcome is that the elite pick the amount of redistribution that they prefer subject to satisfying the revolution constraint. This is the situation shown in Figure 2, where the optimal combination is T^* today and T^{\max} tomorrow. (For simplicity, the figure is drawn so that it is optimal for the elite to choose T^{\max} tomorrow, but this will not generally be the case.)

Figure 3 shows what happens when the revolution constraint cannot be satisfied. Here, even if the elite offer a policy combination of (T^c, T^{\max}) , the revolution constraint will be violated. Hence, concessions cannot maintain the political status quo and the elite have to choose an alternative. One option is to democratize—to give power to the citizens. In this case, in the crudest model of democracy where the citizens rule, they will choose a policy combination of (T^c, T^c) . Since the citizens are choosing the level of redistribution themselves, there is no issue of credibility with setting T^c tomorrow because this is the level of redistribution that they themselves prefer. Note the important fact that since (T^c, T^c) is inside the upper contour set of U^R , democracy is preferred to revolution.

The alternative to creating democracy is to use repression. To show when this will be more attractive than conceding democracy, I first define U^{eD} in Figure 3 as the level of utility of the elite corresponding to the creation of democracy given that democracy chooses the policy vector (T^c, T^c) . This is just the indifference curve of the elite, which cuts (T^c, T^c) . Let κ denote the cost of repression. The effect of repression is to make it much easier to satisfy the revolution constraint. For simplicity, consider repression as a discrete action rather than something that can vary in intensity. To model this in Figure 3, I mark in the indifference curve U^{cO} (for oppression) for the citizens, which is closer to the origin. If the elite repress, shifting U^R to U^{cO} , then they will pick a combination of redistribution that is best

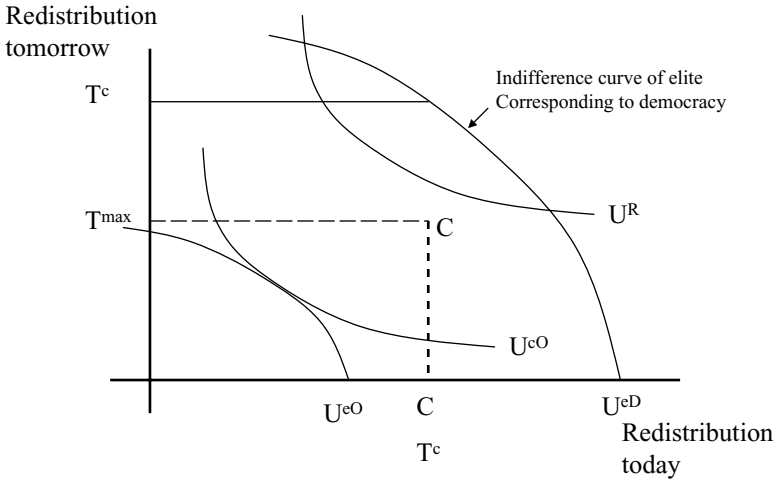


Figure 3 When redistribution cannot satisfy the revolution constraint.

for them—one that is given by the tangency between U^{cO} and U^{eO} . Now, mapping the utility levels U^{eD} and U^{eO} onto the x axis, we can think of the difference $U^{eO} - U^{eD}$ as being the utility benefit to the elite of using repression to avoid having to give away democracy. This shows that if $U^{eO} - U^{eD} \leq \kappa$, then the elite will democratize because concessions are not credible and repression is sufficiently costly to be unattractive. On the other hand, if $U^{eO} - U^{eD} > \kappa$, then the elite will use repression.

It should be clear from this analysis that even when redistribution can avoid a revolution, as in Figure 2, if repression is sufficiently cheap, then it may be preferable to using income redistribution. However, I abstract from the analysis of this case (see Acemoglu & Robinson 2006, Ch. 6).

2.1. Some Comparative Statics of the Model

This analysis provides a simple analytical framework for understanding the circumstances in which democracy is created. The model says that democracy will be created when (a) there is a threat of collective action; (b) concessions are insufficiently credible; and (c) the cost of repression is high relative to the cost (for the elite) of democracy. The comparative statics of the model tell us the circumstances in which these conditions are likely to arise. Here I discuss only some of the potential ideas.

2.1.1. THE REVOLUTION CONSTRAINT The first condition is that there must be some threat of collective action for democracy to be created. One precondition for this is that civil society probably has to be sufficiently dense—or, in the language

of Putnam (1993), there must be sufficient social capital. In terms of Figures 2 and 3, if civil society is too disorganized, then there may be no revolution constraint at all. If there is one, an increase in social capital moves the revolution constraint out, making it harder to satisfy. Historically, it seems that the development of civil society and the changing nature of collective action, perhaps linked to the rise of newspapers and the factory system, largely explains why democracy surged in many places in the nineteenth century (Habermas 1989, Tilly 1995, Tarrow 1998).

The revolution constraint does not depend only on structural factors that influence the ability of citizens to solve the collective action problem; it also depends on how discontented they are. This in turn can depend on many things, particularly inequality. When the degree of inequality between the elite and citizens is not too large, citizens may be more content under the political status quo. Rising inequality makes revolution more attractive, and in Figures 2 and 3 this would be another factor that would shift the revolution constraint out.

2.1.2. SHOCKS AND CRISES Democratizations occur because of the transitory nature of the threat of revolution. In some situations, the collective action problem will be easier to solve, opponents to the regime easier to coordinate, and revolutions easier and less costly to carry out. These will typically be times of crisis, for example, times of harvest failures, economic depressions, international financial or debt crises, or even wars. Such crises and macroeconomic shocks are intrinsically transitory and lead to short-term fluctuations in the ability to solve the collective action problem. Our theory therefore predicts that democratizations are more likely to arise in a situation of economic or political crisis that is consistent with the observation (Therborn 1977) that democratizations often follow wars and consistent with the evidence of Haggard & Kaufman (1995), Przeworski et al. (2000), and Acemoglu et al. (2005b).

2.1.3. SOURCES OF INCOME AND COMPOSITION OF WEALTH An important determinant of the trade-off between democracy and repression is the source of the income of the elite. This can affect both the cost of repression, κ , and the extent of redistribution in democracy, (T^c, T^r) . In some societies, the elite are heavily invested in land, whereas in others, the elite are those with investments in physical and human capital. There are likely to be three major differences in the attitudes of landowners and (physical and human) capital owners toward democracy and nondemocracy. First, land is easier to tax than physical and human capital. Therefore, landowners have more to fear from democracy than from nondemocracy. This makes them more averse to democracy. Second, social and political turbulence may be more damaging to physical and human capital owners, who have to rely on cooperation in the workplace and in the trading process. This will make landowners more willing to use force to preserve the regime that they prefer. Third, different sets of economic institutions are feasible in a predominantly agrarian economy, and these influence the relative intensity of elites and citizens

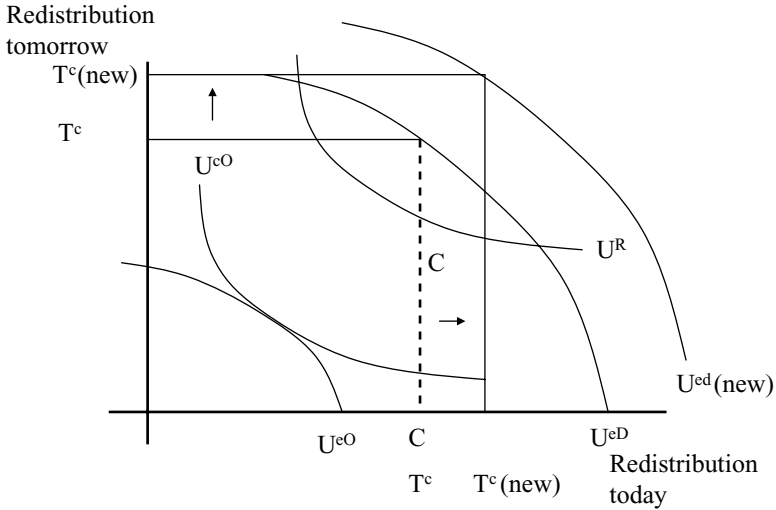


Figure 4 Some comparative statics of the model.

preferences over different regimes. For instance, labor-repressive institutions such as slavery are more efficient with agricultural technology than they are in industry. This implies that democracy is worse for elites, since the changes in collective choices that it brings will undermine their preferred set of economic institutions. All three considerations imply that democratization will be more likely in a more industrialized society, where the elite own significant physical and human capital, than in a more agricultural society, where the elite are mainly invested in land. Put differently, democracy is more likely when the elite are industrialists than when they are landowners.

Figure 4 illustrates some of these results. If the elite are landowners, this increases (T^c, T^c) to $[T^c(new), T^c(new)]$. Thus, the elite face more redistribution in a democracy. This makes them worse off, as is clear from the fact that the indifference curve of the elite, labeled $U^{eD}(new)$, which cuts $[T^c(new), T^c(new)]$, is further from the origin than U^{eD} is. If κ is also smaller for a landowning elite, then it is clearly more likely that $U^{eO} - U^{eD}(new) > \kappa$ will be satisfied and repression will be preferred to democracy.

2.1.4. POLITICAL INSTITUTIONS The discussion in the previous subsection shows that once concessions are infeasible, what is central is the cost of democracy for the elite compared to the cost of repression. Thus the model encompasses Dahl's (1971) theory of democratization, which is that incumbents will democratize when either (a) the cost of tolerating the opposition falls, so that they are prepared to enfranchise them, or (b) the costs of suppression become too high (see pp. 15–16). The nature of democratic political institutions will also be crucial in determining how tolerable democracy is. In particular, when the elite can use repression to

avoid democratizing, they do so because they anticipate that democracy will be harmful to their interests. But how harmful democracy actually is depends on how the detailed structures of democratic institutions aggregate preferences. In reality, elites can form political parties, lobby, and use other potential sources of power to influence what happens in a democracy. They may also be able to write the constitution in ways that limit what democracy can do.

Clearly, democratic political institutions can be structured to limit the power of the majority (see Londregan 2000, on the fascinating Chilean case). If a nondemocratic regime or elite can design or manipulate the institutions of democracy so as to guarantee that radical majoritarian policies will not be adopted, then democracy becomes less threatening to the interests of the elite. Less threatened, the elite are more willing to create democracy in the first place. Thus, Pinochet's constitution facilitated democratization in Chile.

These ideas also relate to the main empirical claim of Dahl (1971) that democracy thrives in a pluralistic society. In a society with many cross-cutting cleavages, the elite will have more power because there will be more possibilities for forming coalitions on the basis of different issues, and in general the coalition in favor of anti-elite policies will be broken (Roemer 1998), making democracy more tolerable.

Returning to Figure 4, the ability to manipulate democracy has the opposite effect of the movement from (T^c, T^c) to $(T^c(new), T^c(new))$. It means that democracy adopts policies closer to those preferred by the elite. Note an important caveat, however. If the elite become too powerful in a democracy, so that $[T^c(new), T^c(new)]$ does not intersect U^R , then democracy is too pro-elite to avoid a revolution.

2.1.5. ECONOMIC INSTITUTIONS Above, I noted how the economic institutions attractive in agrarian societies, such as slavery, may influence the costs of democracy to nondemocratic elites. More generally, however, economic institutions play an important role in determining whether a society becomes a democracy. Although economic institutions are highly inertial and not easy to continually change, they can be altered according to the interests of those with power. Different constellations of institutions often emerge from significant critical junctures, such as revolution or colonization, and then persist for long periods. For example, Moore (1966) saw the extent of the feudal legacy in agriculture as a key factor determining paths of political development. These legacies in Western and Eastern Europe diverged in the early modern period in the wake of the Black Death with profound implications for democracy in the nineteenth century. In the Americas, Engerman & Sokoloff (1997) and Acemoglu et al. (2001, 2002) emphasize how different initial conditions and factor endowments at the time of colonization in the sixteenth and seventeenth centuries led to very different economic institutions in North and South America. In Latin America, for example, labor market institutions were created by the colonial state to force Amerindians to work in mines or on the land and extract rents from them. Although these institutions persist, they have been highly contested during democratizations. It is not a coincidence that personal labor

services were abolished in Guatemala only after democracy arrived in 1945, and in Bolivia with the introduction of universal suffrage after the 1952 Revolution. Such economic institutions therefore have a natural affinity with dictatorship because those elites who benefit from them have a lot to lose from their abolition, and that abolition is likely with democratization. The model can capture the institutional legacy of Latin America in a simple way: Bad economic institutions, such as forced labor, have the same effect as when the elite own a lot of land—they make the policy choices of a democracy worse for the elite and make repression more attractive.

2.1.6. THE ROLE OF INTERGROUP INEQUALITY As discussed above, the extent of inequality can influence the revolution constraint. Inequality can matter in other ways. For example, in canonical models of redistributive democratic politics (Meltzer & Richard 1981), inequality determines the extent of redistribution. In such models, higher inequality induces the citizens to tax at greater rates in democracy, making it less tolerable for elites. Greater inequality can therefore make elites more inclined to use repression and make democratization less likely (Acemoglu & Robinson 2001, Rosendorff 2001). Thus, inequality may have a non-monotonic effect on democratization. At low levels of inequality, increasing inequality may facilitate democracy by making the revolution constraint more binding. But if inequality gets too high, democracy becomes less likely because elites use repression.

2.1.7. SUMMING UP The model I present suggests that democracy is more likely to be created under the following two conditions:

- when there is sufficient social unrest in a nondemocratic regime that cannot be defused by limited concessions and promises of pro-citizen policies. Whether this condition pertains depends on the living conditions of the citizens in nondemocracy, the strength of civil society, the nature of the collective action problem facing the citizens in nondemocracy, and the details of nondemocratic political institutions that determine what types of promises by the elite could be credible;
- when the costs of democracy anticipated by the elite are limited, so that they are not tempted to use repression to deal with the discontent of the citizens under the nondemocratic regime. These costs may be high when inequality is high, when the assets of the elite can be taxed or redistributed easily, when the elite have a lot to lose from a change in economic institutions, and when it is not possible to manipulate the form of the nascent democratic institutions to limit the extent to which democracy is inimical to the interests of the elite.

3. DEMOCRATIC CONSOLIDATION

So far I have developed a model to discuss democratization. What about the consolidation of democracy? Here I use the word consolidation simply in the sense of the persistence of the set of institutions we typically associate with democracy

(e.g., see Schedler 1998). In this short essay I cannot extend the model to examine coups, but this can easily be done. In democracy, the citizens will determine the amount of redistribution, but the elite may have an incentive to mount a coup. Democrats will try to stop this by making concessions, but if the ability to mount a coup is transitory, the same issues of credibility arise. When promises are insufficiently credible, coups will occur. The same factors that influence the creation of democracy also influence whether, once created, democracy is likely to survive. For example, greater inequality, greater importance of land and other easily taxable assets in the portfolio of the elite, and the absence of democratic institutions that can avoid extreme populist policies are more likely to destabilize democracy (see Acemoglu & Robinson 2001; 2006, Ch. 7).

4. ALTERNATIVE THEORETICAL APPROACHES

The model discussed above is based on a few key presuppositions. Clearly, there are alternative conceptualizations of the mechanisms that lead to democracy, although these are seldom discussed in a parsimonious way [Huntington (1991, pp. 37–38) lists 27 factors that he claims have been said to promote democracy]. My approach builds on several pillars. First, like Therborn (1977) and Rueschemeyer et al. (1992), I place central emphasis on the fact that democracy is conceded in the face of potential conflict within a society.

Second, conflict over political institutions is instrumental—people fight over political institutions because of the different allocation of resources that different institutions lead to. Thus, the framework stresses the economic benefits of different political regimes rather than people's intrinsic preference for one type of institution or another. Third, the demand for changes in political institutions comes because they influence the future distribution of political power and help to solve problems of commitment [building on the work of North & Weingast (1989) and Weingast (1997)]. In this section, I discuss some other potential mechanisms.

Nearly all recent research accepts the second of these premises and abstracts from the latter. The degree of emphasis on conflict and the form it takes vary. Closest to the spirit of the above model, Rosendorff (2001) examines the trade-off between fighting and democracy, arguing that elites fight if the cost of fighting is lower than the cost of accepting the policy preferred by the median voter. The model developed by Boix (2003) is identical, although following Acemoglu & Robinson (2001), he replaces fighting with repression. In consequence, this work generates results similar to those I sketched above. Rosendorff (2001) independently draws the connection between inequality and democratization, and Boix (2003) discusses how different factors, such as the structure of the economy and the ability of agents to exit, influence the costs of tolerating democracy. Interestingly, in some sense all of this work stems not from *The Breakdown of Democratic Regimes* (Linz & Stepan 1978) and its successors, but rather from Chapter 1 of *Polyarchy: Participation and Opposition* (Dahl 1971).

The political science literature has downplayed the collective action of the disenfranchised as the force leading to the creation or collapse of democracy. In its place it has put the idea that both democratic and nondemocratic regimes have an intrinsic propensity to self-destruct. In the context of democratization, this approach is most associated with O'Donnell & Schmitter (1986), who downplay the role of outside social pressure and instead emphasize conflict within ruling authoritarian regimes. In their view, democracy arises when some subset of the authoritarian coalition (the “soft-liners”) joins with the disenfranchised. Collier (1999) develops a similar approach, arguing that democracy arises as an “elite project.” It is natural to think of the elite as heterogeneous, and in this case one can imagine scenarios where one faction of the elite favors giving political rights to the disenfranchised because this will help to move policy or institutional choices in a direction favored by them. Llavador & Oxoby (2005) present a model along these lines. We can capture such ideas in the model I developed, but to do so we have to think of a situation where the elite favor some positive level of T . Imagine that T is the level of taxation that can be spent on the provision of public goods which increases the income of the elite. However, there are two factions of the elite, manufacturers and landowners, and the public goods can benefit only manufacturers. Thus, whereas landowners prefer $T = 0$, manufacturers prefer $T^m > 0$. Imagine a situation in which the revolution constraint does not bind, so that the elite do not have to create democracy. Figure 5 shows a situation where even though manufacturers prefer a lower rate of taxation than the citizens, they prefer T^c to $T = 0$. The indifference curves of manufacturers are concentric circles (if preferences are quadratic for instance) centered on their ideal policy vector (T^m, T^m) . Hence manufacturers prefer democracy to a nondemocratic regime controlled

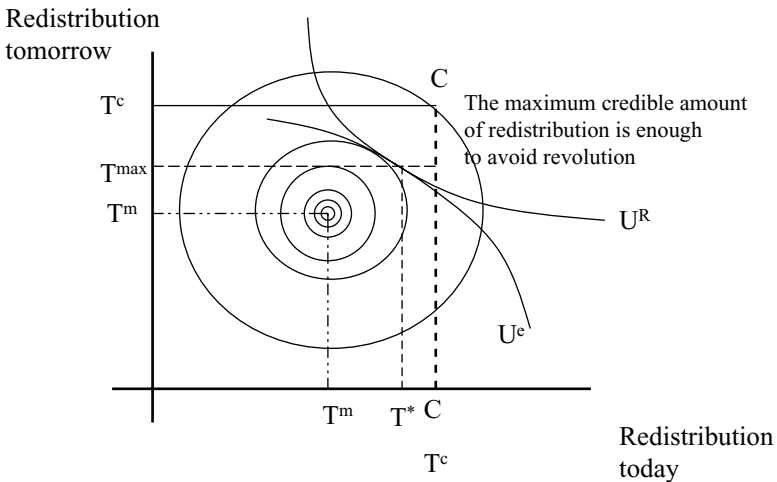


Figure 5 Democracy as a consequence of conflict within the elite.

by landowners and will favor democratization if they get the chance. These ideas complement those I focused on in the sense that they still emphasize conflict over social choices as a driving force behind democracy.

Bueno de Mesquita et al. (2003) present a theory of democratization that combines elements of both of these approaches. Like the model I develop above, they emphasize the role of the threat of force in the creation of democracy, since dictators oppose it while the disenfranchised certainly favor it. Nevertheless, in their model, members of the “winning coalition” can favor democratization because of the way this influences the equilibrium public policy—in particular, in the direction of the greater provision of public goods. Thus, they allow democratization to occur either in the form it takes in Figure 3 or in Figure 5.

Going further, other scholars have argued that democratization may in certain circumstances be Pareto improving in the sense of being better for both the elite and the citizens. This research includes nonformal work by Kiser & Barzel (1991) and mathematical models by Green (1993), Weingast (1997), and Lizzeri & Persico (2004). For instance, Green (1993) argues that the creation of legislative institutions was a way for rulers to credibly signal information. Lizzeri & Persicos’ paper is based on the idea that when the franchise is restricted, elites compete for a limited number of votes by providing private rather than (socially desirable) public goods. Democratization, by increasing the number of voters who must be attracted, induces competing parties to choose strategies with greater provision of public goods, which, because this is socially efficient, can make everyone better off. One can think of this as a situation where, in terms of Figure 5, all members of the elite prefer (T^m, T^m) , but in their competitive struggle they can only find it optimal to provide some lower level (for convenience, think of this as zero). In this case democratization (shifting the policy to that preferred by the citizens), although it might not be as good for the elite as (T^m, T^m) , is better than $(0, 0)$. The essence of this provocative set of ideas is that the origins of democracy may actually be consensual and may serve to solve a problem of coordination or commitment within the elite, rather than between the elite and the citizens (as emphasized above).

An alternative theoretical approach stems from the sociological literature on the origins of state institutions, which has inspired an analyses of democratization by Bates (1991), Rogowski (1998), and Tilly (2004). These scholars argue that democracy, like the origins of representative institutions more generally, is a concession from authoritarian rulers necessary to raise taxation. The more elastic the tax base, the harder it is for authoritarian rulers to raise taxes without the consent of the citizens, and the greater the likelihood of concessions—here democracy. Hence, Bates (1991, p. 25) points out that democracy is less likely in an agrarian society than it is in a society dominated by physical or human capital, because land is easier to tax. Moreover, he argues that authoritarian rulers will be more willing to abide by democracy if they fear it less. He connects this to their economic power with respect to democracy—democrats cannot hurt previous elites much if the elites have sufficient economic strength, perhaps because taxing the elite leads

to a collapse in the economy. Rogowski (1998) similarly emphasizes the ability of citizens to exit as leading to democracy.

An interesting approach has been developed by D. Ticchi & A. Vindigni (unpublished manuscript), who analyze a model where countries are engaged in interstate warfare and political elites democratize in order to give their citizens greater incentives to fight.

These are just some of the potential approaches to democratization, and no doubt in any real-world situation more than one mechanism will be at work. Ultimately the right model can only be identified by careful empirical testing.

5. ECONOMIC DEVELOPMENT AND DEMOCRACY

The model that I present makes some predictions about how economic development may influence democracy. In essence, economic development may cause a country to become more democratic by influencing any of the forces discussed in the previous section. For instance, following Kuznets (1955), development may create rising inequality, thus tightening the revolution constraint. In addition, although recent theories of economic growth sometimes model the process of growth simply as an increase in the level of income of society, economic development is much more than that. With economic development, productive relationships change significantly; both workers and firms migrate from rural areas to cities; physical capital, and later human capital and technology, become more important; and the whole economic structure becomes transformed. Thus, economic development and increases in per capita income come along with changes in the structure of the economy that are related to capital intensity. This perspective suggests that as an economy develops, capital becomes more important than land; industry becomes more important than agriculture; and opposition to, and threats against, democracy weaken. We might expect that countries with higher income per capita would also be more capital intensive, and this would generate an empirical relationship between income per capita and democracy. In addition, industrialization may change the organization of the labor force, allowing trade unions to form and to generally facilitate collective action.

The framework does not, however, imply that income per capita has a causal effect on democracy. For example, it suggests that the same things that cause sustained economic development, such as good economic institutions (secure property rights, a level playing field, equality before the law, etc.), also influence whether a country is democratic. Nondemocratic elites typically attempt to design economic institutions that will extract rents from society for their own benefit. Such institutions will be bad for prosperity, but they also make a transition to democracy less tolerable for the elite because they will lose their preferred economic institutions. Note the complementarity between rent-extracting economic institutions and dictatorship. These institutions create rents from controlling power and encourage groups to attempt to hold onto power and form dictatorships. Having secure property

rights generates economic growth, and it also lessens the stakes from politics, helping to induce democratization. In this story, income per capita and democracy will be positively correlated because they are both significantly influenced by the same underlying factors. However, this does not imply a causal effect of income on democracy.

6. EMPIRICAL EVIDENCE

Is there any empirical evidence that speaks to these results? The first question is whether the data are actually consistent with the claim that economic development causes democracy. In examining this, it is good to pause and consider issues of data and measurement. The past 15 years have seen huge improvements in the availability of comparable cross-national economic data, particularly as a result of the project of Heston & Summers at the University of Pennsylvania. The situation with respect to measures of democracy is more problematic. There is a heated debate in political science about how to measure democracy—particularly whether to use a dichotomous classification of countries as democracies or dictatorships, or to allow for more fine-grained distinctions (as do the commonly used Freedom House and Polity datasets). This debate is not settled yet, and to the extent that results differ depending on the measure of democracy used, findings will be contested. All the statements I make below are subject to these caveats of data quality. Nevertheless, we should not be too nihilistic. Most people agree on broad classifications of countries into different regime types. The key thing is to strive for robustness.

It is important to be clear about the issues involved in evaluating whether economic development has a causal effect on democracy, and to this end a little mathematical notation helps. The preponderance of research has aimed to estimate the following model:

$$d_i = \beta_0 + \beta_1 y_i + \beta_2 z_i + u_i, \quad 1.$$

where d_i is a measure of democracy in country i in some period, y_i is the per capita income level of that country, z_i is another explanatory variable relevant for explaining how democratic a country is, and u_i is the error term. Often both time and cross-sectional variation are used, and in this case the variables would also have a time subscript. The causal effect of income per capita on democracy is β_1 , and to consistently estimate this parameter using ordinary least squares (OLS) regression, we require that y_i be uncorrelated with the error term. The usual language for talking about this is to say that income per capita is exogenous.

Unlike natural sciences, social sciences cannot undertake controlled experiments, so they have to infer causality from the data generated by real-world social systems. This means we cannot exogenously vary income per capita in a sample of countries and see what happens to democracy. If we could generate data like this we could estimate Equation 1 using OLS. In reality, we have to take into account

that the level of democracy of a country and its income level are jointly determined. Unfortunately, even if democracy is not itself a determinant of income, it will generally not be true that y_i is uncorrelated with u_i . In this case, estimating Equation 1 by OLS leads to an estimate of β_1 that is biased and inconsistent. To be clearer about this, imagine that income per capita can be modeled by the following equation:

$$y_i = \alpha_0 + \alpha_1 d_i + \alpha_2 x_i + e_i, \quad 2.$$

where x_i is an exogenous variable that influences income per capita and e_i is the error term. Even if we assumed $\alpha_1 = 0$, so that there was no causal effect of democracy on income per capita, if u_i and e_i are correlated then we cannot estimate Equation 1 using OLS. Why might u_i and e_i be correlated? One potent source of such a correlation could be the presence of omitted variables correlated with income per capita. Such a problem will be particularly acute if we are dealing with a pure cross-section of countries with no time dimension. Many aspects of the institutions and organization (maybe even the culture and geography) of a society will help to determine its prosperity and its level of democracy. Yet many of these factors will be unobserved and thus omitted from the equations we estimate. The study of omitted-variable bias actually has a long history in the literature. In fact, this is what Weber (1930, p. 11) had in mind when he noted,

Montesquieu says (*Esprit des Loix*, Book XX, chap. 7) of the English that they “had progressed the farthest of all peoples of the world in three important things: in piety, in commerce, and in freedom”. Is it not possible that their commercial superiority and their adaptation to free political institutions are connected in some way with that record of piety which Montesquieu ascribes to them?

Hence Weber directly argued that an omitted variable, here religion, explained both democracy and capitalism in England.

How can these problems be solved? The classic procedure has been well known to econometricians for many years but has only become the intense focus of applied empirical work in the past decade (see Angrist & Krueger 2001). Returning to Equations 1 and 2, what is required is that we can propose an exogenous variable that should be in Equation 2 but not in Equation 1. As I have written the equations, we have such a variable, x_i , but what is this in reality? If we can find such an x_i , then we can identify the causal effect of income per capita on democracy—we can consistently estimate β_1 . Until the past decade or so, when these problems were addressed, the specification of such x_i s used to be treated in a very cavalier manner in applied empirical work. Variables were arbitrarily included in Equation 2 and excluded from Equation 1. Yet we now understand that most such exclusion restrictions are implausible. In fact, it is hard to find such x_i s, which we call instruments. The focus on the search for instruments is closely related to a more general move in best-practice econometrics toward a real focus on exogeneity and causality. This is connected to the search for natural experiments, real-world

situations that mimic experiments in the sense that there is a clearly exogenous source of variation.

Unfortunately, this sea change in the focus of applied work has yet to be taken into account in the literature on democratization. The majority of empirical work (e.g., Lipset 1959, Barro 1999, Przeworski et al. 2000, Boix 2003) either ignores the fact that income per capita is endogenous, or attempts to instrument for it using lagged values of income per capita. Yet if there are omitted variables that are persistent over time, such as the institutional organization of society, then these variables will be correlated with lagged income per capita as well, and these will not be valid instruments.

There are two major findings in this literature. First, studies that estimate models of the level of democracy on income per capita find that, other things equal, higher income per capita is associated with greater democracy. Representative studies using only cross-sectional data include those of Jackman (1973), Bollen & Jackman (1985), and Muller (1995). When this literature uses both time-series and cross-sectional variation, with the exception of Londregan & Poole (1996), it pools the data together (see Burkhart & Lewis-Beck 1994 for an innovative example). The second finding, stemming from Przeworski & Limongi (1997), is that once we use a dichotomous definition of democracy and distinguish movements toward democracy from movements toward dictatorships, we find that income per capita does not cause democratization, but it does lead democracies to become consolidated (reduces the probability that a country will experience a coup).

Such estimation strategies, whether they use pooled OLS or dynamic probit models, not only fail to account for the fact that income per capita is endogenous, but also fail to isolate whether any estimated relationship between income per capita and democracy is being driven by the cross-section variation (is it that richer countries are more democratic?) or the time-series variation (as countries become richer, do they become more democratic?). This distinction is highly relevant for determining whether any estimated relationship is likely to be causal or not.

A simple and appealing strategy for looking at the latter issue is to introduce fixed effects into the model. This is easy to do with a pooled OLS model, but dynamic probit models cannot be estimated consistently with fixed effects. Nevertheless, the conditional logit model can be consistently estimated with fixed effects, and Acemoglu et al. (2005b) show that this model without fixed effects gives estimates that are very similar to those from a dynamic probit model. It turns out that introducing fixed effects into these models robustly removes any relationship between income per capita and democracy. Although Przeworski & Limongi (1997) might have been correct that income per capita does not cause democracy, they were not correct that income per capita reduces the probability of coups. That the introduction of fixed effects has this impact can be seen from a simple scatterplot. Figure 6 shows that for the period between 1970 and 1995, there is no tendency at all for countries that become richer to become more democratic. This figure plots the change in the Polity score of a country between 1970 and 1995 against

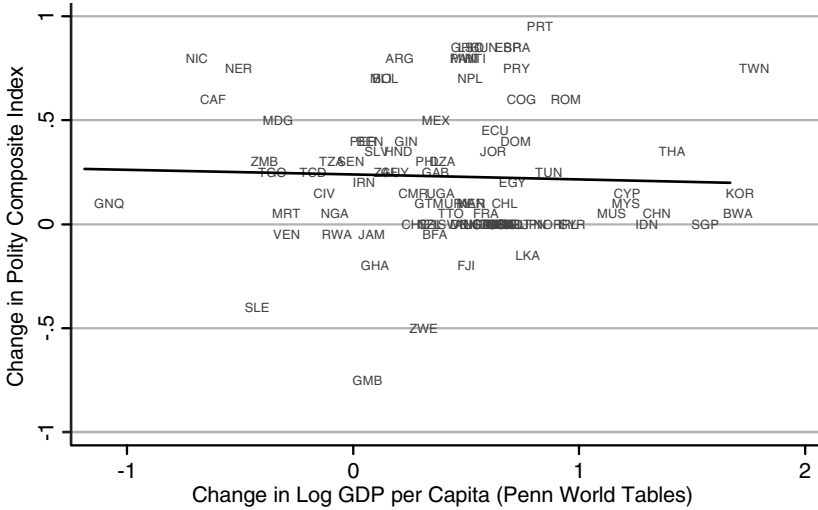


Figure 6 Democracy growth and income growth 1970–1995.

the change in income per capita over the same period. These dates are chosen simply to maximize the sample size, and the pattern they show is very general. One might imagine, following Boix & Stokes (2003), that a relationship would emerge if we looked back into the nineteenth century; however, Figure 7, which uses historical data on democracy from Polity and income per capita from Maddison (2001), looks at the same relationship between 1870 and 1995 and shows this is not right. Although there is something of an upward sloping relationship here, it is neither robust nor statistically significant (see Acemoglu et al. 2005a). These pictures show that Przeworski et al. (2000, p. 99) are wrong when they dismiss O’Donnell’s work on the grounds that he “studied a country that turns out to be a distant outlier.” In fact, the pattern O’Donnell noted in Latin America is the general case in the postwar period, and indeed the past century [Mainwaring & Pérez-Liñán (2003) document that the modernization finding is less robust when the sample is restricted to Latin America]. Przeworski et al. mistakenly jump from a pattern generated by the cross-sectional variation to making assertions about the time-series variation. They could have avoided the mistake by reading O’Donnell (1973, p. 6), who noted in his discussion of the existing empirical literature on modernization,

the data used refer to a *set* of countries at a single *point* in time, while the postulated relationship refers to changes over a period of time in each of the countries. . . . The attempt to substitute “horizontal” data referring to many countries. . . for this “longitudinal data” and still say something about causal, time-spanning processes *within each unit* [is a] fallacy.

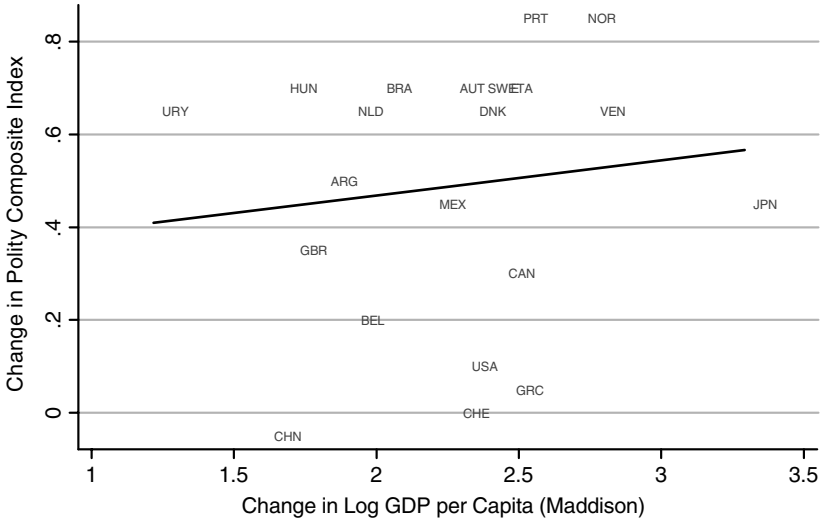


Figure 7 Democracy growth and income growth 1870–1995.

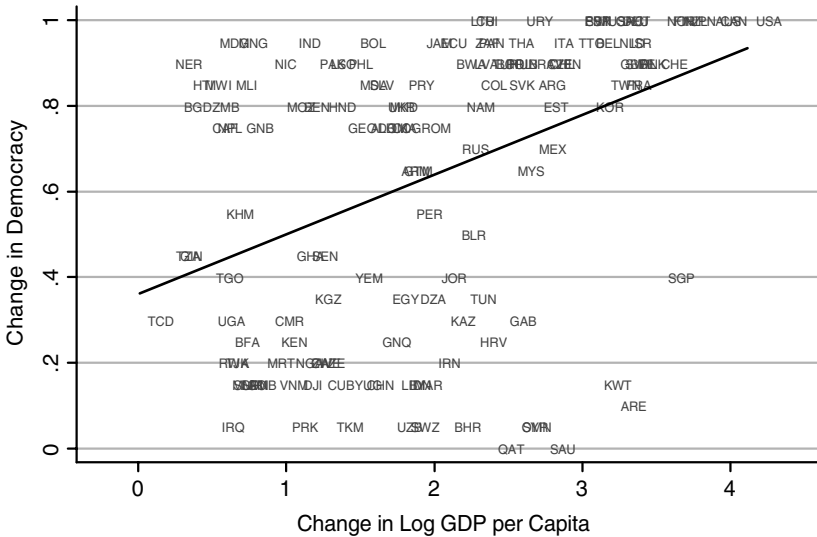
Why does this matter? It matters because it tells us that the estimated results of Przeworski et al. (2000) come purely from the cross-sectional variation in the data. This may surprise some. It means that over time, at least in the data they use, there is no tendency for the probability of coups to fall if a country's income grows. They find a relationship between income per capita and the propensity for coups only because countries that are on average richer over the sample period have fewer coups on average. As I suggested above, this will be the situation where problems of omitted variables are most acute—and, as O'Donnell (1973, Ch. 1) clearly saw, our belief in causality weakest and our need for an instrument greatest. Thus, this leads us back to the first question, how to identify the democracy equation.

To deal with the issue of the endogeneity of income per capita, one needs to propose a convincing research design. It is not that people have not estimated simultaneous equation models. Bollen & Jackman (1985) estimate such a model using two-stage least squares, but they never discuss the exclusion restrictions they make or whether they are plausible. Neither the words “endogeneity” nor “identification” appear in the index of the book by Przeworski et al. (2000). To my knowledge, only one paper (Acemoglu et al. 2005b) has proposed an instrumental-variable strategy for estimating the causal effect of income per capita on democracy. Acemoglu et al. experiment with two potential instruments for income per capita. The first is to use past savings rates; the second is to use changes in the incomes of trading partners. The argument for the first instrument is that variations in past savings rates affect income per capita but should have no direct effect on democracy. The second instrument creates a matrix of trade shares and constructs predicted

income for each country using a trade-share-weighted average income of other countries. They show that this predicted income has considerable explanatory power for income per capita and argue that it should have no direct effect on democracy.

Both instrumental-variables strategies show no evidence of a causal effect of income on democracy. Once income per capita is instrumented to allow for its potential endogeneity, its estimated coefficient is indistinguishable from zero. These results suggest, in line with the evidence from the fixed-effects regressions discussed above, that the estimated relationship probably reflects omitted-variable bias. Neither of these instruments is perfect, since there are some reasonable scenarios in which the exclusion restrictions could be violated (e.g., saving rates might be correlated with future anticipated regime changes; or democracy scores of a country's trading partners, which are correlated with their income levels, might have a direct effect on its democracy). This is the start of a research agenda, not the end. Nevertheless, these findings are highly troubling for the conventional wisdom.

Clearly, since there is a cross-sectional relationship between the level of income per capita and the level of democracy, at some point a relationship between the growth rates must emerge. Figure 8 shows that this is indeed the case if we return to the beginning of the early modern period, using historical data on income per capita from Maddison (2001) and constructing the historical Polity scores along the lines of Acemoglu et al. (2005a). So if we go back far enough we do find that countries whose income per capita increases do tend to become more democratic, which is why there is a cross-sectional relationship today. There are two ways



to interpret this finding. First, there may be a causal effect of income per capita on democracy, but it works over much longer time periods than anyone [except perhaps O’Donnell (1973)] recognized. Whether such an effect works through transitions to or away from democracy would be an open issue. The second interpretation is that there is no causal effect at all, but over long periods of time, income per capita and democracy are positively correlated because countries move along development paths where these two variables are jointly determined—probably by economic institutions, as in my discussion of the comparative statics of the model above.

Whereas the first view is connected to a long-run version of the modernization hypothesis, the second view is closely related to the work of scholars who emphasize how the institutions of societies diverge as the result of historical critical junctures. At critical junctures, societies diverge because of key differences. These differences may stem from the nature of the feudal legacy (Moore 1966), the organization of labor movements (Collier & Collier 1991), the integration of countries into world markets (Mahoney 2001), or the initial conditions and factor endowments in European colonies at the time of colonization [Engerman & Sokoloff (1997), Acemoglu et al. (2001, 2002); see also the notion of ‘brown areas’ in O’Donnell (1993)]. Different constellations of these conditions lead different societies onto different development paths. In the short run, there can be many sources of variation in income and democracy, but over the longer run, because of the types of incentives formalized in the model, these two things tend to move together. If this view is correct, and if one could condition on the factors that

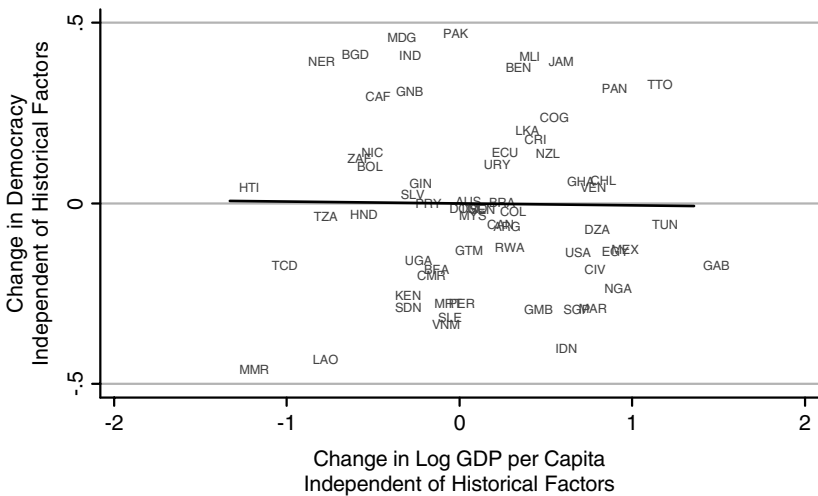


Figure 9 Democracy growth and income growth 1500–1995 conditional on historical factors.

determine at critical junctures which path a society will move along, then one should not find any relationship between changes in income per capita and changes in democracy. Acemoglu et al. (2005b) attempt to implement precisely such a strategy. They focus on a sample of former European colonies, and as proxies for the determinants of the development path they use historical population density and the mortality rates experienced by Europeans around the date of colonization. They show that once one conditions on these historical variables there is no estimated causal effect of income per capita on democracy. This can be seen from Figure 9. This figure plots the same changes as Figure 8 but after we have conditioned on the historical variables (it is a “partial scatter plot”). Figure 9 shows that there is no conditional relationship between the changes.

7. CONCLUSION

In this essay, I have reflected on recent research on the relationship between democracy and economic development. I believe that the most significant advance in the past decade is theoretical: Finally the types of mathematical tools developed by economists and political scientists in other subfields, such as American politics, are being systematically applied to model the determinants of democracy. The political science and sociological literatures on the creation and consolidation of democracy are full of ideas and insightful case studies, but they have provided few theoretical generalizations about the circumstances that lead a society to become and remain democratic. One possible reason is that many scholars of comparative politics reject the possibility of the scientific study of politics. Linz & Stepan (1978, p. xi) argued that “the historicity of macro-political processes precludes the highly abstract generalizing of ahistorical social scientific models. . . applicable to all past times and any future cases,” and O’Donnell & Schmitter (1986, p. 3) note, “We did not have at the beginning, nor do we have at the end of this lengthy collective endeavor, a ‘theory’ to test or to apply to the case studies and thematic essays in these volumes.” This attitude may account for why the study of the mechanisms generating the cross-country correlation between income per capita and democracy remains pretty much where Lipset (1959) left it. In this essay, I have provided a simple model, inspired by Acemoglu & Robinson (2000, 2001, 2006), which captures what I believe to be some of the insights of this new approach. I showed how the model could generate mechanisms that could link economic development and democracy.

Nevertheless, I then argued that from the empirical point of view, the literature on democracy has only just begun to wake up to the issue of the identification of causal relationships. From Lipset (1959) all the way up to Przeworski et al. (2000), the empirical literature on the determinants of democracy has paid little attention to the basic fact that such variables as income per capita and democracy were jointly determined in equilibrium. Some years ago in this journal Geddes (1999) noted that the fact that higher income per capita caused democracy was

probably the only generalization in the literature. It is therefore somewhat ironic that, as I have discussed, even this supposed fact has not been carefully investigated empirically. In fact, recent research has shown that this finding is generated purely by a cross-sectional relationship, at least if we concentrate on the past century. Such an estimated relationship is particularly prone to omitted-variables bias. The right way to deal with this is to find exogenous sources of variation in income per capita, and existing research along these lines finds no robust evidence that income per capita has a causal effect on democracy. More likely, these two variables are correlated because the same factors that tend to make a society prosperous also tend to make it democratic. Needless to say, a lot of work remains to be done on this issue.

Finally, even recent empirical papers are aggregate macro studies that look for general relationships between various socioeconomic and political variables and measures of democracy. As such, they are fairly far removed from the theory and testing explicit mechanisms. Most likely, different approaches will be needed for this. For example, political scientists are accustomed to using roll call data to test various hypotheses about the determinants of policy; why not apply this approach to test theories of democratization? Maybe the Argentine military did not vote for democracy in 1982, but many European parliaments did in the late nineteenth and early twentieth centuries. Studies such as Schonhardt-Baileys (1991) have already demonstrated the power of such an approach in a related context.

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