

Democracy and Economic Development*

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I examine the mutual relation between political regimes and economic development. An analysis of regime dynamics shows that while the paths to democracy are varied, once established for whatever reasons, democracies survive in developed countries. Contrary to long-standing arguments, political regimes do not affect the rate of investment and of the growth of total income. But since population grows faster under dictatorships, per capita incomes increase more rapidly under democracies. In the end, there is not a single reason to sacrifice democracy at the altar of development.

* Published in Edward D. Mansfield and Richard Sisson (eds.), *Political Science and the Public Interest* (Columbus: Ohio State University Press). This is a revised version of a paper originally written for the United Nations Development Program, with whose permission it is published here.

Introduction

I examine the mutual relation between political regimes and economic growth. Two questions are discussed: (1) Whether economic development affects the emergence and the survival of political regimes and (2) Whether political regimes affect economic performance.

These two questions are inextricably connected. To determine whether political regimes affect economic performance, we must first ask how political regimes emerge and endure. Unless this question is posed first, we will be unable to distinguish the effect of the conditions under which political regimes find themselves from the effect of regimes. Suppose that you were to observe that in 1985 per capita income of Mali, dictatorship, grew at the rate of 5.35 percent. Would the rate of growth of Mali in 1985 been different had it been a democracy? This is what we want to know when we ask about the impact of political regimes on growth. But we do not observe 1985-Mali as a democracy, only as a dictatorship. True, we could look for a case that was like 1985-Mali in every aspect other than its political regime. But what are we to do if we cannot find a democracy like Mali-in-1985? As you probably already know, and will soon learn again, democracies are very rare in poor countries, such as Mali, which in 1985 had a per capita income of \$532.¹ In turn, we may observe that 1985 France, which was a democracy and had per capita income of \$12,206, grew at the rate of 1.43 percent. Was its growth slow because it was a democracy? Again, we may try to find a dictatorship that would look in all respects like France. But the wealthiest dictatorship we observed between 1951 and 1990, Singapore, had per capita income of \$11,698. Hence, we will not find a single case of a dictatorship as wealthy as France during the same time span.

Why does it matter? Suppose that poor countries in general grow slower than wealthy countries. Since most poor countries are dictatorships and all wealthy countries are democracies, we will conclude that economic growth is faster under democracies. But this will be an invalid conclusion: the difference will be due to conditions under which these regimes exist, not to anything they do. As another example, consider the possibility that democracies are vulnerable to economic crises, while dictatorships survive them. Again, if we were to just compare the growth rates observed under the two regimes, we would conclude that democracies grow faster. And, again, this conclusion would be erroneous: we will have observed this difference only because democracies died when they encountered bad economic conditions and became dictatorships capable of surviving under these conditions. Finally, consider the possibility that there is some factor which cannot be observed systematically and which affects both the political regime and the rate of growth. Enlightened leaders, for example, may opt for democracy and well manage the economy. If we rely on comparisons of the observed cases, we will--yet again erroneously--conclude that faster growth is due to democracy, rather than to the enlightened leadership.

¹ All income figures are in 1985 purchasing power parity dollars. For the period 1951-1990, they are based on Penn World Tables, release 5.6. For the period 1991-1999, they are taken from World Development Indicators 2001. These series overlap between 1970 and 1990 and the correlation between per capita income figures derived from these two series is 0.998.

To distinguish the *conditions* under which regimes find themselves from the *effects* of these regimes, therefore, we need to understand under which circumstances these regimes come into being and under which circumstances they survive and die. Only then can we isolate the impact of regimes on economic performance. Statistical methods for doing this were developed by Heckman (1976, 1988) and the reader can find their explanation in Przeworski et al.(2000).

The plan of this chapter is thus the following. In the next section, I briefly state what I mean by democracy and dictatorship. Then I summarize results concerning regime dynamics. Finally, I proceed to the central question, namely, the impact of political regimes on economic performance. To keep the discussion free of technical issues, I present some descriptive tables and only report conclusions of statistical findings. The reader who wishes to know how these results were derived is directed to Przeworski et al.(2000), from which this discussion borrows. Most of the results summarized below are based on observing 135 countries (excluding major oil producers) between 1950 and either 1990 or 1999.²

Democracies and Dictatorships

The prototype of democratic politics that underlies this analysis reflects Schumpeter's (1942) focus on filling governmental offices by elections. Democracy is a political regime in which rulers are selected through free and contested elections. Operationally, democracy is a regime in which incumbents lose elections and leave office if they do. Hence, my definition of democracy is Schumpeterian or "electoralist." Dictatorships are treated as a residual category, "non-democracies."

Obviously, one can argue about definitions, and indeed there is a vast literature attempting to define what we should deem to constitute a democratic regime. But while one can, and some do, engage in endless hair splitting, most people readily agree whether a particular country is a democracy. Inkeless (1990: 5-6) found that the scales of democracy developed independently by Gastil (1990), Coppedge and Reinicke (1990), Bollen (1980), and Gurr (1990) are all highly correlated. Przeworski et al. (2000: 56) reported that their dichotomous classification of regimes is almost perfectly predicted by all these scales. Any two informed persons asked whether a particular country has a democratic regime during a particular year would almost certainly say the same, even if no criteria were specified in advance to influence their judgments. Hence, the results presented below do not depend on the particular classification of political regimes.

Economic Development and Regime Dynamics

Introduction

² The analyses concerning regime dynamics cover the period 1950-1999, so they update Przeworski et al. (2000). Unfortunately, some of the economic analyses could not be updated because the required data are not available.

Any casual observer will note that democracies are rare in poor countries and frequent in the affluent ones. Between 1950 and 1999, of the 1,335 annual observations of countries with per capita income under \$1,000, we observed only 142 years of democracy. Of the 880 annual observations of countries with incomes above \$8,000, only 147 years were spent under dictatorships. Indeed, if one takes per capita income alone, one will correctly predict 75 percent of the 5179 annual observations of regimes.

There are two potential reasons for this pattern. One, advanced by the modernization theory, is that democracies are more likely to emerge as countries become economically developed. Yet it is also possible that democracies emerge without any relation to economic development, but that once established for whatever reasons, they survive in developed countries. As Lipset (1959: 56) put it, "The more well-to-do a nation, the greater the chances it will sustain democracy." To determine which of these explanations is valid, therefore, we need to study separately why democracies emerge and why they survive once established.

Note that the trajectories of particular countries have been quite different. Among the 135 countries considered here, forty-four countries remained under dictatorships during the entire period during which they were independent between 1950 and 1999, while thirty-four countries had been democratic during this entire period. Twenty-nine countries experienced one regime transition: two from democracy to dictatorship, twenty-seven from dictatorship to democracy. Twelve countries experienced two transitions, five went through three, five countries experienced four transition, three experienced five transitions, two went through six, and one, Argentina, had eight.

To understand why a country has a particular regime this year, therefore, we need to know which regime it had and what conditions it had encountered during the preceding year. This is what I mean by "regime dynamics": the process by which the two regimes emerge and die.

Since we are dealing with only two types of regimes - democracies and dictatorships - one is born when the other one dies. Hence, the question remains the same whether we ask about the survival of dictatorships or about the emergence of democracies, about the deaths of democracies or the births of dictatorships. I will couch the discussion in terms of the emergence and survival of democracies.

The most general observation is that transitions to democracy occur under a wide variety of conditions, while transitions to dictatorships exhibit well-defined patterns. Another way to put it is that it is easy to predict statistically whether a democracy will survive and it is next to impossible to predict whether one will be established.

Transitions to Democracy

Here is a summary of historical patterns of collapse of dictatorships that led to transitions to democracy:

(1) Consider first the column p_{AD} of Table 1, giving the probabilities that a democracy will emerge, given per capita income. Democracies are unlikely to be established in poor countries, they are more likely to emerge in countries at middle-income levels, and again less likely if a dictatorship exists in a country with a high level of per capita income. Hence, it is not true that economic development breeds democracy: if a dictatorship survives in a country that became sufficiently wealthy, transition to democracy is less likely. The income levels at which democracies emerge vary widely: there is no threshold beyond which one could be almost certain that a dictatorship would die.

(2) The same is true with regard to the rate of economic growth. On the average, dictatorships are almost as likely to survive when their economies grow as when they decline during one, two, or three consecutive years. Some dictatorships fell after several years of continuous growth while some other died after several years of economic decline.

(3) The impact of income distribution is difficult to assess, given the paucity of data, but it appears that dictatorships are more vulnerable when inequality of functional distribution of income is large (labor share in manufacturing is low) and when household incomes are becoming more concentrated.

(4) Considering a variety of other factors - including past political history, ethnolinguistic heterogeneity, distribution of three religions, and the colonial heritage - adds little predictive power.

In sum, it seems that dictatorships die under a broad variety of conditions. Some disappear in the midst of economic crises but others vanish after a long period of prosperity. Some die when the founding dictator dies. Some collapse as a result of defeat in foreign wars. Some crumble under international pressure. Dictatorships are subject to multiple risks.

The reason transitions to democracy are so difficult to predict by observing the conditions under which dictatorships are that conditions determine only the possibility that a transition to democracy would occur, but it is actions of people under these conditions which shape the outcomes. The interplay between long-term, macro-processes and short-term, micro-analysis is a complicated issue, one that still remains unclear. The hundreds of dissertations that are written on the history of different transitions divide between those that see the process as fostered by transformations of social structure, boiling up through the creation of civil society, and coming to fruition almost of itself, and those that start with "hardliners," "reformers," "moderates," and "radicals" playing a strategic game and reaching a bargain under conditions taken as a datum. The tens of literature reviews pit "sociological" against "strategic" perspectives and find both of them wanting. Yet these approaches are not mutually exclusive and, educated by Wantchekon (1996), I think that this is one useful way to think about them.

Suppose for simplicity that at some moment, $t = 0, 1, \dots, T, \dots$, the strategic situation facing two political forces, called R and C, is the following:

C

		Fight	Talk
R	Fight	2, 1	$\delta, 0$
	Talk	0, δ	4, 3

Suppose that the strategic interaction takes place once, at $t = 0$, and that $\delta_0 > 4$. The game is then a prisoners' dilemma, with a unique equilibrium {Fight, Fight}, which establishes the dictatorship of R with associated payoffs of {2,1}. Now history begins and various processes shape the value of δ_t . At some moment, $t = T$, δ_t falls to a value $\delta_T < 2$. Now the game has two equilibria, either {Fight, Fight}, with the status quo payoffs, or {Talk, Talk}, with Pareto superior payoffs. Hence, long-term economic, social, or political processes alter at some moment the strategic situation, and trigger a search for a compromise.

If this is the framework of analysis we adopt, our attention should focus on the determinants of the benefits that each of the political forces derives from enjoying being a dictator without any active opposition. This is what δ_t stands for: the value to a dictatorship of being fully in control. Hence, whether we think that the key to the long-term transformations lies in economic evolution, cultural change, the rise of civil society, or what not, we should be analyzing these processes with the view toward their implications for the grip that the dictatorships can hold over the society and the associated benefits, material or symbolic.

What then shapes the value of δ_t ? In my view, it can be practically anything. Processes that change the value of δ_t can be exogenous or endogenous, macro or micro. In Lipset's account, or at least the "modernization" version of it (Przeworski and Limongi 1996), democracy is secreted by exogenously occurring economic development. A story told about country after a country is that as it develops, social structure becomes complex, new groups emerge and organize, labor processes begin to require an active cooperation of employees, and, as a result, the system can no longer be effectively ran by command: the society is too complex, technological change endows the direct producers with some autonomy and private information, civil society emerges, and dictatorial forms of control lose their effectiveness. But one can also tell a story in which the factors that render dictatorship ineffective are still exogenous but of a micro order: say the imminent death of a founding dictator, a Franco, uniquely capable of maintaining the dictatorial order. In turn, other processes may be of a macro-order and endogenous: in one story, the "goulash" compromise -- "your stomachs will be full if you keep quiet" -- fell apart as communists ran their economies into the ground. Even more obviously endogenous are the effects of a prolonged civil war, say in El Salvador, which at some time made military victory no longer worth pursuing. And the defeat in the war over the Malvinas was endogenous but a just a single event.

Moreover, the same factors may work in one direction in some countries and in the opposite direction in others. Economic growth may weaken the authoritarian regime by making the economy too complex to be ran by command but economic decline may also bring a

dictatorship to its knees by undermining its central claim to legitimacy. Foreign pressure may debilitate a dictatorship but it may also offer it a slogan of national unity against foreign interference.

These are just examples, and one could go on. The point is that there are lots of reasons, exogenous and endogenous, of different order and different temporal rhythm, that can bring conflicting political forces to the negotiating table. Hence, I am skeptical that we will be ever able to predict, and I mean predict statistically, when dictatorships fall.³

I know that some people will say that to predict is not the same as to explain. But "explaining" can easily entail an ex post fallacy. Take Spain, which had a per capita income of \$1,953 in 1950 and which grew under the dictatorship at the average rate of 5.25 percent per annum, to reach \$7,531 by 1976. Suppose that the Spanish dictatorship faced during the entire period a 0.03 chance of dying during each year, so that, assuming an exponential hazard function, it had an about 50 percent chance of not being around by 1976 *even if it had not developed at all*. Then we will attribute to development what may have been just an accumulation of random hazards.⁴

Democracy is a multilateral regime: it is a regime in which groups of people with conflicting interests process their conflicts according to some rules. To establish democracy, different groups must agree to disagree: they must accept a framework of institutions within which they would process their conflicts. But if democratic institutions generate distributional consequences, strategic actors may defend the status quo dictatorship or establish a new one even if a democratic system would generate Pareto superior outcomes.

Establishment of democracy is a two-step problem: A group of people enters a casino, in which there are a roulette table, a poker table, a bingo wheel, and a craps table. To establish a lasting democracy, they must first find if, given the historical conditions, there is a game that all players would continue to play even if they lose. If there is such a game, they must agree to play it.

The actors bargaining over the constitution know that the strategies which everyone, themselves included, will want to pursue once an agreement is reached depend on the institutional framework they adopt. Constitutional bargainers must conjure the outcomes that would be induced by each institutional framework and to evaluate these outcomes in

³ To put it in actuarial terms, there are just too many competing risks for conditional probabilities that a dictatorship will die to be significantly different from zero. An insurance company could set the premium covering the death of an average dictatorship but it could not set differential premiums for dictatorships distinguished by any observable factors.

⁴ An analogy may be useful. Suppose that someone runs the risk of 0.01 of dying from accidental causes during each year of her life and that at the age of 78 she gets hit by a falling brick. To attribute this death to development is to conclude that she died of old age.

terms of their welfare (or of the groups they represent⁵). They anticipate that a federal system will promote trade but may lead to domination of large states over small ones, and they associate some measure of welfare with these consequences of federalism. And if these institutions have distributional effects -- as they do -- then the particular groups have preferences over the equilibria among which they can choose. Some people anticipate that they would be better off under the separation of Church and State than under official religion, under a presidential system rather than under a parliamentary one, under a bicameral legislature rather than a unitary one, etc.

Suppose that there are two possible democratic systems, D1 and D2. The structure of the games engendered by each constitution may be one of coordination but it may be also a prisoners' dilemma or even a pure conflict. Indeed, had there been no conflicts, democracy would not have been necessary: democracy is a method for resolving conflicts. For example, the game induced by D1 may be a prisoners' dilemma:

		C	
		A	B
R	A	3, 2	5, 1
	B	1, 5	4, 4

while the game induced by D2 may be a pure conflict

		C	
		A	B
R	A	3, 2	2, 3
	B	1, 4	0, 5

with respective equilibria at {A,A} and {A,B} and their associated payoffs {3,2} and {2,3}.

The generic situation confronting political forces in conflict over the choice of institutions is then the following:

C

⁵ I am skirting over complications: as Schmitter (1984) observed some time ago, politicians may have interests of their own and may collude against those they are supposed to represent. Indeed, they may agree to democracy because they expect to be able to pursue interests of their own rather than those of their constituents. But again, whether the pay-offs in the table are to the representatives or to the represented, the analysis remains the same as long as the former can control the latter.

		Fight	D1	D2
	Fight	1, 1	δ , 0	δ , 0
R	D1	0, δ	3, 2	1, 1
	D2	0, δ	1, 1	2, 3

where D1 and D2 are two alternative systems of democratic institutions, and $3 > 2 > 1 > 0$. We already know that the "constitutional moment" arises when δ changes, for whatever reasons, from $\delta > 3$ to $\delta < 2$. If $\delta > \max_{R,C} U(D1,D2)$, the entire game is a prisoners' dilemma, with a unique equilibrium of {Fight, Fight}. If $\delta < \min_{R,C} U(D1,D2)$, there are three equilibria: the collectively suboptimal {Fight, Fight} and the two coordination equilibria {D1, D1} and {D2, D2}. Hence, even if the objective conditions are conducive to establishing a democracy, the proto-democratic forces may fail in agreeing to an institutional framework under which they would peacefully process their conflicts. Dictatorship will then survive.

In general, even when objective conditions make transitions to democracy possible, status quo dictatorships can also survive and new dictatorship can emerge under the same conditions. This multiplicity of equilibria, in turn, implies that the predictive power of observable conditions is paltry.

Survival of Democracies

While the paths to democracy are varied, the survival of democratic regimes depends on a few easily identifiable factors. Foremost among them is the level of development, as measured by per capita income. Here is a summary of historical patterns:

(1) No democracy ever, including the period before World War II, fell in a country with a per capita income higher than that of Argentina in 1975, \$6,055. This is a startling fact, given that since 1946 alone forty-seven democracies collapsed in poorer countries. In contrast, thirty-five democracies spent 1046 years in wealthier countries and not one died. Affluent democracies survived wars, riots, scandals, economic and governmental crises, hell or high water.

As the column p_{DA} of Table 1 shows, the probability that democracy survives increases monotonically in per capita income. In countries with per capita income under \$1,000, the probability that a democracy would die during a particular year was 0.0845, which implies that their expected life was about twelve years. Between \$1,001 and \$3,000, this probability was 0.0362, for an expected duration of twenty-seven years. Between \$3,001 and \$6,055, the probability was 0.0166, which translates into about sixty years of expected life. And what happens above \$6,055 we already know: democracy lasts forever.

(2) Education, specifically the years of schooling of an average member of the labor force, elevates the probability that a democracy would survive. Even though income and education are highly correlated, their impact seems to be to some extent independent. The impact of per capita income, however, appears much stronger.

(3) The impact of economic growth on the survival of democracy is hard to determine. Empirical patterns show that democracy is more fragile in countries where per capita income stagnates or declines. But the direction of causality is not clear: do democracies die because they perform poorly or do they perform poorly because they are about to die? I could not determine which way the causality runs.

(4) Any conclusions about the impact of income distribution on the survival of democracy are hampered by the paucity and the poor quality of the data. Nevertheless, among the few cases for which comparable data are available, democracies are more likely to survive when the Gini coefficient or the ratio of incomes of top-to-bottom-quintile are lower. Data concerning functional distribution are more extensive and they show the same: democracy is four times more likely to survive in countries in which the labor share of value added in manufacturing is greater than 25 percent.

(5) Democracies are more likely to succumb when one party controls a large share (more than two-thirds) of seats in the lower house of the legislature. Moreover, democracies are most stable when the heads of governments change every so often, more often than once in five years (but not as often as every two years). These observations indicate that democracy is more likely to survive when no political force dominates completely and permanently.

(6) Since Montesquieu (1995 [1748]), much has been said about the importance of culture for the emergence and durability of democracies. Recent discussions of this topic revolved mainly around cultures identified by dominant religions. Even if Weber (1958 [1904-5]) himself said almost nothing about political institutions (Przeworski, Cheibub, and Limongi 1997), the idea that he saw in Protestantism the wellspring of modern democracy is widespread among contemporary political scientists. Lipset (1959: 165) claimed that "It has been argued by Max Weber among others that the factors making for democracy in this area [north-west Europe and their English-speaking offsprings in America and Australasia] are a historically unique concatenation of elements, part of the complex which also produced capitalism in this area," since "The emphasis within Protestantism on individual responsibility furthered the emergence of democratic values." In turn, Catholicism, in Lipset's (1960: 72-73) view, was antithetical to democracy in pre-Second World War Europe and Latin America. Yet even Catholicism is not the worst enemy of democracy: Islam and Confucianism hold the palm (Eisenstadt 1968: 25-27). Thus, Huntington (1993: 15) reported that "No scholarly disagreement exists regarding the proposition that traditional Confucianism was either undemocratic or antidemocratic." Similar views about Islam abound (Gellner 1991: 506, Lewis 1993: 96-98).

None of these assertions defends itself against facts. Indeed, the only effect of religions that emerges from the statistical examination is that democracies are more likely to emerge in countries in which there are more Catholics. Neither Protestantism nor Islam has an effect on the emergence or the durability of democracy.

(7) Colonial legacy has little effect on regime stability once all the other factors are considered. The rates of democratic failure are much higher among democracies that were established after 1950. Yet this effect vanishes when controlled for income, indicating that

the observed difference is due to the low incomes of these countries, not their colonial heritage directly.

(8) Parliamentary democracies are much more likely to survive than presidential ones: the expected life of a parliamentary democracy is seventy-four years, while for a presidential democracy it is twenty-four years. To some extent this difference is due to the fact that presidential democracies are more frequently a legacy of military dictatorships, and the military influence may linger on, while parliamentary democracies more often originate from civilian dictatorships. But even when we consider the origins of these democratic regimes, a significant difference remains.

(9) Finally, it is not true that a democracy is more likely to be around if it has been around for a long time. The probability that a democracy dies does fall as democracies become older, but this result vanishes once controlled for per capita income. The reason older democracies are more likely to survive is thus that their economies grow in the meantime. It is again income that explains survival, not some kind of “habituation.”

While education, income distribution, political institutions, and the relations of political forces all have some impact on the survival of democracy independently of per capita income, the role of income is overwhelming. Here is one explanation (Przeworski 2002).

The reason everyone opts for democracy in affluent societies is that too much is at stake in turning against it. In poor societies there is little to distribute, so that a group that moves against democracy and is defeated has little income to lose: in poor countries, incomes of people suffering from a dictatorship are not much lower than of those living under democracy, whether they won or lost an election. But in affluent societies, the gap between incomes of electoral losers and of people oppressed by a dictatorship is large. Between 1950 and 1990 in countries with incomes of less than \$3,000, the average labor share under dictatorships was 32.2 percent, almost identical to the 32 percent in democracies. But in countries with per capita incomes between \$3,000 and \$8,000, the average labor share under dictatorships was 33.7 percent and under democracies 39.6 percent. Since output per worker is also lower in affluent dictatorships, this means that when the two countries had the same per capita incomes, an average worker in dictatorial Singapore was earning \$4,433 and in democratic Austria \$5,991, one-third more; an average Mexican worker was earning \$3,192 compared to the \$4,917 of a Portuguese worker, again at the same levels of average income. In turn, the incomes of those who would have been rich under democracy were much lower under communist dictatorships: communists confiscated property and distributed earned incomes quite equally. Thus, even if the income a particular group expects when it turns against democracy is higher than the income it expects under democracy, the possibility of losing a struggle over dictatorship is foreboding in affluent societies. As per capita income increases, more is at stake and even permanent electoral losers prefer to obey election results. It is risk aversion that motivates everyone in affluent societies to obey the results of electoral competition.

This logic also sheds light on the role of economic crises in threatening democratic regimes. What matters is not the rate of growth per se but the impact of economic crises on the level

of per capita income. Each country, characterized by its income distribution, has some specific threshold of per capita income above which democracy survives independently of election results. Economic crises matter if they result in income declining from above to below this threshold, but not when they occur at income levels below or well above this threshold. In Venezuela, which enjoyed democracy during forty-four years, per capita income declined to one half of its peak level and this decline may be responsible for the emergence of anti-democratic forces in that country. But economic crises do not threaten democracy in wealthier countries.

The explanation in terms of risk-aversion must be distinguished from that focusing on the role of electoral chances. Przeworski (1991) argued that democracy is sustained when those defeated in a particular round of the electoral competition have sufficient chances to win in the future to make it attractive for them to wait rather than to rebel against the electoral defeat. In terms of the explanation offered here, such prospects are not necessary. Above some income level, losers accept an electoral defeat even when the political institutions offer them no future chance to win, simply because even permanent losers have too much to risk in turning against democracy. Yet the distribution of electoral chances has a powerful effect on the income threshold above which losers accept the verdict of elections. Hence, the distribution of electoral chances does matter for the survival of democracy in all but very poor or very rich societies.

Thus, the mere prospect of alternation in office can avoid violence. To see this argument in its starkest form, assume that governments are selected by a toss of a coin: if “heads,” incumbents should remain in office, if “tails,” they should leave. Thus, it is a reading of the toss which designates “winners” and losers.” Note that when the authorization to rule is determined by a random device, citizens have no electoral sanction, prospective or retrospective, and the incumbents have no electoral incentives to behave well while in office. Any link between elections and representation is severed. Yet the very prospect that governments would alternate may induce the conflicting political forces to comply with the rules rather than engage in violence. Even if the value of the current loss is lower than the one period value of dictatorship, if the current losers have a sufficient chance to win in the future, they are better off continuing to comply with the verdict of the coin toss than fighting for power. And if the winners prefer democracy, then regulating conflicts by a coin toss is self-enforcing. Bloodshed is avoided by the mere fact that, à la Aristotle, political forces expect to govern in turn.

Summary

We know that democracies are frequent among the economically developed countries and rare among the very poor ones. The reason we observe this pattern is not that democracies are more likely to emerge as a consequence of economic development but that they are much more likely to survive if they happen to emerge in more developed countries. The paths to democracy are varied. Indeed, they seem to follow no predictable pattern. But once democracy is established, for whatever reasons, its survival depends on a few, easily identifiable, factors. Foremost among them is the level of economic development, as captured by per capita income. But political institutions also matter.

Political Regimes and Economic Development

Introduction

Now that we know how political regimes emerge and disappear, we can examine their effect on economic development. I examine first the impact of political regimes on the share of investment in gross national product, on the rates of growth of capital stock and of labor force, on the rate of growth of total income and of per capita income. I also consider a rival hypothesis, namely, that what affects economic development are not regimes, but just political stability. Finally, I focus on the impact of regimes on some aspects of demographic behavior.

The method is the same throughout. It consists of generating counterfactual observations for the missing observations. In terms of the examples with which we began, the method consists of generating the observation for 1985 Mali as if it were a democracy and for 1985 France as if it were a dictatorship, under otherwise identical conditions. The procedure consists of estimating, separately for each regime, regression equations augmented by an instrumental variable that summarizes the conditions under which the particular observation was generated and then comparing the predicted values independent of these conditions. The net result is then the effect of regimes. In each case, I report the observed values, based on the observations as they happened to occur, and the “selection-corrected” values.

Total Output, Investment, and Per Capita Output

The fear that democracy would undermine economic growth emerged in the United States with the birth of new nations in Asia and Africa. The first statements to this effect are perhaps those by Walter Galenson and by Karl de Schweinitz, who argued, both in 1959, that in poor countries democracy unleashes pressures for immediate consumption, which occurs at the cost of investment, hence of growth. Galenson mentioned both the role of unions and of governments. He thought that unions “must ordinarily appeal to the worker on an all-out consumptionist platform. No matter how much ‘responsibility’ the union leader exhibits in his understanding of the limited consumption possibilities existing at the outset of industrialization, he cannot afford to moderate his demands.” About governments, he observed that “The more democratic a government is, ... the greater the diversion of resources from investment to consumption.” According to de Schweinitz (1959: 388), if trade unions and labor parties “are successful in securing a larger share of the national income and limiting the freedom for action of entrepreneurs, they may have the effect of restricting investment surplus so much that the rate of economic growth is inhibited.” This argument acquired widespread acceptance under the influence of Huntington, who claimed that “The interest of the voters generally leads parties to give the expansion of personal consumption a higher priority *via-a-vis* investment than it would receive in a non-democratic system.” (Huntington and Dominguez, 1975: 60; also Huntington 1968). Democracy was thus seen as inimical to economic development.

The reasoning bears reconstructing. First, this argument assumes that poor people have a higher propensity to consume. This is why democracy may be compatible with growth at high but not at low levels of income. Secondly, the underlying model of growth attributes it to the increase of the stock of physical capital. Finally, democracy is always responsive to the pressures for immediate consumption. The chain of reasoning is thus the following: (1) poor people want to consume immediately, (2.1) when workers can organize, they drive wages up, reduce profits, and reduce investment (either by lowering the rate of return or the volume of profit or both) and (2.2) when people can vote, governments distribute incomes away from investment (either they tax and transfer or they undertake less public investment), and (3) lowering investment slows down growth.

Arguments in favor of democracy are not equally sharp but they all focus in one form or another on allocative efficiency: democracies allocate better the available resources to productive uses. One view is that since authoritarian rulers are not accountable to electorates, they have no incentives to maximize the total output but only their own rents. As a result, democracies better protect property rights, thus allowing a longer-term perspective to investors. There is also a vague sense that by permitting a free flow of information, democracies improve the quality of economic decisions.

This summary makes no pretense to being exhaustive. All I want to highlight is that the arguments in favor of dictatorship and those in favor of democracy are not necessarily incompatible. The arguments against democracy claim that it hinders growth by reducing investment; the arguments in its favor maintain that it fosters growth by promoting allocative efficiency. Both may be true: the rate at which productive factors grow may be higher under dictatorship but the use of resources may be more efficient under democracy. And since these mechanisms work in opposite directions, the net effect may be that there is no difference between the two regimes in the average rates of growth they generate. The patterns of growth may differ but average rates of growth may be still the same.

Rates of growth may thus differ between regimes either because the productive inputs increase at different rates or because they are used with different efficiency. To assess the impact of regimes on growth, I proceed in two steps:

First, I examine if productive inputs grow at the same rates under the two regimes. This is a test of the hypothesis that regimes do not affect the rates of growth of productive resources.

Secondly, I estimate separately for each regime a production-function model, $Y = AF(K, L) = AK^a L^b$, in growth form:

$$\dot{Y}/Y = A'/A + a\dot{K}/K + b\dot{L}/L + \eta + e,$$

where the dots over the variables indicate time derivatives, so that for any X, $\dot{X} = dX/dt$, and \dot{X}/X is the rate of growth, while η is the instrument for the regime variable. The coefficients A'/A (treated as constants, either for regimes or for countries or for years, depending on estimation methods), a , and b provide selection-unbiased estimates of, respectively, technical progress and the efficiency with which capital stock and labor force

contribute to growth under each regime. This is then a test of the hypothesis that the efficiency with which resources are used is the same under the two regimes.

Table 2 presents the average observed and selection-corrected values of investment share, and of the rates of growth of capital stock, labor force, total income, and population, for the two regimes.

The claim that democracy undermines investment, whether in general or only in poor countries, finds no support in the evidence. The observed average share of investment in GDP, I/Y , was in fact much higher in democracies, 20.98 percent, than in dictatorships, 14.28 percent. Yet since investment shares increase with per capita income and since, as we already know, dictatorships have generally existed in poorer countries, this can be just an effect of income. Indeed, controlling for income, as well as a number of other variables, shows that regimes have little overall effect on the investment share. Moreover, among poorer countries, those with per capita income lower than \$3,000, both the observed and the corrected investment shares are slightly higher in democracies. Hence, there is no reason to think that regimes affect investment even in poor countries: had these regimes existed under the same conditions, specifically in countries with the same per capita income, facing the same relative prices of investment goods and world demand, and had they been matched for unobservable factors that affect regime selection, their shares of investment in GDP would have been the same.

Another way to think about investment is in terms of the growth of capital stock. The observed rate of growth of capital stock, K'/K , is somewhat higher under dictatorships, 7.24, than under democracies, 6.49. The observed difference among countries with incomes below \$3,000 is negligible. Above \$3,000, capital stock grew faster under dictatorship, at the rate of 8.05, than under democracy, where it increased at the rate of 6.39. Correcting for selection, with the same exogenous variables we used for the investment share, shows again, however, that regimes do not affect the growth of capital stock in the sample as a whole and not among countries with incomes under \$3,000. Above \$3,000, the selection-corrected values are somewhat higher under dictatorship, 7.94, as opposed to 6.94 under democracy.

Hence, regimes affect neither the share of investment in GDP nor the rate of growth of capital stock. Moreover, contrary to all the arguments, poor countries invest little regardless of the regime, while it is in wealthier countries that investment is slightly higher under dictatorships.

In turn, the rate of growth of the labor force, L'/L , is higher under dictatorships. The observed values are 2.28 percent per annum under dictatorships and 1.59 under democracies. Since labor force grows at a slower rate in wealthier countries, one might suspect again that this difference is due to the distribution of regimes by income. Some of it is, but not enough to eradicate the effect of regimes. Even when the regimes are matched for their income, their colonial heritage, and the frequencies of Catholics, Protestants, and Moslems, even if they are matched for demand, or for the lagged rate of population growth, or for country-specific effects, labor force grows faster under dictatorships. The selection-

corrected difference is again small in countries with incomes under \$3,000, but quite large in those over \$3,000.

To examine the effect of regimes on the efficiency with which resources are used in production, we need to compare the selection-corrected coefficients of the respective production functions. The constant measures total factor productivity, while the coefficients on capital and labor represent the elasticities of output with regard to these factors. As shown in the first two columns of Table 3, which provide the results for the entire sample, total factor productivity is higher in democracies. The elasticity with regard to capital is slightly higher in dictatorships, while elasticity with regard to labor is slightly higher in democracies. Hence, one is led to conclude that democracies benefit more from technical progress and use labor somewhat more effectively, while dictatorships employ somewhat more efficiently the physical capital stock.

What we learned, therefore, is that regimes have no impact on the rate of growth of capital stock (or the investment share), while labor force grows faster under dictatorships. In turn, democracies enjoy faster technical progress and use labor somewhat more effectively, while dictatorships exploit somewhat better their capital stock. As a result, the rate of growth of total output is almost identical under the two regimes.

Another way to test the effect of regimes is to focus on the countries that experienced regime changes. Here again, however, one should proceed prudently. Countries in which regimes are unstable may be different from those where the same regime persisted during the entire period. Yet the observed average rate of growth is the same in those countries which did not experience any regime transitions and those which underwent through one or more regime changes: the rate of growth for the former was 4.23 percent (N=2813) and for the latter 4.25 percent (N=1313). Stable dictatorships grew at the rate of 4.38 percent (N=1709), while dictatorships in the countries that also experienced democracy grew at the rate of 4.51 percent (N=772). Stable democracies grew at the rate of 3.98 percent (N=1104), while democracies that rose from or gave room to dictatorships grew at 3.88 percent (N=541). Hence, there is no reason to think that growth in the countries where regimes were stable was different from that in countries where regimes changed.

With this reassurance, we can compare the rates of growth of democracies preceding dictatorships with those of democracies following them and vice versa. The average rate of growth during all the years of democracies preceding dictatorships is 4.49 percent (N=290) and of dictatorships following democracies is 4.37 percent (N=425). Hence, transitions from democracy to dictatorship do not affect the rate of growth. Growth during all the years of dictatorships preceding democracies is higher, at the average of 4.74 percent (N=607), than the average of 3.64 percent (N=371) during all the democratic years that follow. But since the recovery from the crises accompanying transitions to democracy is slow and the observations are right-hand censored, the conclusion that transitions to democracy slow down growth would be erroneous. Just note that many democratic observations follow transitions either from bureaucratic-authoritarian or communist dictatorships during the

'eighties, including the very end of the decade. Since these democracies did not have time to recover, they weigh the democratic average down.

In sum, neither the selection-corrected values for the entire sample nor the paths of growth associated with regime transitions give any support to the claim that regimes affect the rate of growth of total income. Selection-corrected average rates of growth are the same for the two regimes. And there are no reasons to think that steady-state rates of growth are different under the two regimes when countries experience regime transitions.

The first conclusion, therefore, must be that political regimes have no impact on the rate of growth of total income. The arguments about the superiority of dictatorships in mobilizing savings for investment find no support in the evidence. Indeed, the input that grows faster under dictatorships is not capital but labor. The differences in the efficiency with which productive inputs are utilized are small. As a consequence, the selection-corrected average expected values of growth are almost identical.

What matters, however, from the point of view of well-being is not the growth of total but of per capita income. And it turns out that, for reasons discussed below, population grows significantly faster under dictatorships. The observed rate of growth of population, P/P , is 2.42 percent under dictatorships and 1.46 percent under democracies. The best selection-corrected estimates are 2.18 percent for dictatorships and 1.59 for democracies. And since the rate of growth of per capita income is the difference between the growth of total income and of the population, the observed estimate of the growth of per capita income under dictatorship is 2.00 percent and under democracy it is 2.46 percent. The best selection-corrected estimates are 2.12 for dictatorships and 2.65 for democracies. These are large differences: they imply that per capita incomes double in thirty-five years (thirty-three under selection-corrected estimates) under dictatorships and in twenty-eight (twenty-five) under democracies. The second conclusion, therefore, is that per capita incomes grow faster under democracy.

Note, moreover, that while the rates of growth are almost identical under the two regimes, the patterns of growth differ. As seen in Table 3, these patterns diverge in countries with per capita incomes above \$3000. Wealthy dictatorships benefit less from technical progress and they use labor less efficiently than wealthy democracies, so that their output per worker is lower. Moreover, labor shares of value added (in manufacturing) are lower in wealthy dictatorships. Hence, growth under wealthier dictatorships is labor extensive and labor exploitative. Wealthy dictatorships use more labor, pay it less, and use it less effectively than wealthy democracies. Moreover, since population continues to grow at a fast rate in wealthy dictatorships, the difference in the growth of per capita income is larger.

Political Instability and Economic Growth

Not everyone will be surprised to learn that political regimes have no effect on average rates of growth of total income. One generally held view, made influential by Huntington (1968), is that what matters for economic development is political stability, rather than the

particular political institutions. Any system of political institutions promotes development as long as it maintains political order. The danger is “political instability.”

Political instability, as measured by past or expected changes of chief executives, the frequency of strikes, demonstrations, or riots, is much greater in democracies. Yet political instability affects economic performance only under dictatorships. Changes of chief executives, while much less frequent in dictatorships, are economically costly only in these regimes. Whether because of institutional constraints or of motivations of those who govern democracies, neither past nor expected changes of heads of governments affect growth under democracies. But under dictatorships economic growth slows down significantly when the tenure of rulers is threatened. The same is true of various forms of “socio-political unrest”: strikes, anti-government demonstrations, and riots occur more often in democracies but they retard growth only in dictatorships. Finally, the effect of threats to the stability of regimes on investment shows that investors fear democracy and hope to find a safe haven in many dictatorships: prospective demise of a dictatorship causes investors to flee while its prospective advent makes them flock.

Thus, political instability retards growth exclusively under dictatorships. Huntington and other “realists” got it all wrong. Studies of political instability are guided by the hypothesis that, to state it in the words of Alesina and Perotti (1997: 21), “what influences growth is not so much the type of regime (dictatorship or democracy) but regime instability, that is, the propensity to coups and major changes of government.” This hypothesis is logically incoherent, since “political instability” cannot be even defined independently of political institutions. Alternation in office or other manifestations of popular opposition, whether strikes or anti-government demonstrations, do not constitute “instability” under democracy. Such phenomena are frequent in democracies because democracy is a system in which people are free to express their dissatisfaction with governments. And they are rare in dictatorships because it is precisely to prevent such forms of expression that dictatorships are established and maintained. Democracies are inherently “unstable”: what constitutes anomalies, breakdowns of rule, under dictatorship is just an essential, definitional, feature of democracy. A change of chief executives in democracies occurs as a consequence of elections or other regularized procedures, while under most dictatorships the only way rulers can change is by a coup. To discover, as Alesina et al. (1996) do, that coups reduce growth but regular alternations in office do not, is not to find that some forms of “political instability” affect development, but only that some political events that constitute instability under dictatorship do not under democracy.

Once it is understood that the same political phenomena have different meanings under different regimes, it is not surprising that economic actors react to them differently. Under dictatorships, whenever the regime is threatened, whenever rulers in fact change or are expected to change, whenever workers muster the courage to strike or masses of people to demonstrate their opposition to the government, the economy suffers. Under democracy, everyone knows that the government will change from time to time, that workers may strike, and people may express their dissatisfaction with the government in a variety of ways. Hence, when such phenomena do transpire, they evoke at most an economic yawn.

Mortality, Fertility, and Population Growth

The most surprising impact of regimes is on the growth of population, which is much faster under dictatorships. Moreover, this difference does not disappear when controlled for per capita income and a whole host of other factors, including the colonial heritage, the frequencies of Catholics, Protestants, and Muslims, labor force participation of women, human capital, and female enrollment in secondary education. Moreover, diachronic patterns show the same: the rate of population growth increases slightly when countries experience transitions from democracy to dictatorship, while it falls when they transit from dictatorship to democracy.

Now, note that the rate of growth of population (net of migration) can be decomposed as the difference between the birth rates and the death rates. Hence, one reason population grows faster under dictatorships could be that they have lower mortality rates. Yet, as shown in Table 4, this is not the case. Indeed, the observed gross mortality rates (“deaths” in Table 4) are higher under dictatorship. Infant mortality is also higher under dictatorships and life expectancy is much shorter (not shown). Moreover, these differences do not vanish when controlled for per capita income and the passage of time. If dictatorships and democracies had the same per capita income and if they existed during the same year, mortality rates would be 10.4 for dictatorships and 9.2 for democracies, while life expectancy (“lives”) would be 61.2 under dictatorship and 67.1 under democracy. These are enormous differences.

Hence, dictatorships have higher mortality rates. If their population grows faster than under democracies, it is because dictatorships have even higher crude birth rates (“births”). Again, this difference does not disappear when controlled for per capita income and year. Moreover, this difference is not due to the age structure of the population but to differential fertility: at any age, women have more children under dictatorships.

The average observed fertility per woman is 5.2 under dictatorships and 2.7 under democracies. This difference does become reduced when controlled for per capita income and a whole host of other variables. But whatever one controls for, women under dictatorships have on the average 0.5 children more than under democracies. This difference seems to be due to regime per se, rather than to any conditions under which the regimes find themselves or to anything else they do. Under both regimes, fertility is strongly reduced when women attend secondary schools but it is greater where public educational expenditures are larger. A simple explanation is that secondary education increases the market incomes of women and hence the opportunity costs of having children, while public expenditures on education lower these costs. What is most striking is that public expenditures on social security and on health strongly reduce fertility under democracy but have no impact under dictatorship. Moreover, once these expenditures are considered, labor force participation of women has no impact on fertility. The only explanation of this finding I can think of is that under democracy public expenditures are seen as a form of insurance, while they do not reduce uncertainty under dictatorships. This explanation is consistent with the fact that both the variability of economic performance and of economic policies is

greater under dictatorships. Hence, households respond to the uncertainty inherent in dictatorships by hoarding the least risky asset they can, namely, children.

Conclusions

Although our question concerns the impact of political regimes, one would be blind not to note first the grip over people's lives of sheer poverty. While regimes do make a difference for material welfare, their effect pales in comparison to that of scarcity.

In every aspect we examined, the differences between poor and rich countries are enormous. Even if democracies do occasionally spring up in poor countries, they are extremely fragile when facing poverty, while in wealthy countries they are impregnable. Hence, poor people are much more likely to be ruled by dictators. Obviously, poverty means that people consume less. They also live shorter, have more children, see more of them die, and are more likely to suffer from collective violence. However one thinks of well being, people with low incomes lead poor lives.

Even though the gap between poor and rich countries has been closing with regard to mortality rates and life expectancies, the disparity of incomes and of fertility rates increased. The coefficient of variation (the ratio of the standard deviation to the mean) of death rates fell from 0.44 when the countries were first observed to 0.40 during the last year each country was observed. The coefficient of variation of life expectancy declined from 0.23 to 0.17. But the coefficient of variation of fertility increased from 0.33 to 0.46 while the coefficient of variation of per capita income rose from an already enormous 0.89 to 1.05. While the multiple of per capita income of the richest to the poorest country when they were first observed was 40.4, at the end of the period it was 57.9.

These disparities of income and fertility increased because countries that were richer to begin with developed further, while many countries that were poor remained poor. Of the eighty-three countries with per capita incomes under \$2,000 when first observed, fifty-seven remained equally poor or even poorer some thirty or forty years later. Of the fifty-two countries that began with higher incomes, all but seven at least doubled their income and none declined over the long run.

Hence, poverty can trap societies in its grip. Yet the bonds of poverty are not inexorable. Some countries, notably Taiwan, South Korea, Thailand, Japan, Singapore, Portugal, Greece, and Malta grew spectacularly, at least quadrupling their per capita incomes, with all the benefits development awards. Of this list, two (Taiwan and Singapore) were ruled by dictators during the entire period and one (South Korea) during most of it, two were democracies throughout (Japan and Malta), and the remaining three (Thailand, Portugal, and Greece) experienced both regimes. Thus, while such spectacular successes are rare to begin with, there is nothing to indicate that it takes one regime or the other to generate them. But, in any case, to evaluate the impact of regimes, one must look at their entire, not just their best, record.

Political regimes have no impact on the growth of total income when countries are observed across the entire spectrum of conditions. Contrary to widespread concerns, democracies do not reduce the rate of investment even in poor countries. It appears that when countries are poor there is little governments can do, so that it makes little difference for economic growth whether rulers are elected or hold power by force. In wealthier countries, patterns of growth are no longer the same. Dictatorships rely on the growth of labor force and on keeping wages low, while democracies pay higher wages, use labor more effectively, and benefit more from technical progress. But while growth under wealthier dictatorships is more labor-extensive and labor-exploitative than under wealthier democracies, so that functional distributions of income are different, the average rates of growth of total income are about the same.

Thus, we did not find a shred of evidence that democracy need be sacrificed on the altar of development. The few countries that developed spectacularly during the past fifty years were as likely to achieve this feat under democracy as under dictatorship. On the average, total incomes grew at almost identical rates under the two regimes. Moreover, per capita incomes grow faster in democracies. The reason is that democracies have lower rates of population growth. In spite of rapid diffusion of medical advances, death rates remain somewhat higher under dictatorship and life expectancies are much shorter. Population grows faster under dictatorships because they have higher birth rates, and the difference in birth rates is due to higher fertility, not to age structures of the population.

Women are particularly affected by dictatorships. They participate in gainful activities at the same rates as they do in democracies and as workers they get lower wages. But they also have more children, see more of them die, and are themselves more likely to die in childbirth.

These findings add up to a bleak picture of dictatorships. While democracies are far from perfect, lives under dictatorships are grim and short. Dictatorships are regimes in which political rulers accede to and maintain themselves in power by force. They use force to prevent people from expressing their opposition and to repress workers. Because they rule by force, they are highly vulnerable to any visible signs of dissent. They are successful economically only if they are “stable,” if no one expects that dictators would change or the dictatorship would be abolished. Since in dictatorships policies depend on the will, and sometimes the whim, of a dictator, they exhibit high variance of economic performance: some generate miracles, some disasters, and many generate both. Because their policies and their performance are so unpredictable, they do not allow people to plan their lives, inducing households to hoard the least risky asset, namely children. In the end, per capita incomes grow slower and people live shorter lives in dictatorships. Thus, while scarcity makes lives destitute, regimes do make a difference, not only for political liberty but also for material well-being.

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Table 1: Regime transitions as a function of per capita income (in thousands \$PPP), 1951-1999.

Income	p_A	N	n_{AD}	N_A	p_{AD}	n_{DA}	N_D	p_{DA}
-1	0.89	1335	19	1193	0.0153	12	142	0.0845
1-2	0.68	1271	23	868	0.0265	17	403	0.0422
2-3	0.56	723	14	408	0.0341	9	315	0.0286
3-4	0.52	470	5	246	0.0203	5	224	0.0223
4-5	0.47	316	6	149	0.0403	2	167	0.0120
5-6	0.39	244	5	94	0.0532	1	150	0.0067
6-7	0.28	224	2	62	0.0323	1	162	0.0062
7-8	0.21	201	1	43	0.0233	0	158	0.0000
8-	0.17	880	1	147	0.0068	0	733	0.0000

Note:

p_A is the proportion of authoritarian regimes

N is the total number of observations

n_{AD} is the number of transitions from authoritarianism to democracy

N_A is the number of observations of authoritarian regimes

p_{AD} is the probability of transition from authoritarianism to democracy

n_{DA} is the number of transitions from democracy to authoritarianism

N_D is the number of observations of democratic regimes

p_{DA} is the probability of transition from democracy to authoritarianism

Table 2: Average rates of investment, growth of capital stock, growth of labor force, growth of total output, and growth of population, by regime. Observed and selection-corrected values. (Standard errors in parentheses.)

Variable	Observed		Selection corrected	
	Dictatorships	Democracies	Dictatorships	Democracies
N	2396	1595	3991	3991
I/Y	14.28 (9.40)	20.98 (8.02)	16.84 (7.85)	17.69 (7.81)
K?/K	7.24 (14.00)	6.49 (10.78)	7.01 (9.99)	7.06 (9.57)
L?/L	2.28 (1.94)	1.59 (1.20)	2.16 (0.53)	1.75 (0.68)
Y?/Y	4.43 (6.94)	3.92 (4.82)	4.22 (5.17)	4.37 (4.60)
P?/P	2.42 (1.57)	1.46 (1.11)	2.18 (0.59)	1.59 (0.63)

Note: The selection-corrected values are based on regression equations and estimators reported in Przeworski et al. (2000), various tables.

Table 3: Selection-augmented Growth Equations, by Regime and Bands of Per Capita Income (Standard errors in parentheses).

	Entire	Sample	Under	\$3000	Over	\$3000
	Dic	Dem	Dic	Dem	Dic	Dem
N	2396	1595	1917	487	479	1108
Constant	0.1939 (0.0934)	0.5796 (0.0935)	0.1447 (0.1016)	0.1036 (0.1798)	0.3333 (0.2355)	0.9053 (0.1110)
K?/K	0.4094 (0.0059)	0.3619 (0.0079)	0.4033 (0.0063)	0.3984 (0.0015)	0.4430 (0.0165)	0.3199 (0.0111)
L?/L	0.5906 (0.0059)	0.6381 (0.0079)	0.5967 (0.0063)	0.6016 (0.0015)	0.5570 (0.0165)	0.6801 (0.0111)
λ	-1.0397 (0.3381)	0.2609 (0.2133)	-1.1933 (0.3978)	-0.0029 (0.2870)	-0.9831 (0.6847)	0.3965 (0.3665)
Y?/Y HAT	4.22 (5.17)	4.37 (4.60)	4.34 (5.73)	4.28 (5.66)	4.24 (4.30)	4.15 (3.19)
TFP	0.19	0.58	0.14	0.10	0.33	0.91
Capital	2.84	2.51	2.81	2.78	3.05	2.20
Labor	1.19	1.28	1.39	1.40	0.85	1.04

Note: These estimates were constrained by $\alpha + \beta = 1$. The last three lines show factor contributions to growth. TFP stands for total factor productivity.

Table 4: Observed and Selection-Corrected Values of Different Demographic Variables (per thousand), by Regime (Standard errors in parentheses).

Variable	Observed		Selection corrected	
	Dictatorships	Democracies	Dictatorships	Democracies
Deaths	13.59 (5.90)	9.28 (2.19)	10.39 (3.02)	9.17 (0.51)
Lives	53.99 (10.17)	70.28 (6.64)	61.24 (14.33)	67.06 (4.28)
Births	35.44 (12.60)	18.69 (7.89)	26.19 (9.00)	20.05 (3.77)

Note: The selection values are corrected only for per capita income and year.