

Adam Przeworski, Michael E. Alvarez, José Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990* (Cambridge University Press, 2000).

Democracy and Development is one of the most important books in comparative politics in the last decade because of its ambitious goals, its quantity of data, the sophistication of its modeling, several theoretical innovations, and its surprising conclusion. Its ambitious purpose is to explore “the effects of political regimes on the material well-being of the people who live under them” (p. 4), specifically, the impact of dictatorship and democracy on economic growth rates, investment, factor productivity, population growth, birth and death rates, and ultimately per capita income. Before doing this, the authors undertake the most extensive and thorough statistical tests to date of hypotheses about the determinants of regime change. These relationships are explored using a set of 111 variables (excluding lagged variants), most of which are complete for 135 countries from 1950 to 1990.

Przeworski et al.’s principal contribution to the methodology of explaining the causes and consequences of democracy is to correct for selection bias. They persuasively argue that the often-observed association between democracy and high income is due, in part if not entirely, to the fact that democratic regimes have never fallen once they passed a certain threshold of income (pinpointed at \$6,055 per capita in 1985 Penn World Table dollars). This tendency in effect prevents us from observing the poorer democracies that would exist if democratic survival were independent of income, and therefore biases our estimates of the impact of regimes on material well-being. To correct for this bias, they employ a two-stage Heckman selection model, which is well known in econometrics but underutilized in comparative politics, where selection bias is a common problem. The surprising conclusion is that the impact of regimes is not on economic

growth, but on population growth. The economies of dictatorships and democracies grow at about the same rates, but citizens of dictatorships have more children. Faster population growth therefore slows the growth of *per capita* income.

This book will be influential because of these strengths and because the conclusion is surprising. It may also win applause because it tells us many things that we want to believe: that democracies exploit labor and women less, use technology more efficiently, help people live longer, spend more on social programs, grow as fast as dictatorships, and grow faster in per capita terms. However, the authors overemphasize some findings that are not very solid, and on several key points they even ignore or misinterpret their own contradictory evidence. This book therefore must be read with a critical eye and careful scrutiny of the fine print.

The first half of the book (chapters 1 and 2) is devoted entirely to explaining why some countries are democracies (defined dichotomously) and others are “dictatorships” (a residual category of non-democracies). The authors make equally valuable contributions to explanations of both the causes and the consequences of democracy. Their final model performs amazingly well, correctly classifying 97 percent of nearly 4,000 country-years. (This performance may have been boosted a bit by the exclusion of six oil-exporting countries. They were excluded from a preliminary analysis and it is not clear that they were reintroduced for the final model, but either way the omission could not have affected the final estimates much.) However, the authors give too much weight to the findings of their fascinating but less rigorous preliminary analyses. In particular, they claim to have refuted the modernization hypothesis that high income causes countries to become democratic. This claim is based on bi- and trivariate tables showing that the probability of a dictatorship “dying” (i.e., becoming a democracy) is not consistently greater at

higher income levels—fleshed out by many specific examples showing that any relationship that might exist could not be a tight one. Nevertheless, their own best analysis (Table 2.17, p. 124), which incorporates many more control variables in a dynamic probit model, finds that lagged per capita income has a very significant (t ratio=3.953, p =.00008), positive impact on the probability of a transition to democracy. The substantive impact of this relationship is not negligible.

Calculating from the coefficients in Table 2.17, the life expectancy of a dictatorship (i.e., the waiting time for a democratic transition) shrinks from 20 years at \$1,000 per capita GDP to 15 years at \$5,000, 11 years at \$10,000, and 6 years at \$20,000. This finding is later confirmed in a model that incorporates presidentialism. It is true, as they note, that the effect of income on stabilizing democracies is “orders of magnitude larger” (p. 123) (which is indeed a key theoretical achievement); but it still contradicts the chapter’s conclusion that “wealthy countries tend to be democratic not because democracies emerge as a consequence of economic development under dictatorships but because, however they emerge, democracies are much more likely to survive in affluent societies In sum, modernization theory appears to have little, if any, explanatory power” (p. 137). Furthermore, it is likely that the authors’ failure to detect a more powerful impact of income on change toward democracy is in part a consequence of their dichotomous dependent variable. A graded indicator of democracy would be more sensitive to impacts on lesser degrees of democratization.

Similarly, the conclusion that democracies are less likely to die when the rate of economic growth is high does not accurately reflect the authors’ own best evidence. This claim seems to be based on Table 2.10 (p. 110), which reports regime death rates by whether the economy was shrinking or growing, within each income level. This table supports the claim, but

it is not supported by the more rigorous dynamic probit model, which finds only a non-significant (t ratio=1.41, p=.159) negative impact of growth rates on the probability of a democratic breakdown (p. 124). A confidence level of 84 percent is unacceptable, especially when working with a dataset this large. Table 2.20 (p. 133) later shows that the claim is supported for presidential democracies but not for parliamentary systems, and not for democracies in general.

The authors remove from consideration any impact of political mobilization (an index of strikes, riots, and anti-government demonstrations) on regime breakdown before the dynamic probit model. However, it seems to have been eliminated for the wrong reasons, as all the analyses of regime change and mobilization were done backwards. Table 2.13 holds regime change constant and allows values of mobilization to vary, which would be an appropriate research design for testing a nonsensical hypothesis about the impact of subsequent regime change on prior mobilization, but not for the reverse hypothesis that interests us. Table 2.14 in effect makes the same mistake because it analyzes only cases of regime transition. In other words, it selects on the dependent variable. The true impact of political mobilization therefore remains an open question.

In spite of these errors, the analysis of the causes of democratic transitions and breakdowns sets a new standard for other researchers to emulate, and it does yield many solid and correctly interpreted conclusions. Among them, several negative findings deserve to be highlighted: that no particular religion, culture, or colonial legacy has a robust impact on democratic survival, and that older regimes are not more likely to survive. The authors do find that religious fractionalization is associated with breakdowns of both democratic and authoritarian regimes, although this finding does not hold up when controlling for types of

democracy. They also find that the more regime transitions a country suffered in the past, the more likely a transition is in the future, though this variable is probably a proxy for some unspecified determinants of regime change. Finally, the impact of income levels is clear, though slightly different than the version presented by the authors. Economic development does help countries become democracies, and it also, and more powerfully, helps them remain democratic.

Chapters 3 through 5 examine the impact of regimes and political instability on overall economic growth and the impact of regimes on population growth. Chapter 3 reaches three important conclusions. First, there is a poverty trap: in the poorest countries, political regimes make no difference for growth, probably because states lack the resources necessary to make a difference. Second, dictatorships and democracies in wealthier countries grow at about the same rate, overall, when one corrects for selection bias. Third, the two regimes grow in different ways. Democracies make more efficient use of technology and use a smaller labor force more productively; dictatorships depend more on capital and use a larger labor force less productively: they pay workers significantly less.

Chapter 4 considers various hypotheses linking growth to political stability. Their evidence is convincing that overall economic growth is not affected, in the long term, by wars, regime transitions, the age of the regime, or the cumulative number of prior regime changes. However, they do claim that some forms of instability can affect short-term investment. The authors lament finding that investment increases when the probability of a democratic breakdown is high. They also repeatedly call attention to their estimate that *expectations* of a transition to democracy and expectations of a change of government (not regime) in dictatorships tend to depress investment. Apparently, investors prefer dictators. However, these estimates depend on a

selection model that is quite different from the ones used in chapters 3 and 5. The chapter 4 selection model includes only the less robust instrumental variables identified in chapter 2 and omits the two best predictors of transitions: number of past transitions and income level. If this model inadequately corrects for selection bias, it could create a false impression that instability affects investment.

Chapter 5 opens with the excellent observation that those who wish to explain per capita income should pay as much attention to population growth as they do to income growth. This chapter gives a fine example of parsing a dependent variable in order to pin down the exact nature of the causal relationships. Having ruled out a regime difference in aggregate economic growth, the authors explore impacts on the two components of population growth--death rates and birth rates. They demonstrate that regimes differ very little in death rates (whether reflecting infant mortality or other kinds of death), so they examine the two determinants of birth rates: fertility and the age structure of the population. They then rule out age structure, leaving fertility as the prime suspect.

The impact of regimes on fertility is not tested directly, however. Przeworski et al. build their case in three other ways. First, they show that regimes matter for population growth. These estimates are quite rigorous, employing the best features of the selection model developed in chapter 2. Second, the authors elaborate three theories that suggest why regimes might affect fertility rates. Rigorous testing of hypotheses generated by these theories then shows that one of them works much better than the other two. These hypotheses were most consistent with the theory that people have children for their "insurance value," that is, as a hedge against economic uncertainty. This theory works about equally well in both regimes. The authors conjecture that

the greater variability of economic policies and outcomes in dictatorships accounts best for the higher fertility, and therefore higher population growth, of dictatorships. The third piece of evidence is a simulation of fertility rates in each regime. The authors do not report standard errors or confidence intervals for these simulated means, but since the rate for dictatorships is more than twice that for democracies (p. 250), the difference is credible.

However, it is one thing to say that regimes affect fertility, and quite another to say that among all the determinants of fertility, regimes have enough of an impact to be held responsible for the slower growth of per capita income. In fact, the authors' direct estimates of the impact of regimes on change in per capita income do not show a clear difference across regimes. They obtain these estimates in a disconcerting way: by subtracting population growth rates that are definitely different across regimes from income growth rates that are statistically indistinguishable across regimes. It is not at all clear that this operation results in per capita income growth rates (2.65 percent for democracies vs. 2.12 percent for dictatorships) that are truly different, especially when the standard errors of per capita income growth rates reported in other tables are rather large. (Subtracting rates in this way is not even algebraically correct, although it gives very close approximations of the correct answer within the ranges used here.)

Even these estimates could be undermined if other explanatory variables are endogenous with respect to regimes, as the authors acknowledge in Appendix I (p. 289). And what if selection bias works both ways? If democracies are more likely to have high per capita incomes, as this book concludes, then it seems that we should also correct for selection bias when explaining democratic transitions. This possibility leaves us with a grand chicken-and-egg problem that may require still more complex estimation methods.

Overall, however, *Democracy and Development* contains a landmark, standard-shattering body of research. Its analytic strategies are ingenious and the data collection efforts and technical expertise of its authors inspire awe. The authors are not to be blamed for nature's refusal to yield clear or simple answers. Instead, they should be congratulated for having achieved such astonishing progress on multiple fronts in a single volume.