MODERNIZATION
Theories and Facts

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INTRODUCTION

WHAT makes political regimes rise, endure, and fall? Do democracies emerge as a consequence of economic development? Does rapid economic growth destabilize democracies? Is there some level of development beyond which democracies are more likely to fall? Is European history unique or is it repeating itself in contemporary less developed countries?

Our purpose is to distinguish two theories that relate economic development and democracy and to examine some facts in light of these theories. While ultimately the interesting questions concern the mechanisms that mediate between economic development and the dynamics of political regimes, we must nevertheless identify the facts to be explained before plunging into explanations. Hence, we stick as close as possible to elementary descriptive patterns. We pose the question narrowly, examining exclusively the impact of development, rather than seeking broadly to explain the dynamic of political regimes. Hence, we deliberately ignore factors such as religion, colonial legacy, position in the world system, income distribution, or diffusion, which have been found by others to influence the incidence of democracy. We believe that our question is important in its own right, that it lends itself to divergent answers, and that it raises methodological issues that are not well understood.

In Section I, we reconstruct two alternative views of the relation between development and democracy, both put forth by Lipset,[1] and we count the cases that fit them. In Section II we examine the vulnerabil-

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[1] Seymour Martin Lipset, "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *American Political Science Review* 53 (March 1959); and idem, *Political Man: The Social Bases of Politics* (Baltimore: Johns Hopkins University Press, 1981).

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ity of democracies to economic crises. In Section III we consider the most important substantive criticisms of Lipset's views, and in Section IV we study methodological criticisms. Methodological and political reflections close the paper. Appendix 1 explains our classification of regimes, while Appendix 2 spells out the analytics of regime dynamics.

I. Economic Development and Democracy

Lipset's observation that democracy is related to economic development, first advanced in 1959, has generated the largest body of research on any topic in comparative politics. It has been supported and contested, revised and extended, buried and resuscitated. And while several articles in the recent Festschrift to Lipset proclaim conclusions, neither the theory nor the facts are clear.[2]

Even a glance at the aggregate patterns, such as Figure 1, shows that the relation between levels of development and the incidence of democratic regimes is strong.[3] Indeed, a probit analysis of regimes conditional only on the per capita income, to which we refer throughout as the level of development, correctly classifies 77 percent of 4,126 annual observations.[4] The probability that this classification is not generated by chance is greater than 0.99.

Yet there are two distinct reasons this relation may hold: either democracies may be more likely to emerge as countries develop economically, or they may be established independently of economic de-

[2] Larry Diamond, "Economic Development and Democracy Reconsidered," in Gary Marks and Larry Diamond, eds., *Reexamining Democracy: Essays in Honor of Seymour Martin Lipset* (Newbury Park, Calif.: Sage Publications, 1992).

[3] While different data sets and different estimation methods lead to somewhat divergent results, the most careful statistical study of the aggregate patterns thus far, by Burkhart and Lewis-Beck, finds that economic development Granger causes democracy. Ross E. Burkhart and Michael S. Lewis-Beck, "Comparative Democracy: The Economic Development Thesis," *American Political Science Review 88* (December 1994), 903–10.

[4] A fair amount of ink has been spilled over whether the relation between development and democracy is linear. See Robert W. Jackman, "On the Relation of Economic Development to Democratic Performance," *American Journal of Political Science 17* (August 1973), 611–21; and Zehra F. Arat, "Democracy and Economic Development: Modernization Theory Revisited," *Comparative Politics* 21 (October 1988), 21–36. We now know better. Democracy, however measured, is a qualitative or a limited variable: it assumes values of 0 or 1 under our measurement; it ranges from 2 to 14 on the Freedom House Scale created by R. D. Gastil, *Freedom in the World: Political Rights and Civil Liberties, 1987–88* (New York: Freedom House, 1988); from 0 to 100 on the scale of Kenneth A. Bollen, "Issues in the Comparative Measurement of Political Democracy," *American Sociological Review 45* (June 1980), 370–90, and so on. Hence, no predicted index of democracy can become negative as the level of development tends to zero, and no predicted index of democracy can exceed whatever is the maximum value of a particular scale as the level gets very large. Only a nonlinear function, such as the normal or logistic, as suggested by Robert A. Dahl can satisfy these constraints. See Dahl, *Polyarchy* (New Haven: Yale University Press, 1971). This is why we use probit or logit models throughout.

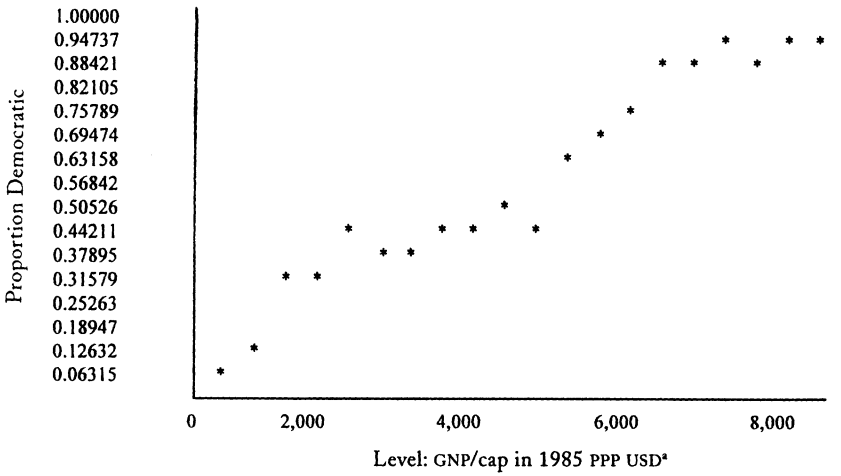

FIGURE 1
PROBABILITY THAT A REGIME IS DEMOCRATIC, BY PER CAPITA INCOME

[a]1985 PPP USD-purchasing-power parities in U.S. dollars.

velopment but may be more likely to survive in developed countries. We call the first explanation "endogenous" and the second "exogenous."

Since we are dealing with only two regimes, democracies emerge whenever dictatorships die.[5] Hence, to assert that democracies emerge as a result of economic development is the same as to say that dictatorships die as countries ruled by them become economically developed. Democracy is then secreted out of dictatorships by economic development. A story told about country after country is that as they develop, social structure becomes complex, labor processes begin to require the active cooperation of employees, and new groups emerge and organize. As a result, the system can no longer be effectively run 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. Various groups, whether the bourgeoisie, workers, or just the amorphous "civil society," rise against the dictatorial regime, and it falls.

The endogenous explanation is a "modernization" theory. The basic assumption of this theory, in any of its versions, is that there is one gen-

[5] This is not quite true of our data set, since different countries enter and exit the sample at different moments. For now, we consider the population of countries as fixed, but see Section IV.

eral process of which democratization is but the final stage. Modernization consists of a gradual differentiation and specialization of social structures that culminates in a separation of political structures from other structures and makes democracy possible. The specific causal chains consist of sequences of industrialization, urbanization, education, communication, mobilization, and political incorporation, among innumerable others: a progressive accumulation of social changes that ready a society to proceed to its culmination, democratization.

Modernization may be one reason the incidence of democracy is related to economic development, and this is the reading most commentators impute to Lipset.[6] His most influential critic, O'Donnell, paraphrases Lipset's thesis as saying that "if other countries become as rich as the economically advanced nations, it is highly probable that they will become political democracies."[7] Democracy, then, is endogenous, since it results from development under authoritarianism. According to this theory, the sequence of events one would expect is one of poor authoritarian countries developing and becoming democratic once they reach some level of development, a "threshold."

Yet suppose that dictatorships are equally likely to die and democracies to emerge at any level of development. They may die for so many different reasons that development, with all its modernizing consequences, plays no privileged role. After all, as Therborn emphasized, many European countries democratized because of wars, not because of "modernization," a story repeated by the Argentine defeat in the Malvinas and elsewhere.[8] Some dictatorships fell in the aftermath of the death of a founding dictator—a Franco, for instance—who had been uniquely capable of maintaining the dictatorial order. Some collapsed because of economic crises. Some because of foreign pressures.

If dictatorships die and democracies emerge randomly with regard to development, is it still possible that there would be more democracies among wealthy countries than among poor ones? If one is to take Lipset at his own word—"The more well-to-do a nation, the greater the chances it will sustain democracy"[9]—then even if the emergence of democracy is independent of the level of development, the chance that

[6] Diamond (fn. 2), 45; as well as Evelyne Huber, Dietrich Rueschemeyer, and John D. Stephens, "The Impact of Economic Development on Democracy," *Journal of Economic Perspectives* 7 (Summer 1993), 71–86.

[7] Guillermo O'Donnell, *Modernization and Bureaucratic Authoritarianism: Studies in South American Politics* (Berkeley: Institute of International Studies, University of California, 1973), 3.

[8] Goran Therborn, "The Rule of Capital and the Rise of Democracy," *New Left Review*, no. 103 (May–June 1977).

[9] Lipset (fn. 1, 1959), 56.

such a regime will survive is greater if it has been established in an affluent country. We would thus expect to observe democracies to appear randomly with regard to levels of development, but to die in the poorer countries and survive in the wealthier ones. Thus, history gradually accumulates wealthy democracies, since every time a dictatorship happens to die in an affluent country, democracy is there to stay (see Appendix 2). This is therefore no longer a modernization theory, since the emergence of democracy is not brought about by development. Rather, democracy appears exogenously as a deus ex machina. It survives if a country is "modern," but it is not a product of "modernization."

Are we splitting hairs?

Examine first some descriptive patterns. The facts we report concern 135 countries between roughly 1950 and 1990. "Entry" year refers to 1950, or to the year when a country became independent, or to the first year for which economic data are available, and "exit" year refers to 1990 or to the last year when the data are available. All the regimes that occurred during this period were classified as democracies or dictatorships (we use the latter term interchangeably with "authoritarian regimes").[10] Altogether, we observed 224 regimes, 101 democratic and 123 authoritarian. The references to levels of development and growth rates are expressed in constant U.S. dollars computed at purchasing-power parities and expressed in 1985 prices. (Thus all $ numbers refer to 1985 PPP USD.) The lowest level we observed in the entire sample is $226 (Burma in 1950), the highest is $18,095 (United States in 1989).[11]

If the theory that democracy emerges as a result of economic development is true, transitions to democracy would be more likely when authoritarian regimes reach higher levels of development. In fact, transitions are increasingly likely as per capita income of dictatorships rises but only until it reaches a level of about $6,000. Above that, dictatorships become more stable as countries become more affluent. Dictator-

[10] Our regime classification and the resulting list of regimes are described in Appendix 1 and in Mike Alvarex et al., "Classifying Political Regimes," *Studies in International Comparative Development* (forthcoming). The reason for selecting this period and the sample is the availability of internationally comparable economic data, which we took from the Penn World Tables 5.6. The sample we describe here and use throughout does not include six countries that derive at least half of their income from oil revenues. While political data are available for 4,730 country years, data for economic growth are available for only 4,126 country years, which is the number of observations in most analyses.

[11] Readers used to the UN or the World Bank GNP figures should be aware that counting incomes at purchasing-power parities tends to increase significantly the levels for poor countries and to decrease slightly the numbers for rich countries. It may be useful for future reference to know what different numbers describe: by 1990, Nigeria had a per capita income of $995, Indonesia had $1,973, Czechoslovakia $4,094, Spain $9,576, and the United States $18,073.

ships survive, or at least succeed one another,[12] almost invariably in the very poor countries, those under $1,000. They are somewhat less stable in countries with incomes between $1,001 and $4,000 and even less so above $4,000. But if they reach the level of $6,000, transitions to democracy become less likely. As the lower panel of Table 1 (PAD column 4) shows, the probability of any dictatorship dying during any year is 0.0206; for those dictatorships with incomes over $1,000, this probability is 0.0294, over $5,000 it is 0.0641, over $6,000 it is 0.0484, over $7,000 it is 0.0333. Huntington, it seems, was correct with regard to dictatorships: they exhibit a "bell shaped pattern of instability."[13]

To test whether these patterns can be predicted by per capita income, we estimate the transition probabilities conditional on level and, given the nonlinearity of the observed patterns, its square (see Appendix 2). The results are presented in Table 2. As we see, the probabilities of dictatorships falling, p_{AD}, predicted by the level of development correspond closely to those observed. They increase until the $5,001–$6,000 range and then decline.

Indeed, dictatorships survived for years in countries that were wealthy. Whatever the threshold at which development is supposed to dig the grave for authoritarian regimes, it is clear that many dictatorships passed it in good health. Even disregarding those countries that derive more than one-half of their revenues from oil, dictatorships flourished in Singapore, East Germany, Taiwan, USSR, Spain, Bulgaria, Argentina, and Mexico for many years after these countries enjoyed incomes above $5,000, which Austria, Belgium, France, Germany, Iceland, Italy, Netherlands, and Norway did not have by 1950. Table 3 lists the dictatorships that survived even though the probability that the regime is democratic predicted by the level of development was above 0.50, which corresponds to per capita income of $4,115.

Yet this may not be a fair test of modernization theory. The hypothesis implied by this theory is that *if* a country develops over a longer period under dictatorship, so that all the modernizing consequences have time to accumulate, then it will embrace democracy. But for most dictatorships this premise is vacuous: only 19 dictatorships—to remind, out of 123—did develop over longer periods of time and reached "modernity." Let us thus examine more closely these countries, the ones that developed under authoritarianism and became "modern," which

[12] Note that we do not distinguish successive dictatorships. If President Viola succeeds President Videla or even if ayatollahs succeed a shah, we treat it as one continuous spell of dictatorship.

[13] Samuel P. Huntington, *Political Order in Changing Societies* (New Haven: Yale University Press, 1968), 43.

TABLE 1
REGIME TRANSITIONS BY LAGGED PER CAPITA INCOME (LEVEL)[a]
(ANNUAL DATA)

Low-High	*PJK*	*TTR*	*TOT*	*PAD*	*TRD*	*TA*	*PDA*	*TRA*	*TD*
−1000	0.0152	15	987	0.0066	6	915	0.1250	9	72
1001–2000	0.0329	32	972	0.0248	18	727	0.0571	14	245
2001–3000	0.0316	15	474	0.0276	8	290	0.0380	7	184
3001–4000	0.0238	8	336	0.0161	3	186	0.0333	5	150
4001–5000	0.0349	8	229	0.0492	6	122	0.0187	2	107
5001–6000	0.0314	6	191	0.0641	5	78	0.0088	1	113
6001–7000	0.0196	3	153	0.0625	2	32	0.0083	1	121
7001–	0.0015	1	649	0.0333	1	30	0.0000	0	619
All	0.0221	88	3991	0.0206	49	2380	0.0242	39	1611
Above									
1000	0.0243	73	3004	0.0294	43	1465	0.0195	30	1539
2000	0.0202	41	2032	0.0339	25	738	0.0124	16	1294
3000	0.0167	26	1558	0.0379	17	448	0.0081	9	1110
4000	0.0147	18	1222	0.0534	14	262	0.0042	4	960
5000	0.0101	10	993	0.0571	8	140	0.0023	2	853
6000	0.0050	4	802	0.0484	3	62	0.0014	1	740
7000	0.0015	1	649	0.0333	1	30	0.0000	0	619

[a]Since per capita income is lagged, we lose 135 observations, for the total of 3,991. The following abbreviations are used:

PJK is the probability that either regime dies during a particular year
TTR is the number of transitions
TOT is the total number of regime years at a particular level
PAD is the probability of transition to democracy
TRD is their number
TA is the total number of years under authoritarianism
PDA is the probability of transition to authoritarianism
TRA is their number
TD is the total number of years under democracy

we will take arbitrarily to mean that at some time they had a per capita income of $4,115. (See Table 4.)

Gabon, Syria, and Yugoslavia are the three countries that experienced a sustained increase in income over, respectively, twelve, seventeen, and eighteen years, reached the level at which democracy was the more likely regime, and, having remained under dictatorships, experienced a series of economic crises. Singapore and Malaysia are the two countries that developed over a long period, became wealthy, and remained dictatorships until now. In East Germany, Taiwan, USSR, Spain, Bulgaria, and Hungary dictatorships eventually fell, but only many

TABLE 2
REGIME TRANSITION PROBABILITIES PREDICTED BY LAGGED PER CAPITA INCOME AND ITS SQUARE[a]

Level	P_{DA}	P_{AD}	P_{DD}	P_{AA}	P_D^*	*N*
<1000	0.098	0.010	0.902	0.990	0.092	987
	(0.125)	(0.007)	(0.875)	(0.993)	(0.053)	
1001–2000	0.072	0.017	0.928	0.983	0.191	972
	(0.057)	(0.025)	(0.943)	(0.975)	(0.304)	
2001–3000	0.044	0.028	0.956	0.972	0.388	474
	(0.038)	(0.028)	(0.962)	(0.972)	(0.424)	
3001–4000	0.026	0.039	0.974	0.961	0.600	336
	(0.033)	(0.016)	(0.967)	(0.984)	(0.326)	
4001–5000	0.015	0.047	0.985	0.953	0.758	229
	(0.019)	(0.049)	(0.981)	(0.951)	(0.720)	
5001–6000	0.008	0.050	0.992	0.950	0.862	191
	(0.009)	(0.064)	(0.991)	(0.936)	(0.876)	
6001–7000	0.004	0.047	0.996	0.953	0.921	153
	(0.008)	(0.063)	(0.992)	(0.937)	(0.887)	
7001–	0.0006	0.017	0.999	0.983	0.965	649
	(0.000)	(0.033)	(1.000)	(0.967)	(1.000)	
All	0.051	0.028	0.959	0.977	0.354	3991
	(0.024)	(0.021)	(0.976)	(0.979)	(0.466)	

[a] Based on a dynamic probit model. See Appendix 2. The probabilities p_{jk}, j=A,D, k=A,D are of transitions and survival. p^*_D is the equilibrium proportion of democracies. Observed transition rates (from Table 1) are in parentheses.

years after they had reached the critical level of income. Given its 1974 income level, Uruguay should never have been a dictatorship. The economic history of the Chilean dictatorship is convoluted: its income in 1974 was $3,561, it climbed with downs and ups to $4,130 by 1981, collapsed to $3,199 by 1983, recovered to surpass the 1974 level only by 1986, and passed the threshold of $4,155 in 1989, exactly the year of transition. The history of Poland is similar: by our criteria, it reached the threshold of democracy in 1974; it experienced an economic crisis in 1979 and a mass movement for democracy in 1980, passed the threshold again in 1985, and became a democracy in 1989. In turn, Brazil, Czechoslovakia, Portugal, and perhaps even South Korea and Greece are the dream cases of a modernization theorist. These are countries that developed under a dictatorship, became wealthy, and threw dictatorships off more or less at the same income levels. But they are few.

This is not to say that democracies did not sometimes emerge be-

TABLE 3
HIGHEST LEVELS OF PER CAPITA INCOME (LEVEL) UNDER WHICH DICTATORSHIPS SURVIVED IN DIFFERENT COUNTRIES

Country	*Year*	*Highest Level*	*PROB(REG=DEM)*[a]
Singapore	1990	11698	0.992
East Germany	1988	10433	0.977
Iraq	1979	8598	0.923
Taiwan	1990	8067	0.895
USSR	1989	7744	0.875
Spain	1976	7390	0.851
Gabon	1976	6969	0.818
Venezuela	1957	6939	0.815
Bulgaria	1988	6866	0.809
Argentina	1980	6505	0.776
Mexico	1981	6463	0.772
Iran	1976	6434	0.769
Argentina	1972	5815	0.705
Yugoslavia	1979	5674	0.690
Hungary	1987	5650	0.687
Greece	1973	5218	0.637
Uruguay	1981	5162	0.630
Malaysia	1990	5117	0.625
Poland	1978	5102	0.623
South Korea	1987	5080	0.620
Syria	1981	4668	0.569
Portugal	1974	4657	0.568
Argentina	1962	4541	0.553
Argentina	1957	4355	0.530
Suriname	1981	4220	0.513

[a] The PROB(REG=DEM) is the probability that a regime is democratic given the level. It is calculated as $1-F(\alpha+\beta' LEVEL)$, where the parameters are estimated by the probit model and F(.) is the cdf of the normal distribution.

cause countries became modern; put otherwise, dictatorships do not necessarily fall for the same reasons in all countries. Thus modernization may "explain" why democracy was established in countries that developed over a long period even it these countries had waited for its advent for periods of time that cannot be predicted. But if modernization theory is to have any predictive power, there must be some level of income at which one can be relatively sure that the country will throw off the dictatorship. One is hard put to find this level, however: among the countries that satisfy the premise of the modernization theory, the range of levels at which dictatorships survived is very wide (see the list in Table 4).

TABLE 4
COUNTRIES THAT DEVELOPED OVER LONG PERIODS UNDER DICTATORSHIP AND REACHED INCOMES ABOVE $4,115[a]

	Entry		*Passes*	*Peak*		*Transition*	
Country	*Year*	*Level*	*PROB=0.50*	*Year*	*PROB*	*Year*	*at PROB*
Gabon	1961	1969	1973	1976	0.82	never	
Brazil	1965	1864	1980	1980	0.52	1978	0.47
Chile	1974	3561	1981	1981	0.50	no	
			1989	1989	0.53	1989	0.53
Uruguay	1974	4148	1974	1981	0.63	1985	0.48
South Korea	1961	911	1985	1988	0.68	1988	0.68
Malaysia	1957	1282	1982	1990	0.63	never	
Singapore	1965	1845	1972	1990	0.99	never	
Syria	1961	1607	1978	1981	0.57	never	
Taiwan	1952	968	1979	1990	0.90	post 1990	
Bulgaria	1981	4216	?	1989	0.80	1989	0.80
Czechoslovakia	1964	1654	1989	1989	0.51	1989	0.51
East Germany	1971	4995	?	1988	0.98	1990	?
Greece	1967	3308	1970	1974	0.61	1974	0.61
Hungary	1971	3657	1974	1987	0.69	1989	0.68
Poland	1971	3109	1974	1978	0.62	no	
			1985	1988	0.55	1989	0.55
Portugal	1951	1314	1973	1974	0.57	1975	0.52
Spain	1951	2205	1964	1976	0.85	1976	0.85
USSR	1961	2536	1971	1989	0.88	collapsed	
Yugoslavia	1961	2073	1974	1979	0.69	collapsed	

[a]This table lists countries that grew over the period of at least seven years and at some time reached per capita income of $4,115. Entry is 1951 or the year after the country became independent or the year after economic data became available. Passes PROB=0.50 is the year when the country reached per capita income of $4,115. Peak gives the time when the country reached the highest income level under the particular dictatorship and the probability, as predicted by per capita income, that it would be a democracy. Finally, transition gives the year the dictatorship fell, if ever, and the probability of democracy at that time.

Moreover, even if to predict is not the same as to explain, "explaining" can easily entail an ex post fallacy. Consider Taiwan, which in 1961 had a per capita income of $968, which developed rapidly, passing by 1979 our threshold of $4,115, which on the basis of its income level had a probability of 0.10 of being a dictatorship in 1990, and which in 1995 elected its president in contested elections for the first time. Suppose that every year during all this time, the Taiwanese dictatorship faced a probability of 0.02 of dying for reasons not related to development. It thus had about a 50 percent chance of not being around by 1995 even if it had not developed at all. We may therefore attribute to development what may have been just a culmination of random haz-

ards. And, indeed, the Taiwanese dictatorship most likely democratized for geopolitical reasons, not for economic ones.[14]

Thus, the causal power of economic development in bringing dictatorships down appears paltry. Few authoritarian regimes satisfy the premise of modernization theory; that is, few developed over a long period. And even if most of those that did develop eventually became democracies, no level of income predicts when that would occur.

In turn, per capita income, our measure of the level of development, has a strong impact on the survival of democracies. The simple fact is that during the period under our scrutiny or ever before, no democracy ever fell, regardless of everything else, in a country with a per capita income higher than that of Argentina in 1975: $6,055.[15] Thirty-two democracies spent 736 years with incomes above $6,055 and not one collapsed, while thirty-nine out of sixty-nine democracies did fall in countries that were poorer.

As Table 1 shows, the probability that democracy survives increases monotonically with per capita income.[16] In countries with per capita income under $1,000, the probability that a democracy would die during a particular year was 0.125, which implies that their expected life was eight years.[17] Between $1,001 and $2,000, this probability was 0.0571, for an expected duration of about eighteen years. Above $6,055, democracies could expect to last forever. Statistical analysis, the results of which are shown in Table 2 (column 1), confirms that per capita income is a good predictor of the stability of democracies.

These findings cry out for an explanation. Lipset himself thought that the reason democracies survive in affluent countries is that wealth moderates in various ways the intensity of distributional conflicts. This is a plausible explanation but not easy to prove rigorously.[18] The intuitive story is this: Suppose that the political forces competing over the

[14] 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 seventy-eight she gets hit by a falling brick. To attribute this death to development is to conclude that she died of old age.

[15] The claim about the prewar period is based on rather heroic backward extrapolation of 1950 incomes, but the levels at which democracies fell in Europe were an order of magnitude lower: we guess it to have been $1,825 in Austria in 1934, $1,974 in Finland in 1930, $1,474 in Germany in 1933, and $1,814 in Italy in 1922.

[16] John B. Londregan and Keith T. Poole, "Poverty, the Coup Trap, and the Seizure of Executive Power," *World Politics* 42 (January 1990). Londregan and Poole found a similar pattern with regard to coups. In their sample of 121 countries between 1950 and 1982 coups were twenty-one times more likely to occur among the poorest than among the wealthiest countries.

[17] Expected life in any state is the inverse of the probability of transition away from this state.

[18] Adam Przeworski, "Why Democracies Survive in Affluent Countries?" (Paper presented at the annual meeting of the American Political Science Association, San Francisco, August 28–September 1, 1996).

distribution of income choose between complying with the verdicts of democratic competition, in which case each can expect to get some share of total income, or risking a fight over dictatorship, which is costly but which gives the victor all of the income. Now suppose that the marginal utility of consumption is lower at higher levels of consumption. Thus the gain from winning the struggle for dictatorship is smaller. In turn, if the production function has diminishing marginal returns in capital stock, the "catch-up" from destroying a part of it during the war for dictatorship is faster at lower levels of wealth. Hence, in poor countries the value of becoming a dictator is greater and the accumulated cost of destroying capital stock is lower. In wealthy countries, by contrast, the gain from getting all rather than a part of total income is smaller and the recuperation from destruction is slower. Hence, struggle for dictatorship is more attractive in poorer countries.

Obviously, there are always alternative interpretations. One, for example, is that income is just a proxy for education and more educated people are more likely to embrace democratic values. But while the accumulated years of education of an average member of the labor force—the measure of educational stocks we have—does increase the probability of survival of democracies independently of level, the effect of income survives when education is controlled, and indeed it is much stronger.

These observations strongly confirm the exogenous version of Lipset's theory. Once democracy is established, the more well-to-do a nation, the more likely that it will survive.

The reason we observe the relation between levels of development and the incidence of democracy is that democracies are almost certain to survive once they are established in rich countries. True, dictatorships are less stable when they reach the per capita income of $4,000. But what generates the pattern we observe in Figure 1 is that while democracy is terribly fragile in poor countries, it is impregnable in the rich ones. The probability that a democracy will die during any particular year in a country with an income above $4,000 is practically zero: two in a thousand years. And since at such levels dictatorships die at the rate of 5.7 percent, one would expect that independently of the initial distribution, in the long run democracies would constitute 96.1 percent of regimes in such wealthy countries.[19] Even if wealthy dictatorships died at a double, triple, or whatever times higher rate, that is,

[19] In the long run the proportion of democracies equals $p_{AD} / (p_{AD} + p_{DA})$, where p stands for transition probabilities, A for dictatorship ("authoritarianism"), and D for democracy. See Appendix 2. The numbers in the text are derived from Table 1.

even if development made transitions to democracy much more likely, all the difference endogenous theory could make is 3.9 percent.

To conclude, there are no grounds to believe that economic development breeds democracies: Lipset's "optimistic equation," as O'Donnell dubs it,[20] the "benign line" in the language of Huntington and Nelson,[21] has few countries running along it and those that do scatter in random directions. In turn, once established, democracies are likely to die in poor countries and certain to survive in wealthy ones.

II. Ups or Downs?

There is yet another irony to Lipset's theory. While Lipset cited several factors to explain why democracies survive, anticipating Olson[22] and Huntington,[23] he thought that democracies were more likely to be destabilized when countries grew rapidly. In Lipset's view, this threat to democracy originated with "extremist movements"—fascism and communism—because, as he saw it, extremism was a product of rapid development. "Wherever industrialization occurred *rapidly*, introducing sharp *discontinuities* between the pre-industrial and industrial situation, more rather than less extremist working-class movements emerged."[24]

Here Lipset and company could not have been more wrong. Rapid growth is not destabilizing for democracy (and neither is it for dictatorship). When democracies face a decline in incomes, they die at the rate of 0.0523 and can be expected to last nineteen years, but when incomes are growing, they die at the rate of 0.0160, with an expected life of sixty-four years.[25] Moreover, democracies that grow slowly, at the rate of less than 5 percent per annum, die at the rate of 0.0173, while those that grow at a rate faster than 5 percent die at the rate of 0.0132. (See Table 5.)

What is most striking is how fragile poor democracies are in the face of economic crises. In poor countries, those with per capita income under $2,000, of the 107 years during which a decline of incomes occurred, twelve democracies fell the following year: the expected life of democracy under such conditions is about nine years. Even among

[20] O'Donnell (fn. 7), 4.

[21] Samuel P. Huntington and Joan M. Nelson, *No Easy Choice: Political Participation in Developing Countries* (Cambridge: Harvard University Press, 1976) 19.

[22] Mancur Olson Jr., "Rapid Growth as a Destabilizing Force," *Journal of Economic History* 23 (December 1963).

[23] Huntington (fn. 13).

[24] Lipset (fn. 1, 1981), 54.

[25] This finding parallels again the results of Londregan and Poole (fn. 16) with regard to coups, which they found to be less likely when the economy grows.

TABLE 5

OBSERVED RATES OF TRANSITIONS, BY LAGGED PER CAPITA INCOME AND LAGGED RATE OF ECONOMIC GROWTH[a]

		All			*Dictatorships*			*Democracies*		
Level	*Growth*	*PJK*	*TTR*	*TOT*	*PAD*	*TRD*	*TA*	*PDA*	*TRA*	*TD*
0–1000	Total	1.52	15	987	0.66	6	915	12.50	9	72
	G<=0	2.14	9	420	1.01	4	397	21.74	5	23
	G> 0	1.06	6	567	0.39	2	518	8.16	4	49
1001–2000	Total	3.29	32	972	2.48	18	727	5.71	14	245
	G<=0	4.68	14	299	3.26	7	215	8.33	7	84
	G> 0	2.67	18	673	2.15	11	512	4.35	7	161
2001–3000	Total	3.16	15	474	2.76	8	290	3.80	7	184
	G<=0	4.96	6	121	3.75	3	80	7.32	3	41
	G> 0	2.55	9	353	2.38	5	210	2.80	4	143
3001–4000	Total	2.38	8	336	1.61	3	186	3.33	5	150
	G<=0	3.23	3	93	1.92	1	52	4.88	2	41
	G> 0	2.06	5	243	1.49	2	134	2.75	3	109
4001–5000	Total	3.49	8	229	4.92	6	122	1.87	2	107
	G<=0	5.56	3	54	6.25	2	32	4.55	1	22
	G> 0	2.86	5	175	4.44	4	90	1.18	1	85
5001–6000	Total	3.14	6	191	6.41	5	78	0.88	1	113
	G<=0	5.71	2	35	10.53	2	19	0.00	0	16
	G> 0	2.56	4	156	5.08	3	59	1.03	1	97
6001–7000	Total	1.96	3	153	6.25	2	32	0.83	1	121
	G<=0	8.82	3	34	40.00	2	5	3.44	1	29
	G> 0	0.00	0	119	0.00	0	27	0.00	0	92
7001–	Total	0.15	1	649	3.33	1	30	0.00	0	619
	G<=0	0.00	0	110	0.00	0	3	0.00	0	107
	G> 0	0.19	1	539	3.70	1	27	0.00	0	512
Total	Total	2.21	88	3991	2.06	49	2380	2.42	39	1611
	G<=0	3.43	40	1166	2.61	21	803	5.23	19	363
	G> 0	1.70	48	2825	1.78	28	1577	1.60	20	1248

[a]Since per capita income is lagged, we lose 135 observations, for the total of 3991. The following abbreviations are used:

PJK is the probability that either regime dies during a particular year

TTR is the number of transitions

TOT is the total number of regime years at a particular level

PAD is the probability of transition to democracy

TRD is their number

TA is the total number of years under authoritarianism

PDA is the probability of transition to authoritarianism

TRA is their number

TD is the total number of years under democracy

countries with incomes between $2,001 and $6,000, a decline of incomes resulted in the fall of six democracies in 120 years during which this happened: these democracies could expect to last 20 years. And then, above $6,055 a miracle occurs: in the 252 years during which wealthy democracies experienced economic crises, none ever fell.

Another striking feature of these patterns is that the political effects of economic crises are immediate: they occur one year later. We tried to reproduce Table 5 taking into account growth over a longer period and we did statistical (survival) analyses lagging growth more than one year. Both procedures show that past growth does not matter: one year of economic crisis is enough to produce the political effects.

Thus the hypothesis that rapid growth destabilizes regimes is simply false. In turn, to cite Diamond and Linz, it is true that "economic crisis represents one of the most common threats to democratic stability."[26] What destabilizes regimes are economic crises, and democracies, particularly poor democracies, are extremely vulnerable to bad economic performance.

III. Kinks: Modernization Theory Revisited

While there are important theoretical and even sharper political differences between Huntington and O'Donnell, both argued that there is a level beyond which further development decreases the probability that democracy will survive. Huntington contended that both regimes become unstable when a country undergoes modernization, which occurs at some intermediate levels of development. O'Donnell, in turn, claimed that democracies tend to die when a country exhausts "the easy stage of import substitution," again at some intermediate level.

Huntington was concerned with stability of regimes and did not care whether they were democratic or authoritarian. "The most important political distinction among countries," he told us, "concerns not their form of government but their degree of government."[27] Hence, the United States, the United Kingdom, and the Soviet Union were all systems in which "the government governs." Whether it is the politburo, the cabinet, or the president matters little. "The problem," he insisted, "was not to hold elections but to create organizations." Indeed, we were told, "The primary problem is not liberty but the creation of a legiti-

[26] Larry Diamond and Juan J. Linz. "Introduction: Politics, Society, and Democracy in Latin America," in L. Diamond, J. J. Linz, and S. M. Lipset, eds., *Democracy in Developing Countries: Latin America* (Boulder, Colo.: Lynne Rienner, 1989), 17.

[27] Huntington (fn. 13), 1.

mate public order."[28] While never explicitly referring to Lipset, Huntington observed that "in actuality, only some of the tendencies encompassed in the concept of 'political modernization' characterized the 'modernizing' areas. Instead of a trend toward competitiveness and democracy, there was an 'erosion of democracy' and a tendency to autocratic military regimes and one-party regimes. Instead of stability , there were repeated coups and revolts."[29]

Anticipating Huntington, O'Donnell raked Lipset through the coals for various methodological transgressions. Reflecting on his criticisms in retrospect, he observed that "Chapter I is now an archeological remnant—testimony of a debate that in 1971 had recently begun and today is finished: it is no longer necessary to lead the reader through tedious series of data to demonstrate that 'socio-economic development' does not foster 'democracy and/or political stability.'"[30] What the data show, O'Donnell asserted, is that in contemporary South America, the higher and the lower levels of modernization are associated with non-democratic political systems, while political democracies are found at intermediate levels of modernization." Hence, at least within the range observed by O'Donnell, we should observe that democracies fall as economies develop.

Is there some level of development beyond which democracies are more likely to die than before? Note (returning to Table 2, column 5) that the function relating the equilibrium proportion of democracies to per capita income has a kink at levels between $3,001 and $4,000: the observed values are 42.4 percent between $2,001 and $3,000, 32.6 percent between $3,001 and $4,000, and 72.0 percent between $4,001 and $5,000. But this kink is due to the fact that dictatorships are exceptionally stable in this range, rather than that democracies are less stable. The probability of a democracy dying declines monotonically with per capita income. While O'Donnell did find a countercase against Lipset, his account of the rise of bureaucratic authoritarianism is not a competing theory.[31] O'Donnell studied a country that turns out to be a distant outlier: Argentina is the only country where a democracy fell at an income above $6,000; Argentina is also the only country where one collapsed at an income between $5,000 and $6,000. Only two democra-

[28] Ibid., 7.

[29] Ibid., 35–36.

[30] O'Donnell, *Modernization and Bureaucratic Authoritarianism: Studies in South American Politics*, 2d ed. (Berkeley: Institute of International Studies, University of California, 1979), 204.

[31] O'Donnell was careful about not making general claims: his purpose was to explain the downfall of democracies in the Southern Cone. But his theory of "bureaucratic authoritarianism" captured the imagination of scholars around the world, who treated it as applicable almost everywhere.

cies fell in countries with incomes between $4,000 and $5,000: again one of them in Argentina, and the other in Uruguay. Five democracies fell between $3,000 and $4,000: one of them in Argentina. Indeed, outside Argentina, only five democracies fell in countries with incomes above $3,000: in Uruguay in 1973 at $4,034, Suriname in 1980 at $3,923, Chile in 1973 at $3,957, Fiji in 1987 at $3,398, and Greece in 1967 at $3,176. Thus, Lipset was right in thinking that the richer the country the more likely it is to sustain democracy, except in Argentina.

IV. Does History Repeat Itself?

Since our observations begin in 1950, the regimes we observed came into being as a result of either of two effects: their dynamic or the entrance of new countries into the world, or at least into our sample.

Consider the seventy-three countries in our sample that were independent in 1950, when thirty-five of them had democratic regimes. By 1960 the number of democracies among these countries increased to thirty-nine, only to fall to thirty-one by 1968. It was still thirty-one in 1978, after which it climbed, back to thirty-nine in 1984 and to forty-eight by 1990. Hence, with regard to the "old" countries, our count roughly agrees with Huntington's[32] oceanic analysis, according to which (1) the "second wave" of democratization began in 1943 and ended in 1962, (2) the "second reverse wave" started in 1958 and ended in 1975, and (3) the "third wave" of democratization began in 1974. But the story of the countries that became independent after 1950 is entirely different. Three out of twenty-five (12.0 percent) newly independent countries were democracies in 1960; subsequently, the numbers were seven out of forty-two (14.3 percent) in 1968, eleven out of fifty-five (16.6 percent) in 1978, and twelve out of sixty-eight in 1990 (17.6 percent). Hence, the proportion of democracies among these "new" countries grew slightly with no waves rolling down or up. In turn, the decline of the aggregate proportion of democracies in the world during the 1960s is largely due to the emergence of new countries rather than to transformations of old ones.

Since observations of any limited period of time combine dynamic and entry effects, the question whether history repeats itself is controversial. Studies in the Lipset tradition assume it does: they infer the historical process of "modernization" from cross-sectional observations.

[32] Samuel P. Huntington, *The Third Wave: Democratization in the Late Twentieth Century* (Norman: University of Oklahoma Press, 1991), 16. Huntington considered 74 countries while our sample covers 135 countries; hence, the data are not exactly comparable.

Followers of Moore[33] contest the validity of such inferences, however, claiming that the Western European route to democracy was unique, not to be repeated.

Cross-sectional observations can be used to infer historical processes if the probabilities that regimes survive or die conditional on some exogenous variables (in our case per capita income) are the same across different cross sections, so that the probability that a country has a particular regime at any time depends only on the realized values of these variables, rather than the period, the region, or the time when the country became independent. And we know that (1) the probability that a democracy is born is widely scattered with regard to the level of development, rising at low levels and declining at high levels; (2) the probability that a democracy dies declines monotonically with per capita income; and (3) as a result, the probability that a country has a democratic regime increases with level. The question, then, is whether these conditional probabilities were the same in different periods or regions.

The controversy about the validity of inferences based on cross-sectional observations can be formulated in a number of alternative ways: (1) Were these probabilities different before World War II in Western Europe and elsewhere? (2) Were they different during the postwar period among countries that existed before 1950 ("old" countries) and those that became independent later ("new" countries)?

Without a full set of data for the prewar period, we can only make guesses with regard to the first question. Although economic data for the prewar period are not comparable with those at our disposal after 1950, we made heroic assumptions to guess the approximate levels at which democracies were established and fell in some of the present OECD countries. The results of these calculations are presented in Table 6.

Note, however, that these are not the only democracies that existed before World War II. Southern European as well as several Latin American countries experienced relatively long spells of democracy, while in Eastern Europe most of the democratic regimes that emerged in the aftermath of World War I collapsed after the first election.[34] And while Argentina and Uruguay must have been relatively wealthy at the beginning of the century, the average per capita income in Latin America was about one-half of that of the present OECD countries in 1913 and in 1950, while the average income in Eastern Europe was only

[33] Barrington Moore Jr., *Social Origins of Dictatorship and Democracy* (Boston: Beacon Press, 1965).

[34] The exception is Czechoslovakia, but note that no alternation in office between parties occurred during this period. Indeed, the first alternation resulting from elections in the history of Eastern Europe occurred in Poland in 1991.

TABLE 6
APPROXIMATE PER CAPITA INCOME AT THE TIME OF DEMOCRATIZATION IN SOME OF THE PRESENT OECD COUNTRIES[a]

	First Democratization		*Reversal*		*Present Democracy*	
	Date	*Level*	*Date*	*Level*	*Date*	*Level*
Australia (1901)	1901	3733	none		1901	3733
Austria	1918[b]	1545	1934	1825	1951	2535
Belgium	1919[b]	2960	none		1919	2960
Canada (1920)	1920	3838	none		1920	3838
Denmark	1901	2213	none		1901	2213
Finland (1917)	1919	1184	1930	1974	1944	2636
France	1875[c]	1748	none (?)		1875	1748
Germany	1919	1072	1933	1474	1949	2567
Italy	1919	1920	1922	1814	1946	1708
Norway (1905)	1884	1228	none		1884	1228
Sweden	1918	1919	none		1918	1919
Switzerland	1870[d]	2226	none		1870	2226
United Kingdom	1911[e]	3016	none		1911	3016
United States	1830[f]	1119	none		1830	1119

[a]Levels are GDP/cap expressed in 1985 USD. They are calculated by extrapolating backward the 1951 numbers for per capita GDP expressed in 1985 PPP USD, using the index numbers for GDP and the population figures provided by Angus Maddison, *The World Economy in the Twentieth Century* (Paris: OECD, 1992), Appendixes I, II. Democratization is dated by (1) the presence of contested elections organized on a partisan basis and (2) legislative sovereignty of the house elected by broadest suffrage (rather than responsibility to the crown or a nonelective upper chamber), whichever came later, but not by the extent of franchise or participation. For countries that became independent after 1871, dates in parentheses are for the year of independence.

[b]1920 figures were used.

[c]Therborn (fn. 8) dates democracy in France to 1884, while John D. Stephens, "Democratic Transition and Breakdown in Europe, 1870–1939: A Test of the Moore Thesis," *American Journal of Sociology* 94 (1989), refers to the period 1875–84 as one of consolidation. The question mark for France refers to the Vichy regime.

[d]Both Therborn and Stephens date democracy in Switzerland to circa 1880, when the first national electoral register was established.

[e]Robert Dahl uses 1911 to date democracy in the United Kingdom, but scholars who use universal male suffrage as the criterion date it to 1918. See Dahl, *Democracy and Its Critics* (New Haven: Yale University Press, 1989).

[f]The dating of democracy in the United States ranges widely, from 1828 by Huntington (fn. 32), 16, to 1970 by Therborn. Since we do not take participation as a criterion, we date it early. Maddison does not provide a figure for 1830; we interpolated the numbers using 1820 and 1840.

slightly higher.[35] All this is not much to stand on, but perhaps enough to believe that (1) the levels at which democracies emerged before World War II were highly scattered; (2) they did not differ between Western Europe and other parts of the world; and (3) once established, democracies were more likely to fall in the poorer countries.

[35] World Bank, *World Bank Development Report 1991* (Washington, D.C.: World Bank, 1991), Table 1.1.

We are on firmer ground answering the second question.[36] Comparing the "new" and the "old" countries shows that democracies are more brittle in the new countries while dictatorships are more likely to die in the old ones. And, as Table 7 shows, the level of development again has powerful effects. The probabilities of a democracy falling decline dramatically with level in both groups of countries: indeed, this probability is the same once countries reach an income above $2,000. The probability of a transition to democracy increases with level among the old countries. But among the countries that became independent after 1950, dictatorships are as stable when they are wealthy as when they are poor. Among fifteen dictatorships in new countries with incomes above $2,000, only one fell during their 185 years until 1990, in Suriname in 1988 at $2,888, and only one more, in the Seychelles, after 1990.

We may be confusing, however, the effect of levels at which countries were first observed and the effect of development they experienced during the period under scrutiny. And the new countries were much poorer—their average income was $1,103—than the old ones—which had an average income of $2,613—when they were first observed. To distinguish these effects, we show in Table 8 the derivatives of the transition probabilities separately with regard to the entry levels and to the development since then.[37] The effects of the entry level are about the same for the two groups of countries. Democracies are more stable and dictatorships more brittle in countries that were wealthier, either when first observed in 1950 or whenever they became independent. But the effects of development since the time of entry differ greatly between the two groups of countries. The stability of democracy increases much

[36] A third question has also been posed: when D. A. Rustow, pointed out that the levels of development at which different countries permanently established democratic institutions vary widely, Lipset's (fn. 1, 1981) rejoinder was that the thresholds at which democracy was established were lower for the early democracies; see Rustow, "Transitions to Democracy," *Comparative Politics* 2 (April 1970). A rough guess at comparing the levels at which democracies emerged before and after the war indicates that levels at which democracy was established before the war must have been on the average lower. But the distribution of incomes during the two periods was not the same: it is doubtful that many countries enjoyed incomes above $4,000 before the war. Hence, we do not know how long the countries that were poor at the time would have waited before becoming democracies. At most, we can compare the distribution of levels at which democratization occurred before the war with the distribution in the postwar period truncated at $4,000. If in addition to the guesses presented in Table 6 we also assume that incomes were lower in Eastern Europe and most of Latin America, the two distributions will be highly similar. But that is too many guesses to take seriously.

[37] Suppose that the function which relates regimes to level is $Pr[REGIME(t)=DEMOCRACY]=REG(t)=F[\alpha+\beta LEVEL(t)]$, where F stands for a normal or logistic distribution. Now subtract and add $\beta LEVEL(0)$ within the square brackets, to get $REG(t)=F\{\alpha+\beta LEVEL(0)+\beta[LEVEL(t)-LEVEL(0)]\}$. Defining LEVEL(0) as INI and LEVEL(t)–LEVEL(0) as DEV(t), and allowing the (cross-sectional) effect of the initial level to differ from the (dynamic) effect of development yields $REG(t)= F[\alpha+\beta_c INI+\beta_p DEV(t)]$. This is the model we estimated, by dynamic probit.

TABLE 7

OBSERVED AND PREDICTED REGIME TRANSITION PROBABILITIES, BY LAGGED PER CAPITA INCOME (LEVEL) AND BY GROUPS OF COUNTRIES[a]

Low-High	*PJK*	*TJK*	*TOT*	*PAD*	*TRD*	*TA*	*PDA*	*TRA*	*TD*
All									
New	0.0124	18	1448	0.0058	7	1211	0.0464	11	237
				(0.0058)			(0.1183)		
Old	0.0275	70	2543	0.0359	42	1169	0.0204	28	1374
				(0.0544)			(0.0340)		
–2000									
New	0.0135	15	1111	0.0058	6	1036	0.1200	9	75
				(0.0058)			(0.1480)		
Old	0.0377	32	848	0.0297	18	606	0.0578	14	242
				(0.0279)			(0.0707)		
2000–									
New	0.0086	3	347	0.0054	1	185	0.0123	2	162
				(0.0058)			(0.0203)		
Old	0.0225	38	1695	0.0427	24	563	0.0124	14	1132
				(0.0676)			(0.0156)		

[a]The following abbreviations are used:
PJK is the probability that either regime dies during a particular year
TTR is the number of transitions
TOT is the total number of regime years at a particular level
PAD is the probability of transition to democracy
TRD is their number
TA is the total number of years under authoritarianism
PDA is the probability of transition to authoritarianism
TRA is their number
TD is the total number of years under democracy
New stands for countries that did not exist in 1950
Old stands for countries that existed in 1950
Numbers in parentheses are values predicted by the dynamic probit model.

TABLE 8

DERIVATIVES OF TRANSITION PROBABILITIES WITH REGARD TO THE INITIAL ("ENTRY") LEVEL AND THE ACCUMULATED DEVELOPMENT EVALUATED AT THE MEANS BY GROUPS OF COUNTRIES[a]

	with Regard to			
	Initial Level		*Development*	
Derivative of	*Old*	*New*	*Old*	*New*
p_{DA}	−0.0554	−0.0552	−0.0966	−0.0191
p_{AD}	0.0383	0.0277	0.0112	−0.0190

[a]Level is measured in thousands. New stands for countries that did not exist in 1950. Old stands for countries that existed in 1950. Derivatives are based on a dynamic probit model; see Appendix 2.

more with development in the old than in the new countries. In turn, while development decreases slightly the probability of survival of dictatorships in old countries, the probability of transitions to democracy declines as new countries develop under authoritarian rule.

Hence, the promise that development would breed democracy proved to be particularly futile precisely with regard to those Third World countries to which it was supposed to offer hope. Development during the postwar period just did not have much of an impact on the collapse of dictatorships: an increase of per capita income of one thousand dollars raised the probability of dictatorship falling by only 1.12 percent among the old countries and lowered it by 1.90 percent among the new countries. But at least "modernization" worked in the right direction in the old countries, where most long-standing dictatorships, including those in Eastern Europe, did in the end fall. Most of the new countries, the great majority of them poor when they became independent, just remained poor; and those few that did develop remained authoritarian.

V. Conclusion

Whether couched in the language of the modernization perspective or the historical perspective, theories of the origins of democracy were deterministic. In the modernization theory no one does anything to bring democracy about; it is secreted by economic development and the corollary social transformations. Class actors do move history in Moore's theory, but they operate at a distance of centuries: the agrarian class structure of the seventeenth century determines the regimes countries settle on two or three hundred years later.[38] As Przeworski[39] observed, this deterministic emphasis made both approaches appear irrelevant when the issue of democratization appeared on the political agenda in the mid-1970s. The protagonists in the struggles for democracy could not and did not believe that the fate of their countries would be determined either by current levels of development or by the distant past. They maintained that, albeit within constraints, democratization was an outcome of actions, not just of conditions. Hence, the O'Donnell-Schmitter project was couched in terms of actors and strategies, rather than in terms of deterministic conditions.[40]

[38] Huber, Rueschemeyer, and Stevens (fn. 6) go back just a few decades but the question remains: why would conditions found in the 1920s cause events in the 1960s, not earlier or later?

[39] Adam Przeworski, *Democracy and the Market: Political and Economic Reforms in Eastern Europe and Latin America* (New York: Cambridge University Press, 1991).

[40] Guillermo O'Donnell and Philippe C. Schmitter, *Transitions from Authoritarian Rule* (Baltimore: Johns Hopkins University Press, 1986).

Our findings strongly validate this latter approach. The emergence of democracy is not a by-product of economic development. Democracy is or is not established by political actors pursuing their goals, and it can be initiated at any level of development. Only once it is established do economic constraints play a role: the chances for the survival of democracy are greater when the country is richer. Yet even the current wealth of a country is not decisive: democracy is more likely to survive in a growing economy with less than $1,000 per capita income than in a country with an income between $1,000 and $2,000 that declines economically. If they succeed in generating development, democracies can survive even in the poorest nations.

Viewed from this perspective, the vision of the relation between development and democracy that dominated the intellectual mood and served to orient U.S. foreign policy during the cold war years appears strangely convoluted. While Lipset treated development as exogenous, his contemporaries were persuaded that dictatorship is the inevitable price of development. Galenson claimed that "the more democratic a government is, . . . the greater the diversion of resources from investment to consumption."[41] De Schweinitz argued that if the less developed countries "are to grow economically, they must limit democratic participation in political affairs."[42] And this was also the belief of Huntington and Dominguez:

> The interest of the voters generally leads parties to give the expansion of personal consumption a higher priority vis-à-vis investment than it would receive in a nondemocratic system. In the Soviet Union, for instance, the percentage of GDP devoted to consumption was driven down from 65 percent in 1928 to 52 percent in 1937. It is unlikely that a competitive party system would have sustained a revolution from above like this.[43]

Dictatorships are needed to generate development. As Huntington and Nelson put it, "Political participation must be held down, at least temporarily, in order to promote economic development."[44]

Since in this view dictatorships generate development while development leads to democracy, the best way to democracy was said to be a circuitous one. Yet common sense would indicate that in order to

[41] Walter Galenson, "Introduction" to Galenson, ed., *Labor and Economic Development* (New York: Wiley, 1959), 3.

[42] Karl de Schweinitz Jr., Industrialization, Labor Controls and Democracy," *Economic Development and Cultural Change* 7 (July 1959).

[43] Samuel P. Huntington and Jorge I. Dominguez, "Political Development," in F. I. Greenstein and N. W. Polsby, eds., *Handbook of Political Science*, vol. 3 (Reading, Mass.: Addison-Wesley, 1975), 60.

[44] Huntington and Nelson (fn. 21), 23.

strengthen democracy we should strengthen democracy, not support dictatorships. And, even if G. B. Shaw warned that "common sense is that which tells us that the world is flat," the lesson of our analysis is that this time it is the best guide. With development, democracy can flourish in poor countries.

Appendix 1: Classifying Political Regimes[45]

Democracy is a regime in which some governmental offices are filled as a consequence of contested elections. This definition has two parts: "offices" and "contestation."

In no regime are all governmental offices filled as a consequence of elections. What is essential to considering a regime as democratic is that two kinds of offices are filled by elections, whether directly or indirectly: the chief executive office and the seats in the effective legislative body.

Contestation occurs when there exists an opposition that has some chance of winning office as a consequence of elections. Whenever in doubt, we classify as democracies only those systems in which incumbent parties actually did lose them.

Operationally, a regime was classified as a democracy if none of the four rules listed below applied. Thus, a regime was classified as a dictatorship if at least one of these conditions held.

Rule 1. Executive selection: the chief executive is not elected.

Rule 2. Legislative selection: the legislature is not elected.

Rule 3. Party: there is no more than one party. Specifically, this rule applies if (1) there were no parties, or (2) there was only one party, or (3) the current tenure in office ended up in the establishment of a nonparty or one-party rule, or (4) the incumbents unconstitutionally closed the legislature and rewrote the rules in their favor.

Rule 4. Type II error: a regime passes the previous three rules, the incumbents held office in the immediate past by virtue of elections for more than two terms or without being elected, and until today or the time when they were overthrown they have not lost an election.

Alternation in office overrides the party rule. Hence, Jamaica—where a single party at one time held 100 percent of the seats in the legislature yet subsequently yielded office having lost an election—was classified as democratic during the entire period.

Our timing rules are the following. We code the regime that prevailed at the end of the year, even if it came to power on December 31,

[45] For a full explanation and historical details, see Alvarez et al. (fn. 10).

as, for example, dictatorship arrived in Nigeria in 1983. Transitions to authoritarianism are signaled by a coup d'état. Transitions to democracy are dated by the time of the inauguration of the newly elected government, not of the election. In the few cases where a democratic regime lasted six months (for example, the Dominican Republic in 1963) or where the situation changed several times (Bolivia in 1979), the information about regimes that began and ended within the same year is lost.

The main difference between our approach and the alternatives is that we use a dichotomous classification, rather than a polychotomous scale. We believe that while some regimes are more democratic than others, unless offices are contested, they should not be considered democratic. Nonetheless, from a practical point of view, alternative measures of democracy generate highly similar results. The dimensions used to assess whether or to what extent a particular regime is democratic seem to make little difference.[46] Our measure is no exception: the Coppedge-Reinicke[47] scale for 1978 predicts 92 percent of our regimes, the Bollen[48] 1965 scale predicts 85 percent, the Gurr[49] scales of Autocracy and Democracy for 1950–86 jointly predict 91 percent. The Gastil[50] scale of political liberties, covering the period from 1972 to 1990, predicts 93.2 percent of our classification; his scale of civil liberties predicts 91.5 percent; and the two scales jointly predict 94.2 percent of our regimes. Hence, there is no reason to think that our results are idiosyncratic to the particular classification of regimes.

Appendix 2: Dynamics of Regimes

Some algebra may help elucidate what is entailed in the distinction between endogenous and exogenous mechanisms.

Let the probability that a country, i= 1,...,N, has an authoritarian regime during a particular year, t= 1,...,T, be $p_A(it)$, where the subscript A stands for "authoritarian," and the probability that it has a demo-

[46] Alex Inkeless, "Introduction," *Studies in Comparative International Development* 25 (Spring 1990), 3–6. Note, however, that different measures appear to be biased in somewhat different directions. See Kenneth A. Bollen, "Liberal Democracy: Validity and Method Factors in Cross-National Measures," *American Journal of Political Science* 37 (November 1993).

[47] Michael Coppedge and Wolfgang H. Reinicke, "Measuring Polyarchy," *Studies in Comparative International Development* 25 (Spring 1990), 51–72.

[48] Kenneth A. Bollen, "Political Democracy and the Timing of Development," *American Sociological Review* 44 (August 1979), 572–87.

[49] Ted Robert Gurr, Keith Jaggers, and Will H. Moore, "The Transformation of the Western State: The Growth of Democracy, Autocracy, and State Power since 1800," *Studies in Comparative International Development* 25 (Spring 1990).

[50] Gastil (fn. 4).

cratic regime be $p_D(it) = 1 - p_A(it)$. Let the probability that a dictatorship dies from one year to another be $p_{AD}(it)$, so that the probability that it survives is $p_{AA}(it) = 1 - p_{AD}(it)$. Similarly, let the probability that a democracy dies be $p_{DA}(it) = 1 - p_{DD}(it)$. If we assume for the time being that these "transition probabilities," p_{jk}, j = A,D, k = A,D, are constant over time and the same for all countries, then we can describe the evolution of regimes by

$$\begin{vmatrix} p_D(t+1) \\ p_A(t+1) \end{vmatrix} = \begin{vmatrix} p_{DD} & p_{AD} \\ p_{DA} & p_{AA} \end{vmatrix} \begin{vmatrix} p_D(t) \\ p_A(t). \end{vmatrix}$$

The proportion of regimes that are democracies next year depends therefore on the proportion of democracies that survived from the current year, p_{DD}, and the proportion of dictatorships that died, that is, became democracies, p_{AD}. The same holds for dictatorships.

Given the transition rates, there exists a distribution of regimes that, if reached, will remain stable in the absence of exogenous disturbances. These equilibrium probabilities are

$$p_D^* = \frac{p_{AD}}{p_{DA} + p_{AD}}$$

and

$$p_A^* = \frac{p_{DA}}{p_{DA} + p_{AD}}$$

Moreover, whatever the initial distribution of regimes, their proportions will over time tend to these equilibrium values. And since the probabilities that regimes die during any particular year are likely to be low—in fact they are low—this convergence will be monotonic; that is, the proportion of one type of regime will continue to increase and of the other to decline.[51]

As time passes, then, the long-run distribution of regimes depends only on the relative rates at which they die, not on their initial distrib-

[51] Convergence is monotonic if $p_{AD} + p_{DA} < 1$; otherwise, the proportions of regimes will oscillate around the equilibrium.

ution. If $p_{AD} > p_{DA}$, then in the long run there will be more democracies than dictatorships in the world and if at the beginning the proportion of democracies was lower than p_D^*, this proportion will continually increase over time.

Suppose now that while dictatorships die at some constant annual rate, democracies never die, so that $p_{DA} = 0$. You see immediately that in the long run all countries will be democracies. Every time a dictatorship dies, a democracy is established, and, once it is established, it survives forever. The speed of this process depends on the rate at which dictatorships die, but the accumulation of democracies is inexorable.

Now, to return to the issue at stake, imagine that these transition probabilities are not constant but depend on the level of development. To keep matters simple, suppose that there are only two levels: low (L) and high (H). At the low level, both regimes have some probability of dying that is more than zero and less than one. Now consider two possibilities.

One is that while $p_{AD}(L) < 1$, once dictatorships pass the threshold that defines the high level, they are certain to die, so that $p_{AD}(H) = 1$, while democracies die at the same rate at either level. The transition probabilities are thus

Level = Low		Level = High	
p_{DD}	p_{AD}	p_{DD}	1.00
p_{DA}	p_{AA}	p_{DA}	0.00

and while the long-run proportion of democracies at the low level will be $p_D^*(L) = p_{AD}/(p_{AD}+p_{DA})$, at the high level it will be $p_D^*(H) = 1/(1 + p_{DA})$, $p_D^*(L) < p_D^*(H)$. Thus, the proportion of democracies will be higher at the high level of development because democracies are more likely to emerge as a result of development. This is the endogenous—modernization—version of the explanation.

But suppose alternatively that authoritarian regimes die at exactly the same rate whether in poor countries or developed ones, so that $p_{AD}(L) = p_{AD}(H) = p_{AD}$, while in turn democratic regimes never die once they are established in affluent countries, so that p_{DA}=0.00. The transition probabilities are then

Level = Low		Level = High	
p_{DD}	p_{AD}	1.00	p_{AD}
p_{DA}	p_{AA}	0.00	p_{AA}

and we already know that while the long-run proportion of democracies at the low level will be $p_D^*(L) < 1$, at the high level all countries will have a democratic regime in the long run. Hence, we will observe an aggregate relation between the level of development and the incidence of democracies even though democracies are equally likely to emerge at any level, that is, even if development under authoritarianism does not increase the probability that a country will become democratic. This is then the exogenous version.

Thus, to decide which mechanism generates the relation between development and democracy, we need to determine how the respective transition probabilities change with the level of development. To estimate the impact of level on transition probabilities, we rely on Amemyia.[52] Our data obey a first-order Markov processes; that is, the present regime depends only on the regimes during the previous year, but not beyond. Such processes are defined by:

$$E(R_t=1 \mid R_{t-1}, R_{t-2}, \ldots) = P(t)R_{t-1},$$

where R = D,A stands for regimes, R=D for democracy and R=A for dictatorship, and P(t) is the matrix of transition probabilities, with elements $p_{jk}(t)$. Hence,

$$R_t = P(t)\, R_{t-1} + u_t.$$

Taking expectations of both sides yields

$$\begin{matrix} p(R_t=1) \\ p(R_t=0) \end{matrix} = \left| \begin{matrix} p_{AA} & p_{DA} \\ p_{AD} & p_{DD} \end{matrix} \right| \begin{matrix} p(R_{t-1}=1) \\ p(R_{t-1}=0) \end{matrix}$$

where the sum of columns of the transition matrix, $\Sigma_j p_{jk} = 1$, j=0,1; k=0,1. Hence

$$\begin{aligned} p(R_t=1 \mid R_{t-1}) &= p_{AA}(t)p(R_{t-1}=1) + p_{DA}(t)p(R_{t-1}=0) = \\ &= p_{AA}(t)p(R_{t-1}=1) + p_{DA}(t)[1-p(R_{t-1}=1)] = \\ &= p_{DA}(t) + [p_{AA}(t)-p_{DA}(t)]p(R_{t-1}=1). \end{aligned}$$

Now let X be the vector of the exogenous variables. Assume that

$$p_{DA}(t) = F(X_{t-1}\, \beta),$$
$$p_{AA}(t) = F[X_{t-1}(\alpha+\beta)],$$

[52] Takeshi Amemyia, *Advanced Econometrics* (Cambridge: Harvard University Press, 1985), chap. 11.

where F(.) is the CDF of normal distribution. Note that $p_{jk}(t)$ is the probability of transition from being in state j at time (t-1) to being in state k at time t. Given that whenever a transition occurred we code the regime as the one that became installed during this year, the probability of transition between (t-1) and t depends on the conditions at (t-1). Hence, we lag the X's.
Then

$$\begin{aligned} p(R_t=1 \mid R_{t-1}) &= p_{DA}(t) + [p_{AA}(t)-p_{DA}(t)]p(R_{t-1}=1) \\ &= F(X_{t-1}\beta) + \{F[X_{t-1}(\alpha+\beta)]-F(X_{t-1}\beta)\}p(R_{t-1}=1) \\ &= F(X_{t-1}\beta) + F(X_{t-1}\alpha)p(R_{t-1}=1) = F(X_{t-1}\beta + \\ &\quad X_{t-1}R_{t-1}\alpha). \end{aligned}$$

Hence, to estimate α and β, from which one can calculate p_{DA} and p_{AA}, and thus $p_{DD} = 1 - p_{DA}$ and $p_{AD} = 1 - p_{AA}$, all we need to do is probit on $R_t = X_{t-1}\beta + X_{t-1}\alpha R_{t-1} + u$.

This is the model we used to generate results in Tables 2 and 8, with R(0) as observed. The derivatives used in Table 8 are

$$\frac{dp_{DA}}{dX} = f(X_{t-1}\beta)\beta \text{ and } \frac{dp_{AD}}{dX} = -f[X_{t-1}(\alpha+\beta)](\alpha+\beta).$$