Is Democracy a Normal Good? Evidence from Democratic Movements

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A frequent assertion of economists and political scientists is that democracy is a normal good, or that higher incomes lead citizens to "desire" more democracy. This assertion, however, has been difficult to test directly. I introduce a data set of democratic movements, and use it to address the relationship between income and the demand for democracy. Logit analysis of the estimated probability that a democratic movement occurs in an authoritarian country suggests that this probability is increasing in income per capita up to a level of approximately $5000. Unlike previous results, this does not suggest that all countries will become democratic once they pass some income threshold.

1. Introduction

Is democracy a normal good? In other words, do people desire higher levels of democracy (more participation in government) as their incomes increase? This paper uses the existence of a democratic movement to solve a missing variable problem in the current literature. Works such as Barro (1996), Huntington (1991), and Lipset (1959) provide evidence of a strong, positive correlation between levels of democracy and income; this is frequently interpreted as evidence that higher incomes lead people to "demand" more democracy.

I address this issue in a more literal sense. Specifically, if our goal is to infer what causes people to "demand" democracy, we cannot ignore the persuasive evidence that citizens of countries like South Africa under apartheid, Burma, or China—countries with low levels of democracy that have experienced widespread movements for democracy—demand democracy. Instead of democracy levels, I use the existence of a democratic movement as evidence of countries' "demand" for democracy.

In this paper, I define democratic movements as widespread, public demonstrations that are explicitly pro-democracy (i.e., participants' demands must include either "democracy" or "direct elections"), and in which participants express these views physically.[1] Some of the well-known democratic movements that are included are: the Chinese student demonstrators in Tiananmen Square in 1989; the work of the African National Congress and others in South Africa

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[1] This excludes boycotts of elections and voting against a proposed authoritarian constitution, unless those events are accompanied by physical demonstrations, protests, or strikes.

to end the nondemocratic system of apartheid; and the 1986 "People Power" demonstrations in the Philippines that forced Ferdinand Marcos to concede victory to Corazón Aquino.

The main goal of the paper is to use a new data set on democratic movements to estimate the relationship between income and democracy, testing more directly than has previously been done whether democracy is a normal good. A secondary goal is to investigate the conditions under which democratic movements are most likely to occur in an authoritarian country.

2. Background

Two of the most frequently cited sources of the factors giving rise to widespread desire for democracy are Lipset (1959) and Huntington (1991). Both argue that economic development generates increased demand for democracy. Lipset (1959) argues specifically that as incomes increase, citizens become more receptive to "democratic political tolerance norms," desiring more democracy.

Lipset (1959) and Huntington (1991) agree on the role of education, identifying it as a facet of economic development that facilitates the desire for democracy. Lipset writes:

> Education presumably broadens men's outlooks, enables them to understand the need for norms of tolerance . . . and increases their capacity to make rational electoral choices. . . . The higher one's education, the more likely one is to believe in democratic values and support democratic practices. (1959, p. 79)

Lipset's definition of economic development encompasses industrialization and urbanization, in addition to wealth and education.[2] Huntington's definition is also defined fairly broadly, incorporating the volume of international trade and the development of a sizable middle class. He argues that involvement in the world economy exposed societies to the democratic ideas practiced in other parts of the world.

Huntington argues that economic growth not only increases the speed at which a country attains a level of income 'suitable' for democracy, but also may act to destabilize the authoritarian regime.[3] Growth, "raises expectations, exacerbates inequalities, and creates stresses and strains in the social fabric that stimulate political mobilization and demands for political participation" (p. 69).

The population of a country may also be relevant: Olson (1965), among others, argues that larger groups are less capable of coordinating the provision of a collective good (such as democracy).

The primary goal of this paper is to address whether or not democracy is a "normal good"; that is, whether an increase in incomes leads citizens of nondemocratic countries to demand democracy. The question is framed as a macroeconomic one: As per capita income rises, is an authoritarian country more likely to experience a democratic movement?

3. Data on Democratic Movements

To construct the data set of democratic movements, I consulted a wide range of historical and political sources. To be included in this study, a democratic movement must satisfy three

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[2] See Lipset (1959) for a brief description of the political science literature concerning the relationship between urbanization and democracy.

[3] This argument is related to that of Olson (1963), although Olson's argument relates to political instability more generally, whereas Huntington refers specifically to increased demands for democracy.

criteria. First, it must be fairly large in scale, relative to the population of the country. (This excludes coups d'état, whether successful or not, which, almost by definition, involve only small numbers of insurgents; that is not important here, since coup leaders rarely have demo-cratic objectives in mind.)

Second, the people must express their desire for democracy physically; voting against a military regime's referendum or boycotting one-party regime elections are excluded, unless those campaigns are accompanied by widespread protests, demonstrations, or strikes. This restriction is arbitrary to some extent, but it clarifies the identification of such movements: The people's desire for democracy is strong enough that a number of them are willing to endanger their physical safety to demonstrate for democracy.

Finally, the movement must be explicitly pro-democracy. Operationally, this means that the leaders or the participants of the movement must call for democratic reforms (specifically, democracy, direct elections, or political liberalization). General anti-regime movements, or pro-tests against economic conditions, are not included unless the participants' demands include increased democracy. (In fact, many democratic movements began as protests against economic conditions or strikes in one sector of the economy; they are included in this study once their demands include democratic reforms.) Overall, 32 democratic movements in 22 countries be-tween 1960 and 1990 are identified. Appendix A provides brief descriptions of these events.[4]

4. Empirics

Previous empirical studies have generally focused on either the effects of democracy on growth, or on the determinants of democracy; this paper is concerned only with the latter.[5] Lipset (1959) identifies the more democratic countries within regions and compares them with the less democratic countries, concluding that, on average, democracies have higher levels of per capita income, industrialization, urbanization, and education. Barro (1996, 1999) uses the Freedom House index of political rights (see Gastil 1990), which consists of a ranking of democracy levels on a seven-point scale since 1972; Barro finds that the level of democracy is correlated with GDP, education, and other measures of standards of living. This paper differs from these previous studies in that the dependent variable is not the level of democracy, but the occurrence of a large-scale democratic movement within an authoritarian country.

Formally, the demand for democracy X^D in country i can be expressed as

$$X_i^P = X_i^P(P_i^P, Y_i, H_i, D_i, \mathbf{Z}_i) \qquad (1)$$

where P_i^P is the "price" of democracy in country i (the cost to a country of becoming or remaining democratic in the next period), Y_i is income in country i, H_i is the education level in country i, D_i is the existing democracy level in country i, and $\mathbf{Z}_i$ is a vector of other possible determinants of democracy identified in section 2 (such as openness to trade, recent economic

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[4] Briefly, some examples of movements *not* included are the democratic transition in Russia in 1991 (unlike most other former Soviet bloc countries, calls for democracy were not widespread among the population) and the Sendero Luminoso (Shining Path) movement in Peru, whose goals are more oriented toward Communism than democracy. The strikes and protests by students at the National Autonomous University of Mexico during 1999–2000 would not be included, since the protesters' demands were limited to reinstating free tuition and lowering academic standards.

[5] See Barro (1996), which addresses both directions of causality, and Minier (1998) for recent examples of the former, and Przeworski and Limongi (1993) and Sirowy and Inkeles (1990) for related surveys.

growth, or the size of the middle class). As discussed in section 2, it is frequently asserted that the demand for democracy is increasing in both income and education. It is further expected that the demand for democracy is decreasing in its price. The overall relationship between the current level of democracy and the demand for democracy is unclear: Citizens of more democratic regimes have less to fear should they demand more democracy, but they also have arguably less to gain from further democratization, and more freedoms to lose in the event of repression.

Previous studies such as Barro (1996, 1999) have regressed levels of democracy on variables like those included in Equation 1. Barro (1996) controls for lagged democracy levels, male and female primary school attainment, and infant mortality, and presents a coefficient estimate of 0.051 with a standard error of 0.022 on the log of initial GDP.[6]

This positive and statistically significant correlation between income and democracy levels has been interpreted as evidence that democracy is a "normal" or "luxury" good, or that as incomes increase, people *demand* democracy more strongly.[7] Following his analysis, Barro (1996) concludes that

> improvements in the standard of living ... substantially raise the probability that political institutions will become more democratic over time. Hence, political freedom emerges as a sort of luxury good. (pp. 23–24)

However, this interpretation is incomplete for two reasons. First, citizens of authoritarian countries who participate in democratic movements that are repressed surely "demand" democracy. But the dependent variable in these regressions is the observed *level* of democracy; this interpretation treats these countries like any authoritarian regime, as (implicitly) not "demanding" democracy. Second, there is a fundamental difference in the perceived costs and benefits of demonstrating for increased democratic freedoms between countries in which democracy is already institutionalized, such as the United States, and countries governed by authoritarian regimes, such as China. Studies such as Barro (1996, 1999) address the variables that are correlated with observed levels of democracy. This paper addresses a related question: What variables are correlated with the demand for democracy in authoritarian countries? I interpret the existence of a democratic movement as evidence of such demand, and restrict the following analysis to authoritarian countries.[8]

There are several components to the benefits of demonstrating for democracy from the perspective of a citizen of an authoritarian regime. Citizens may perceive that their participation in a movement will increase the probability of the movement's success; to the extent that they value the political freedoms and (perceived) economic benefits associated with democracy, the value they place on democracy will be correlated with their willingness to demonstrate for democracy. As discussed in section 2, works such as Huntington (1991) and Lipset (1959) discuss several factors (most prominently, income and education levels) believed to contribute to the demand for democracy.

There is, of course, a public good aspect of democracy; people who do not participate in

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[6] The level of democracy is measured by the Gastil/Freedom House index of political rights; the scale is a seven-point scale that has been transformed to a zero-to-one scale, where one represents completely democratic. The analogous estimate (with an expanded set of explanatory variables) in Barro (1999) is 0.058, with a standard error of 0.016.

[7] It should be noted, however that this effect is not large: Holding the other variables constant, an increase in income per capita of $1000 from this paper's sample median of $2244 results in an increase in the democracy index of only 0.019; the difference between Gastil rankings is approximately 0.17.

[8] More precisely, countries with values of the democracy level greater than or equal to 0.83 are excluded; this corresponds to the countries classified as "free" (rather than not free or partly free) by Freedom House.

a democratic movement may still benefit from the ensuing democracy if the movement is successful. To get around this free-rider problem, Roemer (1985) assigns the revolutionary leader sufficient charisma to persuade citizens who prefer the revolutionary outcome to the status quo to participate in the revolution.[9] Many leaders of democratic movements, including Aung San Suu Kyi and Nelson Mandela, are credited with this sort of charisma.

The cost of demonstrating for democracy to citizens of an authoritarian regime has two components, neither of which can be measured directly: the direct costs of demonstrating for democracy and the opportunity costs of demonstrations. The primary direct cost is the risk of potential injury or death; for the macroeconomic analysis presented here, this can be summarized as the probability that the government represses the democratic movement. The opportunity cost associated with demonstrating is foregone wages; people who are participating in protests are not working.

To predict the direct costs of demonstrating for democracy (the probability of repression), I include two measures of violence by the government over the preceding five-year period (in addition to the country's level of democracy). The measures of governmental violence are the average number of political sanctions undertaken by the government over the preceding five-year period, and the average number of political executions (also over the preceding five years).[10] The hypothesis is that the costs of demonstrating are higher in a society that is more likely to repress such a demonstration, and the level of past repression by the government provides an indication of the probability of repression. However, it is also possible that a higher level of past repression affects the expected returns to demonstrating, reducing the regime's legitimacy in the eyes of its citizens, making them more likely to engage in a democratic movement. Following Gupta, Singh, and Sprague (1993), I also include a sanctions squared term to allow for nonlinearities (e.g., the deterrent effect of sanctions dominating at higher levels of sanctions).

As wages increase, the opportunity cost of demonstrating also increases. Presumably, this lowers the demand for democracy (negative substitution effect). If democracy is a normal good, then as income increases, the demand for democracy increases. However, since wages and income are positively correlated, the costs of democracy also rise (because of the negative substitution effect). If wages do not enter the regression separately from income, the coefficient estimate on GDP is a combination of these two factors, reducing our ability to test the strength of the (strict) income-demand for democracy correlation. However, a positive coefficient estimate on GDP suggests that the income effect is both positive (democracy is a normal good) and greater than the negative substitution effect.

To further account for the opportunity costs associated with demonstrating, the regression includes the higher education enrollment rate (college students frequently participate in democratic movements, at least partly because of their lower opportunity costs) and the ratio of workers to total population.[11]

The regressions include both initial GDP and a squared GDP term to allow for a non-

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[9] Roemer concentrates on the occurrence of revolutions rather than democratic movements.

[10] These data are available through the Inter-University Consortium for Political and Social Research, Ann Arbor, MI (ICPSR 1983). Their definition of political sanctions includes any "actions taken by the government to neutralize, to suppress, or to eliminate a perceived threat to the security of the government, the regime, or the state itself." Neither the collector of the original data nor the Consortium bears any responsibility for the analyses or interpretations presented here.

[11] The latter is an imperfect proxy for the (inverse of) the unemployment rate; data for unemployment rates are not widely available because of differences in methodologies of measurement across countries.

Table 1. Logit Analysis: Probability of Democratic Movement Occurring

	Regression 1	Regression 2
GDP	1.90 (0.89)**	1.85 (0.94)**
GDP squared	−0.19 (0.10)*	−0.19 (0.10)*
School enrollment	−4.34 (2.52)*	−6.06 (2.35)***
Years education	0.55 (0.27)**	0.48 (0.25)*
Democracy	−2.16 (1.05)**	−2.59 (1.54)*
Past sanctions		0.13 (0.04)***
Sanctions squared		−0.001 (0.0007)**
Past executions		−0.07 (0.06)
College enrollment		7.68 (4.28)*
Workers		−0.53 (5.07)
South Africa	1.97 (1.38)	1.82 (1.31)
Latin America	0.80 (0.94)	0.38 (0.84)
East Asia	1.95 (1.07)*	1.44 (1.14)
Observations	289	281
Successes	24	24
GDP*	$4973	$4799
Log likelihood	−65.25	−57.36

The dependent variable is the probability of a democratic movement occurring. A "success" is defined as a democratic movement occurring. Data are panel data over the periods 1965–70 through 1985–90, and are restricted to those countries with values of the democracy index less than or equal to 0.83. Results are robust to other cutoff points between 0.7 and 0.9. Standard errors adjust for dependence in error terms over time across countries. Democracy, GDP, and education variables are measured at the beginning of each five-year period. Sanctions and executions cover the preceding five-year period. GDP* is the level of GDP where the function is maximized. Regressions also include dummy variables for time periods. Data are described in Appendix B.
* Significant at the 10% level.
** Significant at the 5% level.
*** Significant at the 1% level or better.

monotonic relationship between income levels and the probability that a democratic movement occurs. Although education is frequently cited as an important factor in determining democracy levels, the relevant measure of education is rarely specified. I include two: a measure of secondary school enrollment rates and average years of education among the population over age 25. The former provides a measure of the distribution of education across the population, whereas the latter measures the total stock of human capital. The regressions also include the level of democracy at the beginning of the period, and dummy variables for regions and time periods. Regional dummy variables are included as a (rudimentary) method of adjusting for cultural differences, such as a country's dominant religion or ethnolinguistic fragmentation, that may affect the propensity for democracy. Lipset, Seong, and Torres (1993) and Barro (1999) find that various "cultural variables" are not statistically significant when economic variables are included in their regressions (with the level of democracy as the dependent variable).[12]

Table 1 presents logit analyses of the probability of a democratic movement occurring. The data are panel data covering five-year periods from 1965–1969 through 1985–1989, and the dependent variable is whether or not a country experiences a democratic movement. The data set is restricted to observations with initial levels of democracy less than 0.83, which corre-

[12] Dummy variables for the oil-producing countries cannot be included in Table 1, as none of these countries experiences a democratic movement. However, excluding these countries does not substantially alter the results in Table 1; the estimates of GDP* are $5032 and $4917. The 15 excluded observations are Bahrain (3 observations), Iran (5), Iraq (5), and Kuwait (2).

sponds to the exclusion of the countries classified as "free" with respect to political rights by Freedom House. Results are robust to alternative cutoff points between 0.7 and 0.9. Regression 1 does not include the costs of democracy discussed above; regression 2 includes variables associated with these costs.

The positive, statistically significant coefficient estimate on initial GDP provides evidence that, for at least some levels of income, the probability of a democratic movement is increasing in income; the negative coefficient estimate on initial GDP squared suggests that after a certain point, this relationship no longer holds. In both regressions, the probability of a democratic movement is maximized at a level of GDP per capita between $4800 and $5000.[13]

This result contrasts with previous studies, which have generally found a strictly increasing relationship between income and democracy levels.[14] The implication frequently drawn from earlier studies is that, as incomes increase, democracy becomes more and more likely. For example, Barro (1996, p. 24) concludes that as a poor country experiences economic growth over time, "the country would tend eventually to become more democratic on its own." The results in Table 1 suggest otherwise, at least with respect to movements for democracy: The probability of a democratic movement appears to increase in income up to incomes of approximately $5000; citizens of high-income authoritarian regimes, however, become increasingly unlikely to demonstrate for democracy as their incomes increase beyond $5000.

Because the coefficients on GDP in this regression incorporate both the (presumably positive) income effect and the negative substitution effect (opportunity cost), finding a positive coefficient suggests that democracy is a normal good, up to an income level of approximately $5000, since the positive income effect must outweigh the negative substitution effect.[15]

In addition to higher opportunity costs of demostrating for democracy, authoritarian regimes that result in high levels of income per capita are likely to be seen as capable and legitimate by their citizens. It seems probable that both incomes and democracy (freedom) levels enter into people's utility functions; once incomes are sufficiently high, people are unwilling to take the risks associated with agitating for increased democracy. At high levels of income, the negative substitution effect dominates the positive income effect. Notice that these results do *not* imply that all countries will eventually experience high levels of demand for democracy once their incomes pass some threshold.

The coefficient estimates on the education variables are generally statistically significant, and the sign on the average years of education of the population is positive, as expected: Higher educational attainment increases the propensity to demonstrate for democracy. However, the (statistically significant) sign on secondary school enrollment rates is negative. Existing theories are in agreement that education is positively correlated with the level of democracy, so this is somewhat puzzling. However, very low enrollment rates may indicate a regime with kleptocratic

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[13] The range of initial GDP per capita in this sample is $371 to $13,114; the mean is $2239 and the median is $1584. Recall that countries are excluded from this analysis on the basis of democracy levels (not income levels); countries such as Singapore, Taiwan, Mexico, Argentina, and Spain are among the observations with incomes over $5000 in at least one period.

[14] Barro (1996) concludes that, "nonlinear terms in GDP ... do not have significant effects on democracy." (footnote 20, p. 25).

[15] I also repeated the analysis incorporating cross-country wage data from the World Bank's Labor Market Data Base (Rama 1999), provided by Martin Rama and Dani Rodrik (see Rodrik 1999). The coefficient estimates on wages were generally positive, suggesting that these data do not adequately capture the opportunity cost component of wages.

(or at least inept) tendencies; citizens of these countries may be more likely to demonstrate for democracy because of the shortcomings of the current regime.[16]

The level of democracy is negatively correlated with the probability that a democratic movement occurs, meaning that a less democratic country is more likely to experience a democratic movement.[17] This is consistent with higher perceived benefits of additional democracy among the less democratic authoritarian regimes.

The coefficient estimate on the number of sanctions undertaken by the government in the previous five-year period is statistically significant and positive. Although this variable was included as a component of the costs of demonstrating (and therefore the estimate was expected to be negative), the positive estimate suggests that sanctions reduce the legitimacy of a government and increase the probability of a democratic movement. As in Gupta, Singh, and Sprague (1993), which studies the effect of government sanctions on demonstrations in general, the coefficient estimate on the squared sanction term is negative. However, the point estimates imply diminishing marginal effects of sanctions rather than an inverted-U shape: The effect of further sanctions on the probability of a democratic movement becomes negative at a level of 65 sanctions per year; only one observation in the sample exceeds that level.[18]

Executions by the government are negatively correlated with the probability of a democratic movement, as expected, although this coefficient estimate is not statistically significant.[19] There may be an issue of simultaneity; authoritarian regimes may be aware of citizen discontent before a democratic movement materializes. However, it is not clear that this introduces systematic bias: Some regimes may respond by increasing sanctions to "crack down" on the movement before it gains too much momentum, whereas others respond with fewer sanctions (or other forms of liberalization) with the hope of salvaging their authority.

Acemoglu and Robinson (in press) provide a framework in which a regime that foresees citizens' desire for democracy before a democratic movement takes place liberalizes to avoid anti-government, pro-democracy demonstrations. To address this possibility, I identify the countries that experience an increase in democracy to a level of 0.83 or higher by the end of a period without experiencing a democratic movement. Coefficient estimates are similar to those presented in Table 1 when either (i) these 29 observations are treated as experiencing a democratic movement (as would be appropriate if the scenario described above is accurate); or (ii) these observations are excluded from the analysis.

College enrollment rates appear to be strongly positively correlated with the probability of a democratic movement. In addition to increasing the country's stock of education,[20] college students have very low opportunity costs associated with demonstrating. The estimated correlation of the worker/total population ratio is small and estimated very imprecisely.

In addition to the variables such as levels of education and income, which are commonly cited in the literature as determinants of democracy, there are several other factors mentioned

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[16] The two education measures are also highly correlated; when only secondary school enrollment rates are included, the coefficient estimate is positive in regression 1, negative in regression 2, and never statistically significant.

[17] The correlation between initial democracy and initial income in this sample is only 0.13.

[18] The three highest levels of average annual sanctions in the sample are 70.8, 53.8, and 53; the mean of this variable is 6.8.

[19] In an alternate specification, I included a dummy variable indicating past repression of a democratic movement; the coefficient estimate on this variable was positive, large, and highly statistically significant.

[20] This effect takes time to be realized, but college enrollment rates are fairly constant within countries over the time period analyzed here.

Table 2. Probability of Democratic Movement II

	Regression 1	Regression 2
GDP	3.49 (2.86)	2.82 (0.95)***
GDP squared	−0.31 (0.28)	−0.29 (0.11)***
School enrollment	−9.19 (5.95)	0.002 (2.92)
Years education	−0.27 (0.42)	0.47 (0.29)*
Democracy	−4.92 (2.94)*	−3.26 (1.44)**
Middle class	0.26 (0.20)	
Lagged growth		5.14 (6.48)
Population		0.014 (0.008)*
Neighbor		0.66 (0.68)
Trade volume		−0.06 (0.04)
South Africa	3.44 (2.24)	5.42 (1.54)***
Latin America	3.74 (2.34)	1.21 (1.19)
East Asia	5.24 (2.51)**	3.19 (1.14)***
Observations	95	250
Successes	11	22
GDP*	$5579	$4854
Log likelihood	−24.40	−47.07

The dependent variable is the probability of a democratic movement occurring. See notes to Table 1. Middle class is the share of income of the second, third, and fourth quintiles. Trade volume is lagged one period (five years); population (in millions) is measured at the beginning of each period.

in the literature and discussed in section 2. Table 2 extends the logit analyses of Table 1 by incorporating these variables where possible.

Regression 1 of Table 2 includes a measure of the size of the middle class (specifically, the share of income of the second, third, and fourth quintiles, or the share of income accruing to the 20th through the 80th percentiles).[21] Huntington (1991) argues that the size of the middle class should be positively correlated with the demand for democracy; Feng and Zak (1999) provide a model in which this correlation is derived more formally.

The estimate on the size of the middle class is positive, although not statistically significant (notice that the sample size is reduced drastically; also, most coefficient estimates differ substantially from the estimates in Table 1).[22] Barro (1999) concludes that the income share of the middle three quintiles appears to be the most relevant measure of inequality in predicting levels of democracy; the coefficient estimate on this variable is also positive but only marginally significant in his regression (in which the level of democracy is the dependent variable).

Regression 2 of Table 2 incorporates trade volume and income growth, both of which Huntington predicts to be positively correlated with the desire for democracy. Feng and Zak (1999) model the effects of a country's current economic situation on the probability that a democratic transition (with or without a democratic movement) occurs. The country's population (in millions) is also included in regression 2 to address Olson's (1965) "collective action" problem—it is harder to mobilize a large group of people than a small one.[23] A dummy variable

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[21] The income inequality data are from Deininger and Squire (1996), and are not available for all countries. Because of the drastically reduced sample size, I include this variable only in this regression.

[22] Results are similar when the income share of only the third quintile is used instead.

[23] Of course, a larger population may attract more attention, both domestically and internationally. This introduces some uncertainty into the prediction of the sign of this coefficient.

(neighbor) indicating that a bordering country experienced a democratic movement in the preceding five-year period is also included, to address the possibility of "contagion" effects, in which a neighboring country's democratic movement may inspire local citizens to demonstrate for similar reforms.[24]

In regression 2, the sign of the coefficient estimate on trade volume is opposite that predicted, although it is not statistically significant. The coefficient estimate on population is positive (and marginally statistically significant), providing no evidence that larger populations are hampered by the difficulties of coordinating large numbers of people. Despite the predictions of Huntington (1991), recent economic growth does not appear to be significantly correlated with the probability of a democratic movement occurring. The coefficient estimate on the dummy variable indicating a democratic movement in a neighboring country is positive but estimated very imprecisely.

In short, none of these additional variables appears to be strongly correlated with the probability of a democratic movement.[25] There is little evidence in this analysis to support extending the predictors of democratic movements beyond those in Table 1: namely, levels of income, education, and democracy, and previous repression by the government.

5. Concluding Remarks

Is democracy a normal good? This paper provides evidence that it is, in the sense that income levels and the estimated probability of a democratic movement occurring in an authoritarian country are positively correlated over most ranges of income. However, this does not imply that the probability of a democratic movement occurring in an authoritarian regime is monotonically increasing in income. The results in this paper can be interpreted as suggesting that as per capita incomes increase beyond a certain threshold (apparently, approximately $5000), the costs of demonstrating for democracy increase enough that the probability of a democratic movement occurring actually falls with further increases in income.

Appendix A: Selection of Democratic Movements

The following table lists the democratic movements included in this analysis. Movements appear in chronological order. As discussed in section 3, movements are included if they satisfy three criteria: (i) the movement must be large in scale, relative to the population of the country; (ii) the demand for democracy must be expressed physically, through demonstrations, protests, or strikes; (iii) the movement must be explicity pro-democracy (including calls for direct elections).

Sources are varied and include newspapers (primarily the New York Times); newsmagazines (such as *The Economist*); general publications (for example, Ravitch and Thernstrom 1992); and region- or country-specific books (such as Wiseman 1996 and Lintner 1990).

A number of democratic movements listed in the table are excluded from this analysis because of missing data. Countries experiencing democratic movements but missing data on GDP include East Germany (1989), Liberia (1985), and Poland (1968). Additionally, Suriname (1982) and China (1978–1979, 1989) are excluded because of missing educational data.

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[24] Huntington (1991), for one, advances such a hypothesis. Of course, countries are not necessarily influenced only by those with which they share geographic borders.

[25] Including urbanization or military spending (or both) does not change this conclusion.

Appendix A
Democratic Movements 1960–1990

Country (Dates)	Description
South Africa (1960–1990)	The African National Congress adopts its Freedom Charter in 1955, stating the group's democratic aspirations. Ongoing protests against the apartheid system of government continue and are repressed until the government begins talks with the opposition in 1990.
Burma (1962)	Students call for restoration of democracy following military takeover, leading to confrontations with police and military.
Poland (1968)	Students and intellectuals demonstrate for greater freedoms; government represses.
Czechoslovakia (1968)	Liberalization known as the "Prague Spring" begins, leads to intervention by Warsaw Pact countries. Mass demonstrations and demands for restoration of democracy.
Senegal (1968)	Protesting students, striking trade unions nearly bring down regime. Transition to multiparty politics begins.
Spain (1968)	Various groups voice demands for further political liberalization; government reverts to earlier, more repressive policies.
Thailand (1973)	Widespread demonstrations for new constitution, elected parliament lead to clashes with police. Monarchy becomes concerned about government's ability to retain order, supports transition.
Burma (1974)	Protestors against economic conditions begin to press for political liberalization as well. Demonstrations and riots ensue; martial law is declared. Students continue to protest, resulting in severe repression. Estimates range from 8 to 400 protesters killed.
Spain (1974)	Students demanding that the regime liberalize clash with police.
China (1974)	"Democracy Wall" movement (posters explaining need for democracy) repressed.
Peru (1976–1977)	Strike in opposition to regime leads to declaration of state of emergency. Nationwide general strike receives support from all segments of society; regime announces election schedule.
Thailand (1976)	Demonstrations by university students lead to declaration of martial law.
Brazil (1977)	Students call for restoration of democratic freedoms, and are repressed. National demonstration draws in other segments of society.
Bolivia (1977–1978)	Popular demands for political and social change, demonstrations.
S. Korea (1980–1981)	Virtually continuous student demonstrations for democratization. Full martial law instituted; bloody repression of Kwangju insurrection.
Poland (1980–1981)	Economic strikes lead to the creation of the pro-democracy trade union Solidarity. Martial law is later declared, and Solidarity is outlawed.
Argentina (1982)	General strikes throughout the country lead to thousands of arrests and the President's resignation. Government agrees to hold elections.
Suriname (1982)	Strikes protest the delay in restoring democracy. The government agrees to a timetable for elections, and then is implicated in burning down opposition headquarters. Martial law is declared and 17 opposition figures are executed.

Appendix A
Continued

Country (Dates)	Description
Chile (1983–1984)	Days of national protests lead to the use of massive military force against the movement. Extreme antiterrorist law takes effect, and state of siege is declared.
Uruguay (1983–1984)	Rallies and demonstrations to demand restoration of electoral democracy draw 400,000 participants (total population is under 3 million). Strikes follow.
Brazil (1984)	Demonstrations for direct elections throughout country. Electoral college elects moderate civilian candidate.
The Sudan (1985)	Massive demonstrations; repression ordered. Military becomes increasingly unwilling to fire on protestors. Military coup; new government sets schedule for elections.
Liberia (1985)	Widely supported coup attempt that promises "free and fair elections and a democratic society" brings supporters into streets, where they are met by government troops. Supporters (both soldiers and civilians) are killed/executed.
Philippines (1986)	President Ferdinand Marcos claims victory in presidential elections, despite vote tallies declaring Corazón Aquino the winner. "People Power" demonstrations: Nearly 1 million people demonstrate in the streets, demanding that Marcos step down. When it becomes clear that he does not have the full support of the military, Marcos goes into exile.
S. Korea (1987)	In response to government's presidential nomination, white-collar workers and students demonstrate. Government responds with force but invites opposition leaders to talks. New President (Roh Tae Woo) announces democratization plan and is elected (due partly to a fragmented opposition).
Burma (Myanmar) (1988–present)	Police brutality leads to general strikes and over 1 million people demonstrate for democratic reforms. Martial law is declared; many protesters are killed by troops. Government agrees to hold elections, but severely restricts opposition during the period leading up to the election. The opposition wins 80% of the seats in the parliamentary election, but the government has repeatedly delayed handing over power, and continues to repress the opposition.
China (1989)	The death of liberalizing politician Hu Yaobang during his attempted political comeback leads to student demonstrations; students occupy Tiananmen Square, calling for democratic reforms. Martial law is declared; the military follows orders to "disburse" the protesters; estimates of up to several thousand killed.
Poland (1989)	Wave of strikes demanding political liberalization forces government to hold talks with (recently legalized) Solidarity. A timetable for elections is agreed upon and followed.
E. Germany (1989)	Hungary opens Austrian border, allowing 15,000 vacationing East Germans to leave illegally. In East Germany, demonstrators demand democracy, freedom, and reunification. Government estimates run as high as 1.35 million protesters. The government votes itself out of power, opening the way for reunification.
Czechoslovakia (1989)	Police beatings of demonstrators lead to mass demonstrations, work stoppages, protest marches. The Communist government resigns, and elections are held.

Appendix A
Continued

Country (Dates)	Description
Romania (1989–1990)	Pro-government rally turns into a crowd jeering the Ceaucescus. The National Salvation Front (NSF) takes power, agreeing to hold elections. The Ceaucescus are executed when they are captured trying to flee. The NSF announces that it will compete in the elections, causing protests. Government "shock troops" consisting of miners are repeatedly called in to repress demonstrations. The NSF wins elections.
Zambia (1990–1991)	The labor movement calls openly for multiparty elections. Massive street demonstrations, political violence, and an attempted military coup occur, forcing President Kuanda to hold a referendum on multiparty system of government. Constitutional revisions begin, and competitive elections are held.

Source: Author's construction.

Appendix B: Variable Definitions

The following table defines variables used in the tables. The table notes identify data sources in more detail.

Variable	Definition	Source
Initial GDP	Real GDP per capita (1985 international prices)	S-H, v. 5.6
Democracy	Index of political rights	Gastil, Bollen
Years education	Average years of secondary and higher schooling in population over age 25	B-L
School enrollment	Total gross enrollment ratio, secondary education	UNESCO (B-L)
Political sanctions	Number of actions taken to neutralize or suppress (perceived) threats to state security, yearly average	WHPSI
Political executions	Number of outright eliminations of political dissidents, yearly average	WHPSI
College enrollment	Total gross enrollment ratio, college	UNESCO (B-L)
Workers	Ratio of economically active population to total population	B-L, S-H
Trade volume	Sum of export share of GDP and import share of GDP	B-L, S-H
Population	Total population (millions)	S-H, v. 5.6.
Middle class income share	Income share of second, third, and fourth quintiles	D-S
Neighbor	Dummy variable equal to one if a bordering country experienced a democratic movement in the preceding five-year period	Author

Sources: B-L: Barro-Lee (1994), "Data Set for a Panel of 138 Countries." Bollen: Bollen (1980): Democracy index for 1960, 1965. Gastil: Gastil (1990): Index of political rights for 1972–90. D-S: Deininger and Squire (1996). S-H: Summers and Heston (1994). UNESCO: UNESCO, Statistical Yearbooks. WHPSI: *World Handbook of Political and Social Indicators III, 1948–92* (ICPSR 1983).

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