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Clague, Christopher and Gleason, Suzanne and Knack, Stephen

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CENTER FOR INSTITUTIONAL REFORM AND THE INFORMAL SECTOR

University of Maryland at College Park

Center Office: IRIS Center, 2105 Morrill Hall, College Park, MD 20742
Telephone (301) 405-3110 • Fax (301) 405-3020
E-mail: info@iris.econ.umd.edu
World Wide Web http://www.inform.umd.cdu/IRIS/

DETERMINANTS OF LASTING DEMOCRACY IN POOR COUNTRIES

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Christopher Clague
Suzanne Gleason
Stephen Knack

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Authors: Christopher Clague, Suzanne Gleason, and Stephen Knack, IRIS Center, University of Maryland, College Park.

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One of the most widely recognized and empirically documented findings in social science is the association between a country's level of economic development and the democratic character of its political institutions. This association is a prominent feature of the modernization school of political science and sociology, which developed explanations primarily of the causal chain from economic development to democratic and participatory political institutions.

Nevertheless, the correlation of democracy with economic development is far from perfect. There is a surprising number of very poor and underdeveloped countries with democratic political institutions. The existence of these economically underdeveloped democracies may provide support for another strand in the literature on democracy, one that emphasizes sequential and institutional development. Historically, contestation with a restricted franchise has almost always preceded inclusive democratic institutions. Both theory and history support the proposition that the institution of electoral contestation for power is a fragile plant initially but one that can develop strong roots if it is permitted some period of continuous functioning. The question posed in this paper is, under what conditions is such an evolution likely to take place in an economically underdeveloped country?

Our concern is particularly with the conditions under which a lasting democracy is likely to emerge. Clearly a democracy that fails to last does not protect the political and civil rights of its citizens. Moreover, recent research has found that lasting democracies enjoy better protection of contract and property rights, even at the same level of income, than countries with either stable autocracies or unstable democracies (Clague, Keefer, Knack, and Olson 1996). Since these economic rights, along with sound economic policies, are highly important for economic performance (Clague, Keefer, Knack, and Olson 1995; Knack and Keefer 1995; Isham and Pritchett 1996) it would be very desirable to have a deeper understanding of why some societies, even at low levels of income, develop this beneficial combination of political and economic institutions.

An association noted by several observers is that between British colonial rule and democracy. But this variable is not decisive, as there are many British former colonies that have

not become democratic. Among the interesting questions that can be addressed are, What is it about British rule that is conducive to evolution towards democracy, and, Does the association hold up when other relevant variables are taken into account?

It has also been observed that small states and island states are more likely to be democratic. Do these associations derive from size and island status, or are they the result of associations of these variables with other country characteristics that influence democracy? Similarly, it has been observed that societies in which Islam is the dominant religion are less likely to be democratic than other societies. Again we can ask whether this association is the product of the cultural heritage of Islam itself or the byproduct of its association with other variables.

These and other hypotheses about the determinants of democracy will be explored in this paper. The statistical part of the paper deals with a large sample of countries in the postwar period. While the complete sample includes the rich democracies, because of our interest in the phenomenon of functioning democracies in poor countries, our main focus will be on the statistical results for the sample that excludes the highly developed democracies.

The next section reviews some of the literature on the determinants of democracy and presents our theoretical framework. The following section (section 3) discusses various hypotheses that lend themselves to empirical tests. Section 4 describes the variables used in the analysis and presents some descriptive statistics of the data. Section 5 contains the multivariate analysis, which shows very strong effects for colonial heritage and for Islamic culture. We plan to write a companion paper that will provide an interpretation of these particular results, with a brief history of colonization and decolonization and a discussion of the ways in which Islamic culture may have affected democratization.

2. THEORETICAL FRAMEWORK

Our definition of democracy is a conventional one. The chief executive and the legislature must be selected by public elections that are freely contested under conditions of freedom of speech and organization, and the legislature must have a significant share of political power. This definition emphasizes contestation rather than inclusion (Dahl 1971); thus we consider polities to be democratic before the extension of the franchise to the entire adult population.[1]

As mentioned above, a prominent theory of the emergence and maintenance of democracy is the modernization school, of which Lipset (1959) is the leading example (see Diamond 1992 for a recent restatement). This theory predicts a strong relationship between measures of economic development (or socioeconomic development, including literacy, level of education, urbanization, and industrialization) and the presence of democratic regimes. In this view

[1] In the postwar period, democracies with restricted franchises are quite rare, and thus our statistical analysis would be little affected by making a nearly universal franchise part of the definition of democracy, as many authors do. The distinction is of course very important for discussions of democracy in the nineteenth century.

economic development undermines authoritarian rule and facilitates the emergence and survival of democracy not only by these structural changes associated with development, but also by increasing the level of rationality in individual decision making, by inducing greater toleration of opposing points of view, and by attenuating the struggle over economic resources. Strong versions of the theory claim that democracy is an aberration at low levels of socioeconomic development and becomes increasingly probable as development reaches high levels.

The modernization school has been criticized for not spelling out the precise mechanisms by which economic development leads to democracy, or not providing persuasive evidence for the mechanisms that were mentioned. Recently Rueschemeyer, Stephens, and Stephens (1992) have developed a theory based on the balance of class power, which they argue changes in such a way during the course of economic development as to create the conditions under which democracy becomes more likely. This theory is developed from, and applied to, countries in Europe, Latin America, and the British settler colonies in North America and Australasia, and in these cases it seems to be remarkably insightful. It has not been applied to Africa, Asia, and the Middle East, where it may also provide insights but where there may also be other important factors at work. It is also relevant that they do not apply the term democracy until the franchise has been extended to essentially the entire adult population; other theories focus on the emergence of institutions of contestation when the franchise is still restricted.

Among these other theories is a strand of literature that contends that the emergence of democracy requires special circumstances, in which the elites calculate that their interests are better served by agreeing to rules of peaceful contestation than by their separate attempts to control the state. Thus the circumstances require that no single contender for power be able to achieve his preferred outcome of his own autocratic rule. Prominent statements of this institutionalist, or path-dependent, view are in Rustow (1970), Dahl (1971), and more recently Olson 1993). In this vein, Higley and Burton (1989) and the various authors in Higley and Gunther (1992) have stressed the importance of the emergence of elite consensus for the stability of democratic regimes. Lijphart's concept of consociational democracy (Lijphart 1977) leaves ample room for political leadership, as does the "voluntaristic" framework of O'Donnell and Schmitter (1986). Przeworski (1991) has described the strategic choices open to political forces during the breakdown of authoritarian regimes and the transition to democratic institutions. In all of these accounts, the institutions of contestation can take root and grow strong, even before the society becomes highly educated, urbanized, or "modern." Moreover, economic development does not automatically lead to the emergence and strengthening of these political institutions.

Recognition of the path-dependent nature of the emergence and strengthening of institutions of peaceful contestation leaves open the question of what determines the likelihood of these occurrences, apart from economic development. Among the variables that have been thought by various analysts to be important are the degree of ethnic diversity in the society, the nature of colonial rule and the manner in which independence was achieved, the religious and cultural heritage of the society, the international environment (including ideological influences, direct external pressures, and the examples of neighbors), and decisions of individual political leaders. Our empirical analysis enables us to throw some light on the effects of some of these variables; our hypotheses are described in the next section.

3. HYPOTHESES

This study uses data on the political regimes of 146 countries during the 1960-94 period. For countries which became independent after 1960, the period starts with the date of independence. For each year each country is classified as a democracy or an autocracy (or an intermediate category in a few cases where the data were not clear). Our main dependent variable is the fraction of years during the period that a country is a democracy (M6094). We also use as a check on our results the Freedom House (Gastil) data for the 1972-90 period on political rights (POL7290) and civil liberties (CIV7290) and the democracy data in Gasiorowski (1996). To alleviate problems of reverse causation we use as independent variables country characteristics at the beginning of the period, that is, around 1960 (or the date of independence), as much as possible.

With this research design we can address a number of questions in empirical democratic theory. We shall organize the discussion of hypotheses around the following independent variables.[2]

1. Economic Development
2. Ethnic Diversity
3. Island Status and Size of Population
4. Colonial Heritage
5. Religion and Culture

3.1. Economic Development

The prior empirical literature on the effects of socioeconomic development on democracy is summarized in a variety of places (Hadenius 1992, Sirowy and Inkeles 1990, Diamond 1990). It is clear from this literature that democracy is correlated with measures of economic development such as income per capita, share of labor force in agriculture, urbanization, and measures of educational attainment. Recent literature has become more careful about the direction of causation in the relationship of development and democracy; several recent studies find a fairly strong causal effect of an increase in income on the emergence or sustainability of democracy (Barro 1996, Helliwell 1994, Burkhart and Lewis-Beck 1994, Haggard and Kaufman 1995, and Gasiorowksi 1995). Our study is not designed to test these timing effects, as our

[2] Since our research design is similar to that of Hadenius (1992), we shall compare our findings with his at several points in the discussion below. We expect to find some differences because of the timing of the measurement of the variables. Hadenius's dependent variable is his index of democracy in 1988, and most of his independent variables are dated around that time, while our dependent variable is measured over the 1960-94 period (or period of independence), and most of the independent variables are measured at the beginning of the period. Our measure of democracy is different from his, although for the given year, our measure is reasonably consistent with the electoral component of Hadenius's index, which is the component that is conceptually most similar to ours. There are additional differences in statistical techniques and in the precise formulation of hypotheses and tests.

dependent variable is the level of democracy over the 1960-94 period. However, in order to test hypotheses related to variables other than economic development, it is important to control for the level of development. For this purpose we use two measures of economic development, income per capita measured at purchasing-power parity in 1960 (or the year of independence if that is later), and the share of the labor force in agriculture (at the same date). Because these are quite highly correlated with one another, they are not used together in the same equation.

The share of the labor force in agriculture seems to be conceptually a better measure of economic development, for purposes of the modernization thesis, than per capita income, particularly for mineral-rich countries. These countries sometimes have very high incomes but lack the other characteristics that we associate with economic development and which were the characteristics that modernization theorists had in mind in describing the association of development with democracy.[3]

Literacy is another concomitant of economic development, and it is also quite plausibly a causal determinant of democracy. However, it is very plausible that the causation also runs from democratic political institutions to higher levels of literacy, and it may be the case that certain country characteristics that lead to the emergence and maintenance of democracy also tend to promote widespread literacy in the population (in other words, both democracy and literacy may be causal outcomes of other country characteristics). We shall in some equations use literacy as a control variable, but we consider that, because of the problem of reverse causation or missing variables, it may obscure the testing of other hypotheses. (Reverse causation is also a possible problem in the use of income per capita and share of labor force in agriculture as controls, but we feel that the problem is much less severe in these cases, because studies that have paid close attention to causation issues have not generally found a positive effect of democracy on development in the postwar period (see Barro 1996, Helliwell 1994, Burkhart and Lewis-Beck 1994; but for a contrary view, see Bhalla 1994).)

3.2 Ethnic Diversity

It is commonly thought that divisions within society based on ethnicity, language, and religion have important effects on political outcomes, including the emergence and maintenance of democratic political institutions. Such divisions seem to be more prevalent, or more intensely felt, in less-developed countries (or at least some of them) than in the developed democracies,

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[3] Urbanization is another variable thought by modernization theorists to be associated with democracy. In attempting to use this variable as an alternative measure of development, we ran into a conceptual problem. How should the level of urbanization be measured for countries with very small populations? If the total population of the polity is only a hundred thousand, there cannot be any large cities. This is partly a conceptual problem and partly a data problem, in that countries differ in the way that they define urbanization and these differences seem to be systematic between large and small countries. We have not pursued this issue further. For our purposes the share of the labor force in agriculture seems to capture pretty well the influences that modernization theorists had in mind when they mentioned urbanization.

and these divisions are commonly thought to be an obstacle to the establishment and preservation of democracy in the Third World. However, the measurement of such diversity is problematic, and even the theoretical effects of such diversity on democracy are far from straightforward.

At the theoretical level we can speculate on how the structure of divisions based on ethnicity, language, and religion might affect the evolution of democracy. Structure of divisions here refers to whether there is, for example, a large group (with more than 90% of the population), or two fairly equally sized groups, or a multitude of groups with none more than 20%, or some other configuration. But logically prior to such an analysis is the definition of the groups. Should the analysis focus on racial category, language, religion, or some combination of these characteristics?

It is clear from examination of country histories that the politically relevant dimension of cleavage can be any or all of these three characteristics (this point is forcefully made by Horowitz (1985)). In some countries where several different languages are spoken, language is not the major politically relevant cleavage (for example, the Philippines, where one's identity is closely tied to language but political parties organize across language groups). The same is true of ethnic and religious divisions, even where these divisions are very prominent in nonpolitical contexts. Yet each of these divisions can serve as the basis for political polarization, leading to such consequences as group hegemony, separatist movements, and group tension and violence; these consequences obviously affect the prospects for democracy. Thus we are led to define the groups according to the politically relevant dimensions of cleavage. Fortunately for our purposes, a study by Sullivan (1992) characterizes the structure of groups in various countries according to what seemed to him to be the politically relevant dimensions of cleavage. We shall make use of his data, with some modifications, as explained below.

Instead of using group definitions based on judgments of the politically relevant divisions, we could employ measures based on ethnicity, or language, or their combination, using the same definitions for different countries, regardless of whether these particular divisions are politically salient. A widely used measure is the index of ethno-linguistic fractionalization (denoted FRACTION) compiled in the Atlas Naradov Mira (USSR 1964; available in Taylor and Hudson 1972). The compilers of this index must have made some judgments about which ethnic differences put them in separate groups, and about which linguistic differences constituted separate languages, but presumably the compilers did not have in mind whether these divisions were the focal points of political cleavages, as Sullivan did when he constructed his groupings. Still another variable that we shall use is based on language alone. Muller (1964) reports the number of people in each country who are native speakers of each language; from this we can construct the share of the population who are native speakers of the most commonly spoken language. This variable is denoted MULLER.

Once the definition of the groups has been decided, there remains the issue of how to construct an index of homogeneity or diversity. The index of ethno-linguistic fractionalization (FRACTION) is 1 minus the Herfindahl index of the group shares; that is, it is 1 minus the sum of the squares of the group shares. But for the purposes of explaining the emergence and maintenance of democracy, this statistical measure is not necessarily the appropriate one. Consider a society with two groups, one of which contains 55% of the population and the other 45%. If voting is along group lines, the minority group might calculate that it will never participate in government and its commitment to democracy will be accordingly diminished. It

might therefore resort to attempted coups and rule by force.[4] On the other hand, in a society where no group contained more than 20% of the population, all groups might calculate that they have a chance of participating in the majority coalition at least part of the time. Thus greater diversity (a higher level of FRACTION) could be more, rather than less, favorable to democracy.[5]

Another deficiency of a Herfindahl index of group shares is that it takes no account of which group is dominant in the society. Consider two societies in each of which there is a majority group containing 90% of the population and a minority group with 10%. In the first society, the majority is economically and politically dominant, while in the second, the minority group rules over the majority. In the first society, the degree of ethnic diversity would not pose a serious obstacle to the establishment and maintenance of democracy. Examples of countries (and minority groups) that seem to fit this pattern are New Zealand (Maoris), the United States (African-Americans), Norway (Lapplanders), and Japan (Ainu). In the second society, on the other hand, the ruling ethnic minority would not stay in power if it permitted free and fair elections with a universal franchise, and this minority can be expected to resist establishing fully democratic institutions. Two cases might be distinguished here. In one, the ruling ethnic minority has already established institutions of electoral representation with a franchise limited to its ethnic group.[6] Examples would be South Africa until 1992 and Rhodesia from 1965 to 1978. The ruling group certainly did resist expansion of the franchise, but this stance proved untenable in the ideological climate of the postwar period. In the second case, the dominant ethnic minority has not been selecting its political leaders through fair elections, but rather by authoritarian means. Examples would be Syria, Iraq, Burundi, and Taiwan. The prospects for transition from autocracy to democracy would seem to be particularly unfavorable in such countries, precisely because of ethnic tensions. The dominant minority would have reason to fear loss of its privileges and perhaps even vindictive assaults on its property if the previously subordinate majority came to power. Thus the structure of groups is an inadequate guide to the prospects for democracy in a society; one must also consider the power relationships among the groups. In societies with a large majority group, one must distinguish cases of minority rule from those of majority rule.

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[4] The military coup in Fiji in 1987 might be an example of these forces at work.

[5] Consider the example of the thirteen former British colonies that joined to form the United States. On the basis of religion, this was a highly fractionated society. But because none of the religious groups was strong enough to have a realistic expectation of establishing itself as the state religion, it was mutually agreed to remove religion from government.

[6] Note that if the electoral institutions of the ruling minority are counted as a democracy, then logically the community whose ethnic diversity is being measured is the ruling group itself (that is, the 10% of the population), not the whole country. It would be illogical to consider the society as homogeneous because there is an 90% majority if one is looking at the political arrangements within the 10% minority. For this reason we exclude South Africa from regressions in which we use the Sullivan index of homogeneity. The somewhat similar case of Rhodesia (which was a self-declared independent state from 1965 to 1979) is not included in our study.

In our empirical work we shall use a variable called SULLIVAN, which is the population share of the largest group in society, according to the group definitions devised by Sullivan. In conjunction with this variable we shall use a dummy variable for MINORITY RULE, which takes on a value of unity for the four cases of minority rule identified above, namely Syria, Iraq, Burundi, and Taiwan. Another variable that we shall use is Ethnic Tensions (denoted ETHNIC), a subjective assessment of the degree of ethnic tensions in the society, for the year 1982 (ICRG 1982).

Both SULLIVAN and ETHNIC have the disadvantage of being measured toward the end of our period, and hence they are likely to be affected by the political experience of the country. In particular, ethnic tensions are likely to be exacerbated by the breakdown of democracy, especially if it is accompanied by prolonged armed conflict within the country. Thus the variable may be capturing some reverse causation from (lack of) democracy to ethnic tensions, as well as the direct causation from ethnic tensions to (lack of) democracy. Once again, however, we can consider these variables to be a control variable for illuminating the effects of other variables.

3.3. Island Status and Size of Population

The association of democracy with island status and with very small population has been noted in the literature (Dahl and Tufte 1972, Ebel 1972, Ostheimer 1975, Weiner 1987, Hadenius 1992). The interpretation of these associations has remained unclear, however. Are these associations the product of other variables, and if not, what are the causal mechanisms?

Our theoretical approach leads us to hypothesize that island status itself increases the probability of lasting democracy. Let us start by thinking of an island that is not a colony of another power. Let us also think of the government as initially being an autocratic one, which is run for the benefit of the autocrat or his clique or social class. An autocratic ruler has an incentive to expand his domain in order to increase his tax revenues and to improve his defensive position against other, threatening powers (North 1981). For these purposes he needs a strong military establishment. Now an island polity is likely to have a natural boundary, namely the water (the boundary is less clear when there is a group of islands). The benefit-risk ratio for the ruler from expanding his domain is likely to be less favorable in the case of an island state, and the degree of threat from external powers is likely to be less. For both reasons the military establishment is likely to be smaller and less influential in island states and this tends to decentralize power among the various contenders and make it more likely that an agreement on rules of contestation will emerge. This account has a certain plausibility as applied to the first democracy, Great Britain.

Now most of the islands in our sample of 146 countries have been colonies of another power. Thus the initiation of democratic rule in these island polities cannot be explained by the above line of reasoning. Still, the physical characteristics of these islands may have contributed to the longevity of these democracies in somewhat similar ways to the story sketched above. An imperfect way of testing this hypothesis is to look at the relationship of island status, democracy, and military expenditures. Suppose that military expenditures as a share of GDP are a proxy (albeit an imperfect one) for the political influence of the military in the society, or the degree

of threat that the military establishment poses to democratic political institutions. Then, according to the above reasoning, the introduction of military expenditures as a share of GDP into a regression explaining the level of democracy should weaken the coefficient on island status.

An additional feature of island states may be that they are more ethnically and linguistically homogeneous, and these characteristics tend to favor the emergence and maintenance of democracy. Historically, island peoples may have been less subject to conquest and domination by alien people. According to this hypothesis, the introduction of our ethnic diversity variables should weaken the coefficient of island status in a regression explaining democracy.

Another variable clouding the interpretation of island status is the identity of the colonial power. There is a very strong correlation between island status and BRITISH, which is a dummy taking on the value of one if the colonial power was Britain or one of its settler colony offshoots, the US, Canada, Australia, and New Zealand. Weiner (1987) has suggested that the island effect is entirely due to its association with British colonial rule. While separation of these effects remains a somewhat clouded issue, we attempt to distinguish between them by including both BRITISH and island status in the regressions.

Island status is also correlated with population size. Initially we thought it was plausible that small size of the population could be favorable to the emergence of agreement on rules of contestation. In very small states, political leaders often know one another through family and social connections and this may facilitate a consensus on the rules of political competition. We used our statistical analysis to try to disentangle the effects of population size and island status, and in doing so we were surprised to find that dummies for small states and for ministates came in negative, and the inclusion of these dummies strengthened the positive effects of island status (see Section 5.2 below).[7]

A variable that is correlated with population size and with island status is the ratio of foreign trade to GDP. This is one of the variables used by dependency theorists and world system theorists to represent a concept that is hypothesized to have a negative effect on the probability of democracy. We do not see valid theoretical reasons why the foreign trade ratio should have such an effect, and the data indicate a positive relationship, at least in a bivariate context (see Hadenius 1992, p. 95). Consequently this is not one of the variables that we explore.

3.4 Colonial Heritage

The colonial experience may well affect a country's prospects for democracy. The colonial power may or may not have transmitted its culture and language to the colony, and the

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[7] Ebel (1972) contends that small size is conducive to authoritarianism in Latin America through several mechanisms, some of which are derived from dependency theory. Seligson (1987), citing Ebel, also supports this line of reasoning. We did not find these arguments theoretically persuasive, and our empirical findings in Section 5.2 remain for us a puzzle.

mother country may or may not have been democratic itself during the period of colonial rule. Even if democratic itself, the mother country may or may not have given the colony experience with democratic political institutions under controlled conditions. The manner in which the colony gained its independence may also matter for democratic outcomes.

As a first pass at these issues we define a series of dummy variables for the identity of the colonial power. All countries are divided into one of the following categories: former colony of Great Britain or one of its settler colonies (United States, Australia, New Zealand) (BRITISH), former colony of France (FRENCH), former colony of Spain or Portugal (IBERIAN), former colony of another colonial power (Belgium, Netherlands, Italy, Japan) (OTHER), and countries that have never been colonized (NONE). We also constructed a variable for the length of democratic rule (called LENGTH), which is the number of years that an ex-colony was ruled by a country that was itself democratic. This procedure required us to specify the dates at which the colonial powers themselves became democracies (see the Appendix on Length of Time under Democratic Ruler). The variable LENGTH is one measure of the degree of cultural penetration of the colonial power in the colony. Another measure is the extent to which the colonial power's language comes into common usage in the colony. We have from Muller an estimate of the fraction of the population who are native speakers of each language, including the colonial power's language, in each country in 1960. This gives us a measure of language penetration (LANGPENE) by the colonial power. (This includes only native speakers, not those who learn the colonial power's language as a second language.) We can also construct a variable that measures language penetration by a democratic colonial power (LANGDEM), and language penetration by a BRITISH colonial power (LANGBRIT).

3.5 Religion and Culture

It is certainly plausible that some cultures are more receptive to democratic political institutions than others. Religion is one component of culture, and we have constructed variables for the proportion of the population that is Muslim (MUSLIM), Protestant Christian (PROTESTANT), and Catholic Christian (CATHOLIC). Our results indicate a very strong negative effect of MUSLIM on the incidence of democracy. Just as with colonial rule, a subsequent section will provide an interpretation of our results in view of the history and democratic experience of predominantly Muslim countries. One of the issues is whether the negative coefficient on MUSLIM in our multivariate regressions reflects something in the religion itself or rather the particular history and culture of the countries in the Islamic heartland. To illuminate this issue, we have constructed a dummy variable for the Islamic heartland (called ARAB-PERSIA). Another way of trying to separate out the different influences is to include a variable for the proportion of the population of European ancestry (EUROPURE). This variable presumably captures to some extent the diffusion of European culture. By holding this variable constant, we can see whether Islamic culture, as represented by MUSLIM, has a more negative effect on democratization than other non-European cultures in the Third World.

4. DESCRIPTION OF THE DATA

4.1 Measures of Democracy and Autocracy

Our conception of democracy was described in Section 2 above. Clague et al. (1996, 1997) have developed a classification of political regimes with the following five categories: I. autocracy; II. almost autocracy; III. intermediate category; IV. almost democracy; V. democracy. Countries were classified into one of these categories in each year from 1960 to 1994. The main data sources were the variables executive competitiveness from Gurr (1990) and executive selection and legislative effectiveness from Banks (1979 and updates). The data were updated to 1994 by Suzanne Gleason from information in the Europa Yearbook. Details of the procedures used in the classification are in Clague et al. (1996, 1997).

The following measures of democracy are based on this classification.

M6094 = the fraction of years in the 1960-94 period (or the period of independence to 1994) that a country is classified as a democracy (category IV or V).

DEMOC = a dummy for countries that have maintained democracy during our sample period. This includes countries for which M6094 exceeds 0.90. Leaving aside the 20 rich democracies, DEM includes Botswana, South Africa, Zimbabwe (M6094=.93), India, Malaysia (.94), Singapore, Sri Lanka (.97), Barbados, Costa Rica, Jamaica, Trinidad & Tobago, Venezuela, Papua New Guinea, Namibia (independent only since 1990), Bahamas, Belize, Kiribati, Dominica, St Kitts, St Lucia, Solomon Islands, St Vincent, Vanuatu, Western Samoa.

DEMPURE = a subset of DEMOC, excluding some questionable cases for various reasons. We exclude South Africa and Western Samoa, because the franchise was restricted to less than 25% of the population. We exclude Zimbabwe and Malaysia, because of breakdowns in democracy, as reflected in M6094 being less than .95. We exclude Singapore because of widespread doubts about its being a democracy (its Gastil POL score is low, but Gasiorowski rates it a semi-democracy). Namibia is excluded because it has not had enough years of democracy to test its stability.

We also use the following measures of autocracy.

AUTPURE = dummy for countries that have been pure autocracies (category I) during our sample period. Countries were included here if they had 4 or fewer years of democracy (category IV) or intermediate (category III) in the first 4 years of independence. If the period of IV occurred later than that, the countries are not included in AUTPURE.

AUTSEMI = dummy for countries that have been either pure (I) or semi (II) autocracies during our sample period. Again, 4 or fewer years of IV at beginning of independence is not enough to remove a country from the AUTSEMI category. For both AUTPURE and AUTSEMI, a couple of years of III is not sufficient to remove the country from these categories.

AUT90% = dummy for countries with more than 90% of years in category I or II. AUT90% includes countries with a few years of IV (which occurred after the fourth year of independence).

AUT70% = dummy for countries with more than 70% of years in categories I, II, or III. (AUT70% takes on a value of 1 if M6094 is less than 0.30.)

These autocracy variables provide progressively inclusive measures of autocracy. When averaged over the countries we have
AUTPURE < AUTSEMI < AUT90% < AUT70%.

Our data set consists of 168 independent countries, of which 17 were members of the communist bloc until 1989. These 168 countries constitute essentially all the independent countries in the world. We do not include the 17 communist states in our analyses; that leaves 151 countries for which we have data on our democracy classification. For data reasons we eliminate 5 ministates: Tuvalu, Nauru, Micronesia, Marshall Islands, and Tonga. That leaves 146 countries, of which 20 are highly developed democracies.[8] Our sample of LDCs thus includes the remaining 126 countries.

Some widely used alternative measures of democracy and freedom are the political rights and civil liberties variables from Freedom House.

POL7290 = the Gastil or Freedom House index of political rights. These refer to the right of all adults to vote and to compete for political office, and for elected representatives to have a decisive voice on public policies. The data are an average over the years 1972 to 1990. (These data do not exist for the period before 1972.)

CIV7290 = the Gastil or Freedom House index of civil rights. These are the rights to free expression, to organize or demonstrate, and freedom of religion, travel, education, and other personal rights. The data are for 1972-90.

Another alternative measure of democracy is that provided by Gasiorowski (1996). He classifies each country in each year into one of the following categories: Autocracy, Transition, Semi-democracy, and Democracy. We calculated for each country the number of years in each of these categories (from 1960 or the year of independence to 1992, the last year in his data set) and then calculated the following variables.

GAS-DEMOC = years of democracy/ total years

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[8] The highly developed democracies with continuous democracy are: Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Sweden, Switzerland, UK, US, Canada, Australia, and New Zealand.

Table A. Democracy and Autocracy Variables, Means, Various Samples of LDCs

	All LDCs	Islands	Ministates	Microstates
M6094	0.3425	0.6702	0.5005	0.5619
DEMOCDUM	0.2222	0.5667	0.4063	0.4000
DEMPURE	0.1746	0.5000	0.3750	0.4000
CIV7290	3.5362	4.6426	4.3866	4.4109
POL7290	3.4758	4.8186	4.4269	4.6303
AUTPURE	0.2540	0.0667	0.1875	0.1000
AUTSEMI	0.4524	0.2333	0.3750	0.3000
AUT90%	0.4762	0.2333	0.4063	0.3000
AUT70%	0.5873	0.3000	0.4688	0.4000
No. observ.	126	30	32	10

	BRITISH	FRENCH	LATIN AMER	ARAB-PERS.	SS-AFRICA
M6094	0.5361	0.0234	0.4175	0.0226	0.1267
DEMOCDUM	0.4407	0.0000	0.1111	0.0000	0.0714
DEMPURE	0.3390	0.0000	0.1111	0.0000	0.0238
CIV7290	4.0415	2.4831	4.4883	2.5406	2.4402
POL7290	4.0584	2.1348	4.4064	2.3436	2.2036
AUTPURE	0.1864	0.5000	0.0000	0.5789	0.4048
AUTSEMI	0.2881	0.9091	0.1111	0.9474	0.6905
AUT90%	0.2881	0.9545	0.1667	0.9474	0.7143
AUT70%	0.4407	0.9545	0.3333	0.9474	0.8810
No. observ.	59	22	18	19	42

GAS-SEMIDEM = years of democracy or semi-democracy/ total years

Note that transition years are included in total years. Gasiorowski excluded countries with populations of less than one million. His data are available for 86 of our 126 LDCs.

Some descriptive statistics for these democracy and autocracy variables are presented in Table A. The first two columns show that islands tend to be more democratic and less autocratic than the average LDC. The next two columns show that very small states also tend to be more democratic and less autocratic. Ministates are those with population less than 500,000 (in 1960 or at independence). Microstates are those with population less than 100,000.

The lower part of the table shows various groupings of LDCs. BRITISH and FRENCH refer to the ex-colonies of these powers, except that BRITISH includes the ex-colonies of the United States, Australia, and New Zealand. LATIN AMERICAN refers to former Spanish and Portuguese colonies in the Western Hemisphere. ARAB-PERSIAN refers to the countries in the Islamic heartland from Morocco to Iran. SS-AFRICA is Subsaharan Africa. BRITISH ex-colonies are more democratic and less autocratic than the average LDC; the contrast is especially pronounced for DEMOCDUM and DEMPURE, the dummies for lasting democracies. FRENCH ex-colonies are remarkably undemocratic (only Lebanon contributes a positive score to M6094) and remarkably autocratic. LATIN AMERICA displays considerable years of democracy, but is remarkably low in the variables for lasting democracy (only Costa Rica and Venezuela appear here); it is also low in measures of continuous autocracy (entries here are Mexico, Panama, and Paraguay). The ARAB-PERSIAN countries, by contrast, are not only very low in democracy (Lebanon here again; Turkey is not included in Arab-Persian heartland), but is very high in continuous autocracy. SS-AFRICA is also quite low in democracy (entries here are Botswana for DEMPURE and additionally South Africa and Zimbabwe for DEMOCDUM) and quite high for continuous autocracy.

4.2 Main Independent Variables

BRITISH = Britain or its settler offshoots (as colonial powers): United States, Australia, New Zealand. An Appendix entitled "Length of Time under Democratic Ruler" lists the colonial powers and the dates of colonization.

ISLAND = dummy for island status. A country is an island if it is entirely surrounded by water.

MUSLIM = proportion of population whose religion is Islam.

AGRI-LF = proportion of the labor force in agriculture. For 36 countries for which this share is missing, it was estimated from a regression of this share on (the log of) real per capita income.

EUROPURE = fraction of the population of pure European extraction. Source: CIA Factbook.

LANGPENE = language penetration, or fraction of the population that speaks the language of the colonial power. If there is no colonial power, this variable is set equal to zero. Source: Muller.

DEMOCRATIC COLONIAL POWER = a dummy taking on the value 1 if the colony was set free by a colonial power that was at that time a democracy. (The dates at which colonial powers became democracies are listed in the Appendix "Length of Time under Democratic Ruler.)

LANGDEM = calculated as LANGPENE*DEMOCRATIC COLONIAL POWER. Thus this variable is LANGPENE for countries liberated by a democratic colonial power, and zero otherwise. It is a measure of the cultural penetration of democratic ideas.

LANGBRIT = calculated as LANGPENE*BRITISH. This is a measure of cultural penetration by BRITISH colonial power.

SULLIVAN = fraction of the population in the largest ethnic group, as determined by Sullivan (1992). Two values were changed by us. Morocco was given a 0.63 instead of 0.99 (to reflect the Berber minority), and Cyprus was given a value of 1.00 instead of 0.78 (to reflect the fact that the polity we include in our regressions is the Greek part of the island).

MINORITY RULE = dummy for four countries which have high values of SULLIVAN but which are ruled by an ethnic minority. Burundi, Iraq, South Africa, Syria, Taiwan. (We exclude South Africa from regressions including SULLIVAN.)

MULLER = fraction of the population speaking the dominant language. Source: Muller.

ETHNIC FRACTIONALIZATION = 1 - Herfindahl index of concentration of ethnic groups; i.e. it is 1 minus the sum of squares of the fractions of each ethnic group in the population. An index of zero corresponds to ethnic homogeneity; a value near unity corresponds to a very high degree of ethnic fractionalization. (Source: Taylor and Hudson 1972, from USSR, Atlas Naradov Mira, 1964)

ETHNIC TENSIONS = a subjective index of the degree of racial and nationality tensions in 1982. Scores range from 1 (high degree of tension) to 6 (low degree of tension). (Source: ICRG 1982)

INCOME = real per capita income (that is, income measured at purchasing-power parity) relative to that of the United States. The data are for 1960 or for the date of independence, if later than 1960. The source is the Heston and Summers databank. For a small number of countries, purchasing-power parities were missing, and these were estimated from a regression of real per capita income on per capita income at exchange rates.

Of the 126 LDCs, 4 are oil-rich states with high per capita incomes. The ratios of their incomes to that of the US are Qatar: 2.22, United Arab Emirates: 2.09, Brunei: 1.35, and Kuwait: 1.31. When these four countries are included in the regression, income per capita is insignificant. The coefficient changes its value dramatically and becomes highly significant when these four countries are removed. For these countries the income variable seems to misrepresent their level of economic development; the share of the labor force in agriculture seems to be a better measure, although even this measure may in some sense overstate their degree of modernization (this share is 2 to 5% in these countries). In our basic regressions we use the share of agriculture in the labor force and we include these four countries. (Regressions with per capita income as an independent variable are presented in Section 5.5, Table 9.)

4.3 Additional Independent Variables

POP = size of population in 1960 or year of independence.

MICRO-DUMMY = dummy for microstates, those with POP less than 100,000.

SMALL-DUMMY = dummy for all states with POP less than 500,000.

LIT60 = literacy rate of the adult population in 1960 or date of independence. (Source: Taylor and Jodice 1983)

LIT93 = literacy rate of adult population in 1993. Source: Human Development Report 1996.

5. MULTIVARIATE ANALYSIS

5.1 Basic Variables

5.2 Do Our Results Depend on the Inclusion of the Ministates?

5.3 Regional Effects (SSAFR, LA, ARAB-PERS)

5.4 Are the Results Explained by the Level of Literacy?

5.5 Measuring Economic Development by Income Rather than Agricultural Labor Force

5.6 Alternative Measures of Democracy and Autocracy
(Gastil, Gasiorowski, and our dummies)

Table 0. Basic Regressions
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) ALL	(4) ALL
INTCPT	0.5333	-0.0773	1.3261	0.1657
	2.4720	0.3110	6.3950	0.6470
BRITISH	0.7350	0.8133	0.6618	0.8026
	4.6350	5.2500	3.7960	5.0510
ISLAND	0.3524	0.4050	0.3416	0.4706
	2.0470	2.4850	1.7820	2.8020
MUSLIM	-1.1509	-0.9611	-1.4367	-0.9757
	-5.1710	-4.6200	-5.4850	-4.5130
AGRI-LF	-0.7568	-0.3266	-1.7297	-0.4950
	-2.4990	-1.0630	-5.2930	-1.5530
EUROPURE		0.9896		1.4491
		3.1440		5.0020
Sigma	0.6223	0.5794	0.7236	0.6066
(S.E.)	(0.0751)	(0.0695)	(0.0890)	(0.0734)
NOBS	126	126	146	146

Note: t-statistics below coefficients.

5.1 Basic Variables

Our main dependent variable is M6094, which is a variable that lies in the (0,1) interval with many observations at the two end points. The appropriate statistical technique for this type of variable is a two-sided tobit regression (Rosett and Nelson 1975).

Table 0 displays regressions of M6094 on BRITISH, ISLAND, MUSLIM, AGRI-LF, and EUROPURE. The first two columns are for the sample of 126 less-developed countries; the last two are for the entire sample of 146 countries, including 20 highly developed democracies. Most of our regressions will be presented in this format. It will be important to check whether the results for the entire sample are being driven by the difference between the 20 developed democracies and the rest of the sample. All of the variables come in significantly and with the expected signs. It turns out that AGRI-LF is not significant when EUROPURE is in the regression.

These regressions indicate that BRITISH[9] colonial heritage is an important factor, that islands are more democratic even holding constant the other variables, that Muslim countries are less democratic even holding constant the other variables, that countries with larger fractions of population with European extraction have higher levels of democracy, and of course that socioeconomic development (as proxied here by the share of agriculture in the labor force) is positively related to democracy.

Table 1 introduces variables representing the degree of cultural penetration of the colonial power, as measured by the fraction of the population who are native speakers of the language of the colonial power. In this table our interest focuses on the regressions for the less-developed countries. The language penetration variable, LANGPENE, comes in significant; this probably reflects to some extent the Spanish American ex-colonies, which tend to be more democratic than other less-developed countries. Introduction of this variable reduces the coefficient on MUSLIM from -0.96 to -0.68, but it remains highly significant. This result indicates that part of the negative effect of MUSLIM on democracy can be attributed to the resistance of these countries to cultural penetration from Europe, as measured by this language variable.

The variable representing the cultural penetration by a democratic colonial power (LANGDEM) falls short of significance at conventional levels. But LANGBRIT comes in more strongly and is significant; this captures the nondemocratic experience of the ex-colonies of non-BRITISH colonial powers. Not surprisingly, the introduction of LANGBRIT weakens BRITISH, but both remain significant, indicating that BRITISH has an influence even when the local population does not produce many native English speakers.[10]

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[9] Recall that the BRITISH colonial heritage dummy takes on a value of 1 for the ex-colonies of the United States, Australia, and New Zealand, as well as of Britain itself.

[10] Note that LANGPENE is the fraction of the population who are native speakers of the colonial power's language. It would be desirable to have a measure of the fraction of the

Table 2 introduces the SULLIVAN measure of ethnic homogeneity. We lose three observations in these regressions, two because of missing data and one (South Africa) because the democratic regime that we observe in South Africa applies only to the minority population, and thus the SULLIVAN variable does not represent the ethnic composition of that minority. The SULLIVAN variable works quite well; it works even better in the total sample than in the LDC sample, but it is significant in both cases. The MINORITY RULE dummy has the correct sign, but is generally not significant. The addition of EUROPURE weakens SULLIVAN considerably, but it remains significant. These results indicate that ethnic homogeneity is a significant determinant of democracy. Interestingly, the addition of SULLIVAN substantially weakens ISLAND, indicating that one of the reasons why islands tend to be more democratic than non-islands is that they are more ethnically homogeneous. The addition of SULLIVAN does not weaken MUSLIM (in regressions that already contain EUROPURE); thus we have not found further explication of the strong effect of MUSLIM heritage.

To check on whether the effect of SULLIVAN is linear or has some other functional form, we introduced five dummies for different levels of this variable. The results are mainly as expected, but it is interesting that the dummy for CATEGORY 2 (80-89%) has a coefficient that is no lower than that of the dummy for CATEGORY 1 (90-100%). This suggests that ethnic homogeneity of 80% or greater is sufficient to give a country the maximum benefit from ethnic homogeneity. This result does not seem surprising, because a group of that size is large enough to be able to rule on matters of importance to it, regardless of the policy position of minority voters.

Table 3 shows the introduction of the language homogeneity variable MULLER. Somewhat surprisingly, this variable does not come in very strongly; it has the expected sign but is insignificant. The table shows the regressions omitting LANGBRIT and EUROPURE; when these are included, the MULLER variable is even weaker. Breaking the MULLER variable into categories does not alter the picture. Once again the top category (90-100%) has a coefficient smaller than the next largest category (80-89%). These results indicate that language alone does not provide a particularly good way to measure ethnic homogeneity. There seems to be a good deal to be gained by making the kind of judgments that Sullivan made in determining the politically relevant ethnic groups.

Table 4 shows the introduction of ethno-linguistic fractionalization (FRACTION). As for the MULLER variable, FRACTION works best when neither LANGBRIT nor EUROPURE is in the regression. Because FRACTION is not available for many of our countries, the sample sizes are reduced to 96 and 116 (instead of 126 and 146) for the less-developed and total samples. In the basic regressions in columns (1) and (4), this reduction in the sample size does not have

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population who have become reasonably fluent in the colonial power's language, even though they are not native speakers, but this information is not available on a systematic basis. Estimates of the fraction of the population in India who are reasonably fluent in English are remarkably small: 3% in 1960 (Muller 1964, p. 8) and 3.3% in 1995 (Encyclopedia Britannica).

Table 1. Language Penetration Variables
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) LDC	(4) ALL	(5) ALL	(6) ALL
INTCPT	-0.3131	-0.0479	-0.0556	-0.0301	0.1489	0.1581
	-1.103	0.198	0.233	-0.105	0.594	0.641
BRITISH	0.8401	0.6990	0.6312	0.8113	0.6840	0.6129
	5.546	4.424	4.015	5.126	4.131	3.710
ISLAND	0.4078	0.3094	0.2824	0.4818	0.3853	0.3589
	2.593	1.860	1.737	2.891	2.253	2.147
MUSLIM	-0.6780	-0.8298	-0.7724	-0.8236	-0.8524	-0.7940
	-3.189	-3.999	-3.810	-3.590	-3.934	-3.743
AGRI-LF	-0.0945	-0.3183	-0.3083	-0.3957	-0.4962	-0.4882
	-0.308	-1.062	-1.044	-1.233	-1.589	-1.585
EUROPURE	1.0213	1.0311	1.0195	1.5306	1.4550	1.4356
	3.375	3.370	3.411	1.494	5.110	5.138
LANGPENE	0.5821			0.3158		
	2.730			1.494		
LANGDEM		0.6156			0.5948	
		1.728			1.586	
LANGBRIT			0.8559			0.8478
			2.355			2.198
Sigma	0.5564	0.5650	0.5560	0.5992	0.5950	0.5857
(S.E.)	(0.066)	(0.068)	(0.066)	(0.072)	(0.072)	(0.071)
NOBS	126	126	126	146	146	146

Table 2. Sullivan Index of Heterogeneity:
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) LDC	(4) ALL	(5) ALL	(6) ALL
INTCPT	-0.0311		-0.1983	0.3654		-0.1076
	-0.114		-0.726	1.287		-0.380
BRITISH	0.5137	0.5389	0.5528	0.4434	0.4053	0.5373
	3.330	3.503	3.687	2.565	2.376	3.401
ISLAND	0.1269	0.1995	0.193	0.0876	0.1087	0.2556
	0.748	1.142	1.174	0.481	0.602	1.511
MUSLIM	-0.8097	-0.8604	-0.6821	-0.9769	-0.9221	-0.6987
	-4.104	-4.251	-3.571	-4.352	-4.152	-3.491
AGRI-LF	-0.6914	-0.5849	-0.3741	-1.4347	-1.4950	-0.5582
	-2.504	-2.641	-1.297	-4.980	-5.149	-1.857
LANGBRIT	0.678	0.6099	0.7764	0.6733	0.6814	0.7679
	1.910	1.644	2.261	1.708	1.679	2.115
EUROPURE			0.7358			1.1466
			2.449			4.130
SULLMOD	0.8315		0.5644	1.1498		0.5872
	3.065		2.057	3.775		2.065
MINORITY RULE	-0.7144	-0.1511	-0.5327	-1.0163	0.3238	-0.6065
	-1.615	-0.328	-1.282	-1.919	0.609	-1.354
CATEG1 90-100%		0.5733			1.4302	
		(0.186)			(0.204)	
CATEG2 80-89%		0.6869			1.4714	
		(0.273)			(0.300)	
CATEG3 70-79%		0.5234			1.3953	
		(0.165)			(0.240)	
CATEG4 40-69%		0.4180			1.0725	
		(0.178)			(0.214)	
CATEG5 <40%		0.0273			0.6099	
		(0.095)			(0.237)	
Sigma	0.5507	0.5599	0.5255	0.6230	0.6106	0.5538
(S.E.)	(0.0656)	(0.0661)	(0.0625)	(0.0756)	(0.0739)	(0.0665)
NOBS	123	123	123	143	143	143

Note: t-ratios below coefficients (but see footnote a)
a. Numbers in parentheses are standard errors, not t-ratios.

Table 3. Muller Share of Dominant Language:
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) ALL	(4) ALL
INTCPT	0.2785		0.886	
	0.868		2.599	
BRITISH	0.7360	0.7653	0.6728	0.6973
	4.495	4.672	3.768	3.833
ISLAND	0.3468	0.3686	0.3387	0.4236
	1.9840	2.043	1.7560	2.1070
MUSLIM	-1.1548	-1.1856	-1.4285	-1.4863
	-5.1680	-5.27	-5.4970	-5.5500
AGRI-LF	-0.6779	-0.6083	-1.5381	-1.4668
	-2.2060	-2.0530	-4.6800	-4.5620
MULLER	0.3449		0.5054	
	1.227		1.582	
MINORITY RULE	-0.7306	-0.7317	-1.0838	-0.9884
	-1.397	-1.519	-1.676	-1.635
CATEG1 90-100%		0.4567		1.2769
		(0.2196)a		(0.2070)
CATEG2 80-89%		0.8676		1.5260
		(0.2624)		(0.2838)
CATEG3 70-79%		0.4176		0.9981
		(0.2657)		(0.2928)
CATEG4 40-69%		0.4836		1.2066
		(0.2433)		(0.2445)
CATEG5 20-39%		0.2278		0.9055
		(0.2875)		(0.3026)
CATEG6 <20%		-0.0024		0.6574
		(0.4850)		(0.5448)
Sigma	0.6082	0.5809	0.6990	0.6792
(S.E.)	-0.0732	0.0698	0.0857	0.0832
NOBS	126	126	146	146

Note: t-ratios below coefficients (but see footnote a).

a. Numbers in parentheses are standard errors, not t-ratios.

Table 4. Ethnolinguistic Fractionalization:
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) LDC	(4) ALL	(5) ALL	(6) ALL
INTCPT	0.8562	0.9045	0.1265	1.5226	1.5717	0.3782
	4.260	4.484	0.397	7.734	7.925	1.087
BRITISH	0.6715	0.7371	0.5857	0.6821	0.7650	0.5934
	4.633	4.785	4.350	4.156	4.382	4.003
ISLAND	0.3180	0.2774	0.3203	0.3330	0.2826	0.3084
	1.621	1.415	1.732	1.555	1.328	1.535
MUSLIM	-0.8061	-0.8274	-0.6430	-0.9641	-0.9895	-0.7313
	-4.188	-4.265	-3.883	-4.339	-4.428	-3.975
AGRI-LF	-1.1757	-1.0204	-1.0141	-2.0637	-1.8619	-1.6972
	-3.846	-3.291	-3.508	-6.218	-5.642	-5.727
FRACTION		-0.3765	0.1529		-0.4659	0.2869
		-1.638	0.558		-1.807	0.958
SULLMOD			0.9182			1.2255
			2.883			3.469
MINORITY RULE			-0.9379			-1.2265
			-2.317			-2.587
Sigma	0.5021	0.4950	0.4356	0.5758	0.5654	0.4826
(S.E.)	(0.0622)	(0.0612)	(0.0532)	(0.0728)	(0.0713)	(0.0600)
NOBS	96	96	95	116	116	115

Note: South Africa observation is excluded when SULLMOD is present.

much effect on any of the coefficients. When FRACTION is added to this basic regression, it comes in with the correct negative sign, but it approaches significance only in the total sample. When SULLIVAN and MINORITY RULE are added, FRACTION reverses sign (to the incorrect sign) and becomes insignificant. SULLIVAN remains highly significant. Thus in this head-to-head contest, SULLIVAN does a better job of explaining democratization than FRACTION.

The variable ETHNIC TENSIONS 1982 had a positive sign as expected but was not significant in our regressions containing the basic variables.

Preliminary conclusions. Our data seem to support the following conclusions.

1. BRITISH colonial heritage has a powerful positive effect on democracy in poor countries. There is an additional positive effect of British cultural penetration, as measured by the proportion of the population that speaks English.

2. There is a strong negative effect of MUSLIM on democracy.

3. Islands tend to be more democratic than non-islands, holding constant the basic variables of BRITISH, MUSLIM, AGRI-LF, and EUROPURE. The data suggest that the ISLAND effect is partly due to the greater ethnic homogeneity of island populations (as measured by SULLIVAN).

4. Ethnic diversity has some negative effect on democracy, but this effect is not strong. The SULLIVAN index of homogeneity comes in positively, but this variable is to some extent endogenous to political outcomes. The other ethnic diversity variables, MULLER and FRACTION, do not explain democracy very well. Moreover, there are clear examples of ethnically diverse LDCs with persistent democracies (India, Malaysia, Mauritius, Botswana).

Our next task to see whether these results (particularly the first three) stand up under more detailed analysis.

5.2 Do Our Results Depend on the Inclusion of the Ministates?

Tables 5a and 5b show the effects of excluding small countries. The results are only slightly affected by excluding ten microstates with populations of less than 100,000. There are greater changes from excluding 34 ministates (32 LDCs) with populations of less than 500,000. (These population figures are for 1960 or the year of independence; populations have grown since then.) This exclusion weakens ISLAND substantially, as would be expected, since many of these small states are islands. The coefficient on LANGBRIT is reduced and it becomes insignificant, but BRITISH remains highly significant. Thus the effect of BRITISH heritage is not dependent on the inclusion of the ministates. The coefficient on MUSLIM is reduced somewhat, but it

remains highly significant.

Another way of testing the sensitivity of the results to the inclusion of the ministates or the microstates is to put in dummy variables MICRO-DUMMY (for those with populations less than 100,000) or SMALL-DUMMY (for those with populations less than 500,000. Somewhat surprisingly, these dummies (entered singly) come in negative, while they strengthen ISLAND and leave the other coefficients largely unaffected (see Tables 5a and 5b). This result suggests that small size itself is not conducive to democracy, while being an island is.[11]

This result warrants notice, because as we showed in Table A above, ministates and microstates are on average more democratic than other LDCs. Moreover, on theoretical grounds we expected to find that small size is conducive to democracy (see Section 3.3, especially footnote 7). For now we regard these negative coefficients on MICRO-DUMMY and SMALL-DUMMY as a puzzle, but our main conclusion is that the results for our basic variables hold up when account is taken of the presence of small states.

5.3 Regional and Cultural Effects

Definitions of variables:

SUBSAHAR-AFR = dummy for SubSaharan Africa. Excludes Mauritania, but includes Chad and Sudan. Includes Cape Verde. Excludes Mauritius, Seychelles.

PACIF= Pacific Island, all with small populations. Fiji, Nauru, Tuvalu, Kiribati, Solomon Islands, Vanuatu, Western Samoa. Category would include Micronesia, Marshall Islands, Tonga.

CARIB = dummy for ex-slave-colony in the Caribbean area. All were colonies of Britain, France, or Netherlands (Suriname), except that Dominican Republic is also included in this category.

ARAB-PERSIAN = dummy for countries in Islamic heartland. Morocco, Mauritania, Algeria,

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[11] The microstates (less than 100,000) with populations in thousands are Qatar (71), Kiribati (52), Maldives (97), Antigua and Barbuda (71), Dominica (76), Grenada (97), St. Kitts and Nevis (66), Sao Tome and Principe (59), Seychelles (42), Vanuatu (80). (10 states)

The next group (100 to 200) contains Iceland (176), Brunei (177), Bahrain (182), Bahamas (140), Cape Verde Islands (197), Belize (121), Comoros Islands (195), Djibouti (108), St. Lucia (110), Solomon Islands (200), St. Vincent and the Grenadines (101), and Western Samoa (131). (12 states)

The next category (201 to 500) contains Botswana (481), Gabon (460), Gambia (372), Swaziland (360), Kuwait (290), Luxembourg (315), Malta (329), Barbados (231), Suriname (290), Fiji (394), United Arab Emirates (205), and Equatorial Guinea (272). (12 states)

Tunisia, Libya, Egypt, Jordan, Libya, Syria, Iraq, Iran, Saudi Arabia, Kuwait, Bahrain, Qatar, Oman, UAE, Yemen Rep, Yemen PDR. Excludes Turkey, Sudan, and Afghanistan.

HINDU is the proportion of the population with Hindu religion. Nonzero data exist for five countries: Mauritius (0.51); India (0.80); Nepal (0.90); Guyana (0.40); Fiji (0.40). Source: Europa Yearbook.

BUDDHIST is a dummy for countries with majority Buddhist population: Japan, Sri Lanka, Burma, Thailand.

EASTASIA is a dummy for East Asian culture (not a geographic designation). This dummy is 1 for Korea, Japan, Taiwan, and Singapore. (Hong Kong would be included but is not in our data set.)

LA for LATINAMERICA is a dummy for former Spanish and Portuguese colonies in the Western Hemisphere.

SPAIN, PORTUGAL, BELGIUM are dummies for the excolonies of these colonial powers.

Table 6 shows the regressions with a dummy for the Arab-Persian countries, which correspond closely to the Islamic heartland (the only difference is that Turkey is not treated as one of the Arab-Persian countries). Columns 2 and 5 show the effect of introducing this dummy into a standard regression. This dummy comes in very significantly, and it cuts the coefficient on MUSLIM nearly in half, but the latter coefficient remains significant. The coefficient on MUSLIM is practically the same if the Arab-Persian countries are excluded from the sample. These results indicate that the presence of a large fraction of Muslims in the population inhibits the emergence and maintenance of democracy. Another interesting result is that AGRI-LF, the share of labor force in agriculture, becomes stronger when the Arab-Persion observations are either removed or represented by a dummy. This occurs because several Arab-Persian countries are quite highly developed economically (as measured by AGRI-LF) but have had no experience with democracy.

Next we introduced regional dummies into the basic regression. The only ones that came in significantly were those for Subsaharan Africa (SSAFR) and Latin America (LA). These are shown in Table 7. SSAFR comes in negative and LA comes in positive, but the coefficients on the other variables are little affected, except that AGRI-LF becomes even less significant. The regional effects are not much altered by the inclusion of the size dummies, which themselves remain negative (see Table 7).

5.4 Literacy

Table 5B. Small Countries: Total Sample
Dependent Variable is M6094

SAMPLE	(1) ALL	(2) ALL Exclude Pop <.1m	(3) ALL Exclude Pop <.5m	(4) ALL	(5) ALL
INTCPT	0.1581	0.3044	1.0077	0.1276	0.2180
	0.641	1.198	3.575	0.515	0.876
BRITISH	0.6129	0.5607	0.5343	0.6092	0.6256
	3.710	3.386	3.552	3.741	3.835
ISLAND	0.3589	0.4373	0.2484	0.4966	0.5119
	2.147	2.351	1.146	2.674	2.749
MUSLIM	-0.7940	-0.7930	-0.5895	-0.7480	-0.7217
	-3.743	-3.697	-3.037	-3.611	-3.474
AGRI-LF	-0.4882	-0.6598	-1.5684	0.4593	0.5614
	-1.585	-2.039	-3.945	-1.490	-1.787
EUROPURE	1.4356	1.2997	0.7121	1.4408	1.4038
	5.138	4.753	2.861	5.167	5.09
LANGBRIT	0.8478	1.1468	0.8415	1.0233	1.0518
	2.198	2.184	1.432	2.469	2.577
MICRO-DUMMY (Pop.<.1m)				-0.5027	
				1.784	
SMALL-DUMMY (Pop.<.5m)					-0.3663
					-1.913
Sigma	0.5860	0.5620	0.4777	0.5758	0.5743
(S.E.)	(0.071)	(0.070)	(0.060)	(0.069)	(0.069)
NOBS	146	136	112	146	146

Table 5A. Small Countries: LDC Sample
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC Exclude Pop <.1m	(3) LDC Exclude Pop <.5m	(4) LDC	(5) LDC
INTCPT	-0.0556	0.1995	0.8673	0.0361	0.1194
	0.233	0.818	3.250	0.151	0.495
BRITISH	0.6312	0.5797	0.5394	0.6230	0.6379
	4.015	3.697	3.786	4.017	4.110
ISLAND	0.2824	0.3584	0.1714	0.4086	0.4312
	1.737	1.989	0.806	2.270	2.361
MUSLIM	-0.7724	-0.7730	-0.5875	-0.7334	-0.7109
	-3.810	-3.772	-3.161	-3.696	-3.573
AGRI-LF	-0.3083	-0.4745	-1.3306	-0.2896	-0.3820
	-1.044	-1.541	-3.573	-0.978	-1.264
EUROPURE	1.0195	0.9075	0.4452	1.0200	0.9767
	3.411	3.124	1.701	3.422	3.302
LANGBRIT	0.8559	1.0863	0.7364	0.9984	1.0375
	2.355	2.269	1.399	2.581	2.697
MICRO-DUMMY (Pop<.1m)				-0.4380	
				-1.644	
SMALL-DUMMY (Pop.<.5m)					-0.3398
					-1.797
Sigma	0.5560	0.5337	0.4552	0.5478	0.5465
(S.E.)	(0.066)	(0.066)	(0.057)	(0.065)	(0.065)
NOBS	126	116	94	126	126

Table 6. Arab-Persian Countries
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) LDC, excl ARAB-PERS	(4) ALL	(5) ALL	(6) ALL, excl ARAB-PERS
INTCPT	-0.0556	0.4024	0.3935	0.1581	0.5356	0.5367
	0.233	1.613	1.567	0.641	2.070	2.063
BRITISH	0.6312	0.5968	0.6914	0.6129	0.5760	0.6753
	4.015	3.942	4.476	3.710	3.626	4.159
ISLAND	0.2824	0.2299	0.2331	0.3589	0.2910	0.2979
	1.737	1.493	1.539	2.147	1.848	1.918
MUSLIM	-0.7724	-0.4302	-0.4346	-0.7940	-0.4061	-0.4011
	-3.810	-2.020	-2.014	-3.743	-1.820	-1.785
AGRI-LF	-0.3083	-0.7657	-0.7923	-0.4882	-0.9877	-1.0347
	-1.044	-2.338	-2.356	-1.585	-2.872	-2.934
EUROPURE	1.0195	0.8008	0.8085	1.4356	1.1516	1.1420
	3.411	2.279	2.899	5.138	4.337	4.372
LANGBRIT	0.8559	0.8006	0.6264	0.8478	0.8021	0.6186
	2.355	2.804	1.854	2.198	2.153	1.720
ARAB-PERS		-0.9411			-1.0531	
		-2.967			-3.089	
Sigma	0.5560	0.5273	0.5054	0.5860	0.5531	0.5315
(S.E.)	(0.066)	(0.0527)	(0.0601)	(0.071)	(0.0662)	(0.0638)
NOBS	126	126	107	146	146	127

Note: t-ratios below coefficients.
In columns (3) and (6), nineteen Arab-Persian countries are excluded.

Table 7. Regional Effects
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) LDC	(4) ALL	(5) ALL	(6) ALL
INTCPT	-0.3128	-0.3808	-0.2660	0.0142	-0.5790	0.0653
	-1.147	-1.372	-0.963	0.052	-0.210	0.237
BRITISH	0.7602	0.7662	0.763	0.6596	0.6707	0.6681
	4.647	4.739	4.698	3.898	4.010	3.982
ISLAND	0.2176	0.3710	0.3357	0.2559	0.4140	0.3872
	1.322	2.082	1.826	1.485	2.206	2.034
MUSLIM	-0.6338	0.5767	-0.5900	-0.7551	-0.6930	-0.6989
	-3.245	-3.043	-3.040	-3.591	-3.397	-3.359
AGRI-LF	0.2689	0.3521	0.2033	-0.0623	0.0216	-0.1402
	0.859	1.104	0.635	-0.192	0.066	-0.423
EUROPURE	0.9177	0.9250	0.8969	1.3980	1.4163	1.3780
	3.296	3.343	3.238	5.121	5.196	5.077
LANGBRIT	0.9027	1.1155	1.0408	0.8733	1.1116	1.0405
	2.658	2.992	2.894	2.345	2.716	2.651
SSAFR	-0.4378	-0.4754	-0.4164	-0.4440	-0.4811	-0.4161
	-2.751	-2.977	-2.634	-2.617	-2.833	-2.475
LA	0.3542	0.3776	0.3463	0.0748	0.0989	0.0684
	1.818	1.973	1.789	0.386	0.523	0.358
MICRO-DUMMY		-0.5832			-0.6197	
		-2.187			-2.167	
SMALL-DUMMY			-0.2615			-0.3046
			-1.454			-1.649
Sigma	0.5130	0.5000	0.5077	0.5568	0.5427	0.5490
(S.E.)	(0.061)	(0.0589)	(0.060)	(0.067)	(0.065)	(0.066)
NOBS	126	126	126	146	146	146

Note: t-ratios below coefficients.

Table 8. Literacy
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) LDC	(4) LDC	(5) LDC	(6) ALL	(7) ALL	(8) ALL
INTCPT	0.1966	-0.5243	-0.1743	0.0827	-0.2549	0.3196	-0.5064	-0.0901
	0.779	-1.465	-0.350	0.355	-0.582	1.209	-1.351	-0.197
BRITISH	0.5792	0.5729	0.6051	0.6538	0.6494	0.5543	0.5514	0.6311
	3.708	3.832	3.883	4.162	4.160	3.357	3.505	3.833
ISLAND	0.2374	0.0595	0.1768	0.2382	0.1913	0.3129	0.1026	0.2784
	1.340	0.337	0.996	1.481	1.144	1.714	0.571	1.620
MUSLIM	-0.7309	-0.4652	-0.673	-0.7962	-0.7286	-0.7468	-0.4402	-0.7621
	-3.557	-2.244	-2.929	-3.935	-3.445	-3.464	-2.033	-3.420
AGRI-LF	-0.4604	0.0205	-0.2669	-0.3175	-0.1690	-0.6672	0.1134	-0.3782
	-1.443	0.059	-0.724	-1.099	-0.514	-1.979	-0.315	-1.103
EUROPURE	0.9076	0.5964	0.8420	0.9851	0.9344	1.2832	0.9124	1.3636
	3.158	2.095	2.980	3.380	3.185	4.683	3.391	4.983
LANGBRIT	0.8097	0.824	0.7153	0.7841	0.7820	0.8591	0.8964	0.7727
	1.786	1.816	1.649	2.215	2.228	1.717	1.777	2.065
LIT60		0.9780					1.1102	
		2.815					3.017	
LIT93			0.3662		0.3446			0.2814
			0.880		0.915			0.710
Sigma	0.5227	0.4959	0.5092	0.5432	0.5399	0.5540	0.5212	0.5713
(S.E.)	(0.065)	(0.061)	(0.063)	(0.065)	(0.064)	(0.069)	(0.065)	(0.069)
NOBS	106	106	105	124	124	126	126	144

Note: t-ratios below coefficients.

Literacy has often been thought to be closely related to democracy, both as cause and as effect. In this section we introduce literacy as an independent variable, even though we recognize that there may be reverse causation from democracy to literacy and that literacy may reflect some missing variables in our regression (such as the degree of social equality) that are more fundamental determinants of democracy. Our two measures are literacy in 1960 or at independence (LIT60) and the most recent rate of literacy (LIT93).

LIT60 is missing for 20 LDCs and this reduces our samples to 106 LDCs and 126 countries including the 20 rich democracies. It is important to distinguish the sample effects of excluding the 20 countries for which LIT60 is missing from the effects of introducing LIT60 into the regression. The literacy regressions are shown in Table 8. The sample effects, which can be seen for the LDCs by comparing column (1) in Table 8 with column (1) in Table 5a, and for the total sample by comparing column (6) in Table 8 with column (1) in Table 5b, are not very pronounced.

The introduction of LIT60, holding the sample constant, can be seen by comparing columns (1) and (2) for the LDCs, and columns (6) and (7) for the total sample. LIT60 is strongly significant and has a considerable effect on some of the other variables. In particular, the introduction of LIT60 weakens MUSLIM considerably, although it remains significant. This result suggests that lack of literacy is implicated in MUSLIM countries' lack of democracy. However, when we introduce LIT93 rather than LIT60 into basically the same sample[12], LIT93 is not significant and its effect on MUSLIM is very small (compare column (3) with (1)). This result suggests that the increases in literacy that have occurred since 1960 have not had the strong association with democracy that the levels of literacy in 1960 did. (Columns (4) and (5) show that introducing LIT93 into the sample of 124 LDCs for which LIT93 is available also has very little effect on the other coefficients and LIT93 is again not significant.)

The other variable whose coefficient is strongly affected by the introduction of LIT60 but not by the introduction of LIT93 is ISLAND. Thus we might be tempted to conclude, on the basis of the LIT60 regression, that islands are more democratic because they have higher rates of literacy, but the results for LIT93 indicate that increases in literacy do not produce democracy if other conditions are unfavorable. Again, we are led to the conclusion that LIT60 probably captures some country characteristics that are strongly related to democracy, but that increases in literacy after 1960 in countries without these characteristics do not have much positive effect on democracy.

Our finding that LIT93 is not significantly related to democracy parallels the findings of some researchers (eg Pritchett 1996) that increases in levels of education are not associated with increases in growth rates or levels of total factor productivity. Evidently the forces generating increases in education in the postwar period are not the same as those operating before World War II.

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[12] We lose two observations (one LDC, one MDC) due to missing values for LIT93.

Finally, we note that the coefficient on BRITISH is not affected by the introduction of either measure of literacy. Thus BRITISH colonies are not more democratic because they are more literate. This point is confirmed by the following regression:

LIT60 = 74.796 - 0.7680 BRITISH + 17.948 ISLAND - 23.824 MUSLIM
(11.855) (-0.239) (4.485) (-5.579)

-0.5144 AGRIC-LF + 30.153 EUROPURE
(-6.676) (5.365)

NOBS = 126 RBARSQ = 0.7671 S.E.E. = 16.260

5.5 Income

Table 9 shows the effects of replacing AGRIC-LF by per capita income. Columns (1)-(3) show that while INCOME is quite insignificant, the other variables remain significant and retain their sign pattern in the basic regressions. The insignificance of INCOME even in column (1), where EUROPURE and LANGBRIT are absent, is striking, because the regression contains no other variable that reflects the level of development and we know that democracy is strongly related to the level of development. The puzzle is resolved when we remove the four high-income oil-producing countries (with ratios of income to the US level in parentheses): Qatar (2.22), United Arab Emirates (2.09), Brunei (1.35), and Kuwait (1.31). Columns (4) and (6) (compared with columns (3) and (5)) show that with these four countries excluded, INCOME comes in positively and significantly (albeit weakly in equation (4)), and the other coefficients are not strongly affected (except that ISLAND becomes a little weaker).

5.6 Alternative Measures of Democracy and Autocracy

In Section 4.1 we defined six dummies reflecting the periods of time that countries have experienced democracy and autocracy. In Tables 10a and 10b we show logit regressions of these six dummies on our basic independent variables. Because these dummies capture much less information on the democratic experience than the variable we have been using, M6094, the t-ratios on the coefficients tend to be lower in these logits than they were in the tobit regressions reported above. Nevertheless, the overall pattern of the coefficients is the same, and BRITISH and MUSLIM are quite strong in both Table 10a (sample of LDCs) and Table 10b (total sample), except for AUTPURE, which is the autocracy dummy defined by our category I autocrats.

We turn next to measures of democracy compiled by different researchers. Table 11 shows regressions using the Freedom House measure of political rights, averaged over 1972-1990. The results are very similar for the Freedom House variable called civil liberties. Our basic variables come through loud and clear in these (linear) regressions. BRITISH is insignificant

Table 9. Income
Dependent Variable is M6094

SAMPLE	(1) LDC	(2) LDC	(3) LDC	(4) LDC exclud. 4 oil cys	(5) ALL	(6) ALL exclud. 4 oil cys
INTCPT	0.0384	-0.1436	-0.1496	-0.2645	-0.1961	-0.3310
	0.336	-1.183	-1.280	-2.074	-1.582	-2.519
BRITISH	0.7736	0.8510	0.6652	0.7012	0.6497	0.7120
	4.701	5.464	4.219	4.529	3.879	4.361
ISLAND	0.3959	0.4335	0.3020	0.2354	0.4041	0.2892
	2.221	2.666	1.851	1.488	2.398	1.808
MUSLIM	-1.1987	-0.9131	-0.7249	-0.7297	-0.7785	-0.7827
	-5.061	-4.297	-3.513	-3.668	-3.547	-3.776
INCOME	-0.0012	-0.2092	-0.2237	0.9352	-0.0362	1.4677
	-0.005	-0.804	-0.863	1.756	-0.153	2.857
EUROPURE		1.1840	1.2056	0.9149	1.6964	1.0865
		3.904	4.177	3.146	6.241	3.811
LANGBRIT			0.8661	0.7228	0.8435	0.6634
			2.392	2.050	2.182	1.870
Sigma	0.6506	0.5840	0.5598	0.5389	0.5957	0.5595
(S.E.)	(0.0789)	(0.0701)	(0.0670)	(0.0642)	(0.0720)	(0.0670)
NOBS	126	126	126	122	146	142

Note: t-ratios below coefficients.
In columns (4) and (6), 4 rich oil-producing countries with incomes higher than the U.S. level are excluded.

Table 10a. Democracy and Autocracy Dummies: LDC Sample
Logit Regressions

SAMPLE	(1) LDC	(2) LDC	(3) LDC	(4) LDC	(5) LDC	(6) LDC
Dependent Variable:	DEMOC	DEMPURE	AUTPURE	AUTSEMI	AUT90%	AUT70%
Mean, D.V.:	0.2222	0.1746	0.2540	0.4524	0.4762	0.5952
Percent of Correct Predictions:	89.68	89.68	74.60	78.57	82.54	86.51
INTCPT	-1.9454	-3.7173	0.4900	1.1040	2.2274	1.0603
	-1.217	-2.232	0.464	1.150	2.142	0.954
BRITISH	4.2568	2.9718	-0.9421	-1.7217	-2.1549	-1.2608
	3.477	2.448	-1.635	-2.951	-3.514	-1.832
ISLAND	0.3990	0.9776	-1.5739	-0.5334	-0.7888	-0.9347
	0.509	1.293	-1.812	-0.846	-1.218	-1.415
MUSLIM	-6.1927	-4.3653	0.7115	1.7509	1.5438	1.5831
	-2.548	-1.591	1.066	2.623	2.204	1.963
AGRI-LF	-3.4077	-0.7795	-0.8750	-0.4783	-1.3359	1.3079
	-1.631	-0.451	-0.757	-0.432	-1.132	1.021
EUROPURE	1.7974	2.9836	-55.9890	-12.0600	-15.0983	-12.6423
	1.114	1.867	-1.739	-2.652	-3.121	-2.774
LANGBRIT	0.3875	1.9967	0.6284	-1.4718	-1.3709	-4.1281
	0.284	1.485	0.334	-0.836	-0.777	-1.897
NOBS	126	126	126	126	126	126

Note: t-ratios below coefficients.

Table 10b. Democracy and Autocracy Dummies: All Countries
Logit Regressions

SAMPLE	(1) ALL	(2) ALL	(3) ALL	(4) ALL	(5) ALL	(6) ALL
Dependent Variable:	DEMOC	DEMPURE	AUTPURE	AUTSEMI	AUT90%	AUT70%
Mean, D.V.:	0.3288	0.2877	0.2192	0.3904	0.4110	0.5137
Percent of Correct Predictions:	88.36	86.99	78.77	79.45	82.19	87.67
INTCPT	-0.5158	-1.9890	0.3883	0.8629	1.8903	0.7237
	-0.370	-1.445	0.374	0.931	1.909	0.684
BRITISH	3.7185	2.0568	-0.9160	-1.6351	-2.0373	-1.1002
	3.541	2.112	-1.593	-2.830	-3.366	-1.645
ISLAND	0.6724	1.2396	-1.6900	-0.6870	-0.9734	-1.0881
	0.896	1.701	-1.957	-1.113	-1.534	-1.689
MUSLIM	-6.7910	-4.7092	0.7590	1.8045	1.6161	1.6464
	-2.680	-1.629	1.146	2.721	2.333	2.055
AGRI-LF	-4.5890	-2.4544	-0.7867	-0.2336	-1.0020	-1.6293
	-2.420	-1.445	-0.686	-0.216	-0.881	-1.307
EUROPURE	2.9223	3.8462	-54.1690	-11.4720	-14.2065	-11.7981
	2.434	3.159	-1.735	-2.579	-3.027	-2.685
LANGBRIT	0.1618	1.9702	0.7048	-1.3558	-1.2172	-4.1931
	0.112	1.386	0.372	-0.760	-0.680	-1.878
NOBS	146	146	146	146	146	146

Note: t-ratios below coefficients.

when LANGBRIT is also in the regression, but the latter variable is very strong, indicating that BRITISH colonial heritage is important. The variable ISLAND is also highly significant in these regressions.

Another measure of democracy is provided by Gasiorowski (1996). His sample is limited to LDCs and to countries with populations of 1 million or more; this leaves a sample of 86 developing countries, only ten of which are islands. He includes 4 of our 32 ministates (either because he used different population figures from ours or because he measured population at a later date). The DEMOC variable is the proportion of years during 1960-92 that a country was in his democracy category, and the SEMI-DEMOC variable is the proportion of years a country was in either the semi-democracy or democracy categories. The regressions, which are tobits, are presented in Table 12. Not surprisingly, ISLAND is completely insignificant. LANGBRIT is also quite insignificant, probably because of the exclusion of the small Caribbean and Pacific Island countries that were former BRITISH colonies and that speak primarily English. BRITISH, MUSLIM, and EUROPURE come in with the expected signs and are highly significant.

In conclusion, our main variables of theoretical interest, BRITISH, MUSLIM, and ISLAND, have stood up well under the various tests through which we have put them. BRITISH and MUSLIM have remained strong throughout, and ISLAND generally remains significant when the sample includes all the LDCs. These results were robust to the inclusion of dummies for the ministates or the microstates, to regional dummies, to literacy, to per capita income rather than agricultural labor force as the measure of economic development, and to alternative measures of democracy. Remaining tasks on the research agenda are to examine the historical experience to try to illuminate the remarkable effects of British colonial heritage (especially in contrast with that of the other major democratic colonial power, France) and Muslim culture, and to explain the lack of democracy in Sub-Saharan Africa (as reflected in the negative sign on this dummy), in comparison with poor countries on the Indian subcontinent and in the Caribbean Sea and the Pacific Ocean.

Table 11. Freedom House Regressions
Dependent Variable is Political Rights, Average 1972-90.

SAMPLE	(1) LDC	(2) LDC	(3) LDC	(4) ALL	(5) ALL	(6) ALL
INTCPT	4.5761	3.4991	3.2699	6.1487	3.7682	3.7218
	10.225	7.085	7.119	18.628	8.356	8.563
BRITISH	0.5402	0.8044	0.3388	0.2189	0.6833	0.2443
	1.903	2.935	1.242	0.822	2.835	0.922
ISLAND	1.0856	1.1857	0.6919	0.8698	1.1149	0.8423
	3.234	3.751	2.223	2.759	4.036	3.034
MUSLIM	-1.4207	-1.0700	-0.6290	-1.7880	-1.1232	-0.8589
	-4.164	-3.229	-1.960	-5.218	-3.587	-2.759
AGRI-LF	-1.8777	-0.9332	-0.8037	-3.5803	-1.1907	-1.1364
	-3.224	-1.576	-1.465	-7.480	-2.192	-2.171
EUROPURE		2.6314	3.0060		2.8711	2.7799
		4.152	5.081		6.839	6.86
LANGBRIT			2.9252			1.8206
			4.619			3.446
RBARSQ	0.3375	0.4159	0.5005	0.4654	0.5965	0.6255
(S.E.E.)	(1.4459)	(1.3576)	(1.2554)	(1.4862)	(1.2913)	(1.2439)
NOBS	126	126	126	146	146	146

Table 12. Gasiorowski Definitions of Democracy and Semi-Democracy
Dependent Variables are GAS-DEMOC and GAS-SEMI
Tobit Regressions; Sample Composed of LDCs

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent Variable:	DEMOC	DEMOC	DEMOC	SEMI DEMOC	SEMI DEMOC	SEMI DEMOC
INTCPT	0.4311	-0.1697	-0.1704	0.6618	0.3488	0.3454
	1.860	-0.554	-0.556	3.535	1.468	1.456
BRITISH	0.2752	0.3641	0.3718	0.2978	0.3452	0.3645
	1.760	2.431	2.302	2.463	2.894	2.820
ISLAND	-0.2217	-0.0160	0.0262	-0.0184	0.0946	0.1202
	-0.825	0.064	0.100	-0.087	0.457	0.556
MUSLIM	-0.7868	-0.5851	-0.5895	-0.5986	-0.4964	-0.5062
	-3.385	-2.719	-2.700	-3.677	-3.090	-3.110
AGRI-LF	-0.5944	0.0425	-0.0444	-0.6551	-0.3365	-0.3286
	-1.850	0.115	0.120	-2.563	-1.153	-1.126
EUROPURE		1.3337	1.3332		0.7601	0.7600
		2.865	2.864		1.980	1.983
LANGBRIT			-0.0598			-0.1526
			-0.128			-0.392
Sigma	0.5519	0.5075	0.5075	0.4708	0.4521	0.4514
(S.E.)	(0.0792)	(0.0724)	(0.0724)	(0.0544)	(0.0523)	(0.0523)
NOBS	86	86	86	86	86	86

Note: t-ratios below coefficients.

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Length of Time under Democractic Ruler

#	Country	Ind.	Col. Power	Since	Under Democratic Ruler
1	Algeria	1962	France	1870	92
2	Angola	1975	Portugal	1878	0
3	Benin	1960	France	1890	70
4	Botswana	1966	UK	1887	79
5	Burundi	1962	Belgium	1919	43
6	Cameroon	1960	France	1919	41
7	CAR	1960	France	1876	84
8	Chad	1960	France	1876	84
9	Congo	1960	France	1875	85
10	Egypt	1936	UK	1914	22
11	Ethiopia	1942	Italy	1936	6
12	Gabon	1960	France	1875	85
13	Gambia	1965	UK	1880	85
14	Ghana	1957	UK	1896	61
15	Guinea	1958	France	1883	75
16	Ivory Coast	1960	France	1891	69
17	Kenya	1963	UK	1886	77
18	Lesotho	1966	UK	1871	95
19	Liberia	1847	-	-	-
20	Madagascar	1960	France	1880	80
21	Malawi	1964	UK	1891	73
22	Mali	1960	France	1876	84
23	Mauritania	1960	France	1876	84
24	Mauritius	1968	UK	1814	154
25	Morocco	1956	France	1912	44

#	Country	Ind.	Col. Power	Since	Under Democratic Ruler
26	Mozambique	1975	Portugal	1880	0
27	Niger	1960	France	1876	84
28	Nigeria	1960	UK	1885	75
29	Rwanda	1962	Belgium	1876	86
30	Senegal	1960	France	1876	84
31	Sierra Leone	1961	UK	1896	65
32	Somalia	1960	UK	1884	76
33	South Africa	1961	UK	1880	81
34	Sudan	1956	UK	1882	74
35	Swaziland	1969	UK	1907	62
36	Tanzania	1961	UK	1918	43
37	Togo	1960	France	1914	46
38	Tunisia	1956	France	1881	75
39	Uganda	1962	UK	1886	76
40	Zaire	1960	Belgium	1908	52
41	Zambia	1964	UK	1891	73
42	Zimbabwe	1965	UK	1890	75
43	Bangladesh	1972	UK	1784	188
44	Burma	1948	UK	1826	122
45	Hong Kong	-	UK	1842	
46	India	1947	UK	1784	163
47	Iran	1946	UK	1941	5
48	Iraq	1932	UK	1916	16
49	Israel	1948	UK	1917	31
50	Japan	660	-		
51	Jordan	1946	UK	1920	26
52	South Korea	1948	Japan	1910	1

#	Country	Ind.	Col. Power	Since	Under Democratic Ruler
53	Kuwait	1961	UK	1899	62
54	Malaysia	1957	UK	1867	90
55	Nepal	1768	-		
56	Pakistan	1947	UK	1818	129
57	Philippines	1946	US	1898	48
58	Saudi Arabia	1932	-		
59	Singapore	1963	UK	1867	96
60	Sri Lanka	1948	UK	1796	152
61	Syria	1946	France	1916	30
62	Taiwan	1949	Japan	1895	2
63	Thailand	-	-		
64	Austria	1918	-		
65	Belgium	1830	-		
66	Cyprus	1960	UK	1878	82
67	Denmark	1849	-		
68	Finland	1917	-		
69	France	486	-		
70	Germany	1871	-		
71	Greece	1829	-		
72	Iceland	1944	Denmark		95
73	Ireland	1921	UK	12th	233
74	Italy	1861	-		
75	Luxembourg	1839	-		
76	Malta	1964	UK	1814	150
77	Netherlands	1579	-		
78	Norway	1905	-		
79	Portugal	1140	-		

#	Country	Ind.	Col. Power	Since	Under Democratic Ruler
80	Spain	1492	-		
81	Sweden	1809	-		
82	Switzerland	1291	-		
83	Turkey	1923	-		
84	UK	1801	-		
85	Barbados	1966	UK	1627	278
86	Canada	1867	UK	1763	104
87	Costa Rica	1821	Spain	1540	0
88	Dominican Republic	1844	Spain	1496	0
89	El Salvador	1841	Spain	1524	0
90	Guatemala	1821	Spain	1524	0
91	Haiti	1804	Spain France	1492 1659	0
92	Honduras	1823	Spain	1539	0
93	Jamaica	1962	UK	1655	274
94	Mexico	1810	Spain	1521	0
95	Nicaragua	1838	Spain	1523	0
96	Panama	1821	Spain	1538	0
97	Trinidad & Tobago	1962	UK	1797	165
98	US	1776	UK	1607	88
99	Argentina	1816	Spain	1534	0
100	Bolivia	1825	Spain	1538	0
101	Brazil	1815	Portugal	1500	0
102	Chile	1818	Spain	1650	0
103	Colombia	1819	Spain	1550	0
104	Ecuador	1822	Spain	1532	0

#	Country	Ind.	Col. Power	Since	Under Democratic Ruler
105	Guyana	1831	Dutch UK	1620 1796	35
106	Paraguay	1811	Spain	1536	0
107	Peru	1826	Spain	1533	0
108	Suriname	1975	UK Dutch	1630 1815	254
109	Uruguay	1825	Spain	1624	0
110	Venezuela	1821	Spain	1499	0
111	Australia	1901	UK	1800	101
112	Fiji	1970	Dutch UK	1643 1874	122
113	New Zealand	1931	UK	1840	71
114	Papua New Guinea	1975	UK Australia	1880 1906	95
115	Burkina Faso	1960	France	1896	64
116	Oman	1951	UK	1507	263
117	Yemen Republic	1967			
118	Indonesia	1945	Dutch Japan	1602 1941	93
136	Afghanistan	1919	-		
137	Lebanon	1944	France	1921	23
138	Libya	1951	Italy	1911	40
139	Guinea-Bissau	1973	Portugal	1879	0
141	Brunei	1984	UK	1888	96
143	UAE	1971	UK	1820	151
144	Qatar	1971	UK	1916	55
145	Bahrain	1971	UK	1882	89
146	Namibia	1990	S Africa	1914	76

#	Country	Ind.	Col. Power	Since	Under Democratic Ruler
147	Bahamas	1973	UK	1629	285
974	Tuvalu	1978	UK	1892	86
975	Nauru	1968	Australia	1914	54
976	Micronesia	1986	US	1944	42
977	Marshall Islands	1986	US	1947	39
978	Kiribati	1979	UK	1892	87
979	Maldives	1965	UK	1887	78
980	Yemen PDR				
981	Equatorial Guinea	1968	Spain	1778	0
982	Cape Verde	1975	Portugal	1587	0
985	Antigua & Barbuda	1981	UK	1632	293
986	Belize	1981	UK	1780	201
987	Comoros	1975	France	1900	75
988	Djibouti	1977	France	1945	32
989	Dominica	1978	UK	1805	173
990	Grenada	1974	UK	1762	212
991	St Kitt	1983	UK	1623	295
992	St Lucia	1979	UK	1814	165
993	Solomons	1978	UK	1893	85
994	Sao Tome & Principe	1975	Portugal	1522	0
995	Seychelles	1976	UK	1814	162
996	Tonga	1970	UK	1900	70
997	St Vincent	1979	UK	1498	291
998	Vanuatu	1980	UK	1887	93

#	Country	Ind.	Col. Power	Since	Under Democratic Ruler
999	Western Samoa	1962	New Zealand	1920	42

Notes:

1. For countries which were controlled by more than one colonial power, only those which were democratic during their occupation are listed. (Thus the Ottoman empire is excluded, as is early occupation by the Dutch, French and Germans when occupation ended before democracy began in the colonial power.) However, all former colonies do show the last colonial power regardless of democratic status of said power. Example:
   a) Although Chile became independent before Spain became a democracy Spain is listed as colonial power.
   b) Germany ruled Burundi from 1884 to 1919, but only became a democracy in 1919 and is therefore not listed.

2. Date of Colonization is from *The Times Atlas of World History* for Africa. For the rest, dates are taken from *Statesman's Yearbook*, *The World Almanac*, and *The Europa World Yearbook*, various years. Independence dates and colonial power are from these sources as well.

3. Calculation of years under democratic ruler is as follows:

The year in which each colonial power became a democracy was established. These are:

Belgium	1831
Denmark	1849
France	1870
Germany	1919
Italy	1861
Japan	1947
Netherlands	1848
Portugal	1976
Spain	1978
UK	1688

Sources: Banks, Arthur, ed., *Political Handbook of the World, 1994-95*; Lijphart, Arend, *The Politics of Accommodation: Pluralism and Democracy in the Netherlands* University of California Press, 1975; *Statesman's Yearbook*, 1995.

For countries in which colonial tenure began before this date: Length of time under democratic ruler = independence year - beginning of democracy in colonial power.

For countries in which colonial tenure began after this date: Length of time under democratic ruler = Length of colonial tenure.

For countries occupied by more than one country: The duration of tenure under each democracy is totaled.

Example: Surname

UK 1815-1688 = 127
Dutch 1975-1848 = 127
Total time under democracy = 254