ABSTRACT

Under what conditions do democracies emerge and consolidate? Recent theories suggest that inequality is among the leading determinants of both democratization and consolidation. By contrast, this article argues that inequality harms consolidation but has no net effect on democratization. The author shows that the existing theories that link inequality to democratization suffer from serious limitations: (1) they are useful only for understanding transitions from below and thus do not apply to many other transitions (that is, those from above); (2) even for democratization from below, their predictions are unlikely to hold, since inequality actually has two opposite effects; and (3) they ignore collective action problems, which reduces their explanatory power. However, these objections do not affect the relationship between inequality and consolidation. In particular, while inequality has two opposite effects on the probability of transition to democracy, it unambiguously increases the probability of transition away from democracy. This article conducts the most comprehensive empirical test to date of the relationship between inequality and democracy. It finds no support for the main democratization theories. Contrary to what they predict, estimation suggests neither a monotonic negative nor an inverted U-shaped relationship. Yet inequality increases the probability of backsliding from democracy to dictatorship.

INEQUALITY AND DEMOCRACY
Why Inequality Harms Consolidation but Does Not Affect Democratization

By CHRISTIAN HOULE*

INTRODUCTION

Why do some autocracies democratize while others do not? Why do some democracies endure and consolidate while others backslide to dictatorship? Until recently most political scientists believed that economic development drives both the emergence and the consolidation of democracies. Przeworski and his coauthors revolutionized the field of comparative politics by showing that wealth has no effect on democratization but instead promotes consolidation.[1] Since then scholars have shifted their focus away from wealth level toward wealth distribution, raising the question of the effect of inequality on democracy. Two schools of thought have been particularly influential. The first, advanced notably by Boix, argues that inequality harms both democratization and consolidation.[2] The second, proposed by Acemoglu and Robinson, agrees with the first that inequality inhibits consolidation but also predicts that it relates to democratization through an inverted U-shaped curve.[3]

Although these ideas are well developed theoretically, they have yet to find strong empirical support. Acemoglu and Robinson do not perform statistical analysis but rather only present four case studies:

[1] Przeworski et al. 2000.
[2] Boix 2003.
[3] Acemoglu and Robinson 2006.

Singapore, Britain, Argentina, and South Africa.[4] To my knowledge, there is to date no published article testing a nonlinear relationship between inequality and democratization in a cross-national setting.[5] Those who test the linear hypotheses, like Boix and Barro, do not distinguish between democratization and consolidation, and/or they rely on databases subject to severe selection bias.[6] For example, the widely used data set of Deininger and Squire includes less than 11 percent of the country-years during the period covered (1950–96).[7] The problem is that the available observations are unlikely to be representative of the overall population. Thus, for example, while about one-third of the observations of Deininger and Squire are from developed Western countries, less than 8 percent are from sub-Saharan Africa.[8] In the whole population 30 percent of the observations are from sub-Saharan Africa.

This article argues and empirically demonstrates that the relationship between inequality and democracy parallels the one between wealth and democracy: inequality harms consolidation but has no net effect on democratization. It first shows that democratization theories suffer from serious limitations, which in turn do not affect theories of consolidation. The article then bridges the gap between the theoretical and empirical literatures by conducting the most comprehensive empirical test to date of the relationship between inequality and democracy. Unlike most other empirical studies, I employ a method—dynamic probit—that enables me to distinguish between the impact of inequality on democratization and its impact on consolidation.

The measure of inequality employed, namely, the capital shares database of Ortega and Rodriguez, contains about 3500 observations for the period between 1960 and 2000 in 116 countries.[9] It has more than

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[4] Acemoglu and Robinson 2006.

[5] One published paper (Burkhart 1997) does test a nonlinear relationship between inequality and the *level of democracy*, but not between inequality and the probability of democratization. It does not distinguish between democratization and consolidation. Several unpublished papers test this relationship (for example, Epstein et al. 2004; Papaioannou and Siourounis 2005). Ziblatt 2008 tests for a curvilinear relationship at the subnational level, within Germany.

[6] Boix 2003; Barro 1999.

[7] Deininger and Squire 1996.

[8] Deininger and Squire 1996. There are many reasons suggesting that the exclusion of some regions could affect the results. For example, Middle Eastern and African countries tend to have both intermediate levels of inequality and nondemocratic regimes. Their exclusion could lead one to find support for the inverted U-shaped relationship of Acemoglu and Robinson 2006, only because some of the less democratic countries—that also have middle inequality levels—would be omitted from the analysis. The more recent version of the data set of Deininger and Squire 1996, available from the World Bank, is subject to the same problems.

[9] Ortega and Rodriguez 2006.

67 percent of the possible observations, a substantial increase over the 11 percent of Deininger and Squire.[10] It is also much more representative. For example, 25 percent of its observations are from sub-Saharan Africa. Moreover, contrary to alternative measures of inequality, capital shares are consistent with the theoretical literature, which focuses on interclass inequality rather than on overall inequality.

I find no support for the two main theories that link inequality to democratization; estimation suggests neither a monotonic negative relationship nor an inverted U-shaped relationship between inequality and the probability of democratization. Yet consistent with the logic of my argument, inequality increases the probability of backsliding from democracy to dictatorship.

Taken together, these findings have important implications for understanding the conditions that promote democracy. Since World War II many poor but equal countries, such as Costa Rica, India, and Mauritius, have successfully established and sustained stable democracies. At the same time similar but unequal countries, like Nigeria, Peru, and Turkey, have oscillated between dictatorship and democracy. The key difference between these two groups of countries is not the inability of the latter to create democratic regimes—they have done so several times—but their inability to maintain them. For instance, between 1946 and 2000 Peru experienced four democratic breakdowns—and thus several democratizations—in only twenty-three years of democracy.[11] What characterizes Peru therefore is not its inability to institute democracy but rather its inability to preserve democracy.

This article not only contributes to the question of the relationship between inequality and democracy, but it also addresses questions about the fundamental differences between transitions to and from democracy. Many authors, like O'Donnell and Schmitter, and Huntington, argue that the factors that influence these two types of transitions are not necessarily the same.[12] In an interesting parallel to the results of Przeworski et al., this study finds strong evidence that the relationship between inequality and democracy mirrors the one between wealth and democracy.[13] Additionally, it offers the first explanation of why inequality has more influence on the consolidation of democratic regimes than on their creation.

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[10] Deininger and Squire 1996.
[11] Regime types are taken from the extended data set of Przeworski et al. 2000.
[12] O'Donnell and Schmitter 1986; Huntington 1991.
[13] Przeworski et al. 2000.

INEQUALITY, DEMOCRATIZATION, AND CONSOLIDATION

INEQUALITY AND DEMOCRATIZATION

There are two main schools of thought which argue that inequality is associated with regime type. The first, advanced most recently by Boix, claims that unequal authoritarian countries are less likely to transition to democracy.[14] According to these authors, the elites—who hold political power in a dictatorship—are less likely to democratize when inequality is high, because they fear redistribution.[15] Others argue that education promotes democracy, because educated people are less prone to espouse extremist political positions.[16] Because, ceteris paribus, the population in egalitarian countries is typically more educated, inequality also harms the prospects for democracy by inhibiting education. Further, Lipset argues that a large middle class—and thus a relatively equal income distribution—also promotes democracy, because the middle class rarely supports extremist politics.[17]

The second school of thought is most notably associated with the seminal book of Acemoglu and Robinson.[18] These authors suggest that the relationship between inequality and the probability of democratization follows an inverted U-shaped curve. Equal countries do not democratize because the potential redistribution and expropriation gains are small and therefore the population does not threaten to revolt. The elites can thus maintain the regime without facing the threat of a revolution. At intermediate levels of inequality, however, revolution becomes appealing to the population. The elites are unwilling to use repression, because redistribution is relatively inexpensive. Therefore, they democratize. At higher levels of inequality, the cost of redistribution surpasses that of repressing revolts. The elites hence repress the population and there is no democratization. It is thus at intermediate levels of inequality, where the poor are willing to revolt and the elites prefer not to repress, that democratization is most likely. It is the credible threat of a revolution by the population that ultimately pushes the elites to democratize.

There are at least three problems with the current theories that link inequality to democratization. First, they are useful only for understand-

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[14] Boix 2003. See, for example, Lipset 1959; Dahl 1971; Muller 1995.
[15] This follows from the model of Meltzer and Richard 1981, according to which unequal democracies redistribute more.
[16] See, for example, Lipset 1959.
[17] Lipset 1959.
[18] Acemoglu and Robinson 2006.

ing transitions from below.[19] In these theories, demand for democracy is always assumed to originate within the population. However, in reality democratization is often driven from above. Collier, and Llavador and Oxoby show, for example, that in many West European and Latin American countries democracy resulted from intraelite competition, not interclass conflicts.[20] There is thus a large group of transitions for which these theories do not apply.

Second, even for transitions from below, their predictions are unlikely to hold. Contrary to what most scholars have argued, inequality actually has two opposite, potentially offsetting effects on democratization.[21] On the one hand, inequality makes democracy more costly for the elites by increasing redistribution, thus diminishing the probability of democratization. On the other hand, inequality increases the population's demand for regime change by increasing potential gains from redistribution or expropriation, thus increasing the probability of democratization.[22] If, as argued by the existing theories, democracy is demanded by the population but requires the elites to acquiesce, the net effect of inequality on democratization is ambiguous.[23]

This objection is most clearly applicable to the first school of thought, which argues that inequality decreases the likelihood of democratization. This theory takes into account only the first mechanism, according to which the elites become more willing to democratize as inequality decreases. However, since people living in these countries are less likely to demand democracy in the first place, the elites also have fewer incentives to concede it. While equality increases the willingness of the elites to democratize, it also decreases the willingness of the population to demand it. Because these authors completely ignore the second mechanism, their predictions are unlikely to hold.

In contrast to the first school of thought, the second set of theories takes both mechanisms into consideration. At low levels of inequality, the elites do not democratize precisely because the population has no incentive to stage a revolution. However, the main finding of Acemoglu

[19] See Ziblatt 2006.

[20] Collier 1999; Llavador and Oxoby 2005.

[21] For further analysis of these dynamics, see Houle 2009.

[22] The empirical literature finds a positive association between inequality and political instability and civil unrest. See, for example, Venieris and Gupta 1986; Alesina and Perotti 1996. Papaionannou and Siourounis 2005 make an analogous point by suggesting that "high inequality increases the likelihood of democratization by spurring opposition" (pp. 30–31). In his criticism of Boix 2003, Ziblatt 2006 makes a similar point.

[23] Of course, within a single case, one of these mechanisms may dominate, such that inequality affects democratization in that particular instance. However, existing theories provide no ground to expect one mechanism to prevail over the other in general.

and Robinson—the inverted U-shaped relationship between inequal-
ity and democratization—rests on two unnecessary constraints on the
cost of repression.[24] One is that, short of a credible threat of socialist
revolution, maintaining an autocracy is assumed to have no cost, be-
cause the elites do not need to repress at all. This drives the finding that
equal dictatorships do not democratize. While the cost of repression
is assumed to be zero in equal autocracies, the cost of redistribution is
always more than zero, although very low.

The problem is that in reality, even in very equal autocracies, main-
taining the regime always requires some repression.[25] What distin-
guishes one dictatorship from another is not whether or not it repress-
es, but the *level* of repression it imposes.[26] Contrary to what Acemoglu
and Robinson assume, the choice of the population is not limited to
either staging a socialist revolution or not contesting at all.[27] It can
also generate varying levels of social unrest that, by being costly to the
elites to repress, push them to democratize.[28] In other words, instead
of mobilizing to install a socialist dictatorship, the population can pres-
sure the elites to democratize by increasing the cost of maintaining the
regime through, sometimes limited, contestation. Since there is always
some amount of social unrest and since scarce resources must be spent
repressing and limiting it, maintaining autocracy always requires some
cost. Although equal autocracies require less repression than unequal
ones, the elites are also less willing to bear its costs, since democratiza-
tion implies less redistribution than in countries that are more unequal.
This leads to the same inconclusive predictions as above.

The other constraint is that the cost of repressing a revolt is assumed
to be independent of its intensity. This assumption leads to the in-
ference that very unequal countries do not democratize. According to
Acemoglu and Robinson, the cost of redistribution rises with inequal-
ity, such that at a certain point it surpasses the cost of repression.[29] In

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[24] Acemoglu and Robinson 2006.

[25] Wintrope 1998 demonstrates that even a perfectly benevolent dictator who wants to maximize
the welfare of his/her population relies on some (low) level of repression. One example is Singapore,
which, despite being egalitarian, has experienced some social unrest since its independence (Smith
2008).

[26] As shown by Wintrope 1998, repression is best conceived as continuous rather than binary.

[27] Acemoglu and Robinson 2006.

[28] These costs include the direct cost of repression (for example, police forces) and its human
cost. There are also diverse economic losses related to social unrest and repression, such as capital
flight, reduced growth, decreased FDI inflows, international sanctions and reduced foreign aid (Wood
2000; Butkiewicz and Yanikkaya 2005; Campos and Nugent 2003; Meernik, Krueger, and Poe 1998).
Repression is also likely to lead to divisions within the governing coalition, threatening the regime
from within. Finally, to limit contestation, a dictator may also have to engage in patronage, which is
costly (see Wintrope 1998).

[29] Acemoglu and Robinson 2006.

reality, however, not all revolts are equally costly to repress.[30] When inequality is high, the population also has stronger incentives to mobilize, thus increasing the required level of repression. In countries that are only moderately unequal, a relatively small subset of the population is likely to mobilize, and those that do sacrifice little in the way of resources. Therefore, one cannot say, a priori, as assumed by Acemoglu and Robinson, that at high levels of inequality the cost of repression is always less than the cost of redistribution.[31]

The third issue is that both sets of theories ignore collective action problems. Mobilizing the population to oppose an autocracy poses serious challenges, because revolutions are public goods that cannot be denied to nonparticipants.[32] Moreover, each individual has a very small impact on the likelihood of a revolution being successful, again decreasing the expected benefits of participation. These problems are magnified by the fact that participants face large costs, possibly death. The population is thus unlikely to organize at all. The problem is that the existing theories expect inequality to affect democratization by determining the likelihood of the population rising up against the regime. But if the masses are unable to mobilize, the elites have no incentive to respond to changes in inequality by adopting democracy. Therefore, even if the earlier theories were right about the basic relationship between inequality and democratization ——although it has been called into question above—their explanatory power would be greatly reduced.

Inequality and Consolidation

The authors of both schools of thought discussed above agree that inequality harms consolidation. They argue that the elites are more likely to stage coups in unequal democracies because these are believed to redistribute more, thus making democracy more costly for the elites. One striking observation is that most stable democracies that are poor turn out to be very equal. Some examples include India, Costa Rica, Uruguay, Jamaica, Mauritius, Papua New Guinea, and Mongolia since the fall of the communist regime. Most East European countries are

[30] Strictly speaking, according to Acemoglu and Robinson 2006, the cost of repression does depend on inequality, but *not* because inequality affects the intensity of the revolt. Instead, instability is assumed to destroy a fixed portion of the total economy, implying that repression is more costly to the elites when they own a larger share of the income. The problem is that the rate at which the cost of repression increases is implicitly assumed to be lesser than the rate at which the cost of redistribution rises with inequality. This last assumption is the key to driving the results, because it implies that at high levels of inequality the cost of redistribution surpasses that of repression.

[31] Acemoglu and Robinson 2006.

[32] See Tullock 1971.

also examples of stable equal democracies. Greskovits argues that one of the reasons democracies are more stable in Eastern Europe than in Latin America is that the countries of the former are much more equal.[33] Moreover, Karl explains the relative stability of democracy in Costa Rica and Uruguay by the fact that they are among the most equal Latin American countries. She further argues that "[i]nequality's pernicious undermining of democratic aspirations, institutions, and rules is *the greatest* threat facing democracy in the Americas today."[34]

Do theories linking inequality to consolidation suffer from the same problems as those linking inequality to democratization? No. The distinction lies in the fact that these two types of transitions tend to follow different patterns. Whereas transitions from autocracy to democracy can follow diverse paths, those from democracy to autocracy almost always take a similar one. As discussed above, democratization can be driven either from above or from below. Some are the results of intraelite competition, others of pressure by the population, and still others of the direct seizure of power by the population. Democratic breakdowns, for their part, are almost always driven from above. As argued by Huntington, "With only one or two possible exceptions, democratic systems have not been ended by popular vote or popular revolt."[35] Coups and rebellions against democracies are usually waged by the elites and/or the military, not by the population.[36]

Moreover, democratization (from below) involves more groups of actors than democratic breakdowns. On the one hand, the theoretical literature about the relationship between inequality and democratization has typically conceived democracy as being demanded by the population but ultimately conceded by the elites. According to these theories, democratization is consensual, in the sense that it usually requires the agreement of both the population and the elites.[37] In other words, democratization from below is a process that involves both social classes. On the other hand, transitions from democracy to dictatorship do not require the explicit agreement of the population. Coups are

[33] Greskovits 1997.

[34] Karl 2000, 156, emphasis added.

[35] Huntington 1996, 9.

[36] Here, it is not claimed that all democratic breakdowns are alike. In reality, transitions from democracy to autocracy have taken many forms (for example, see Linz and Stepan 1978). For example, they may result from military coups or executive coups. The argument simply says that they tend to be driven from above, whereas democratization can be driven either from above or from below.

[37] In these theories, revolutions are followed by other (socialist) dictatorships, not democracies. In reality, in some rare cases democratization has been imposed by the population without the agreement of the elites (for example, Nicaragua). However, this observation does not contradict the argument that whereas democratization from below is usually consensual, democratic breakdown rarely is.

often successful even when not supported by the population.[38] In the words of Acemoglu and Robinson, "[T]he move from democracy to dictatorship is almost never consensual."[39] There have been instances where coups against democracies have been prevented by popular mobilization. However, mobilization requires the population to solve its collective action problem, which, as argued above, is unlikely. Therefore, while transitions from autocracy to democracy can take diverse paths some of which involve many sets of actors, those from democracy to dictatorship almost always follow the same path, in which only the elites play a major role.[40]

The asymmetry between the two transition processes has key implications for the relationship between inequality and consolidation. First, as democratic breakdowns follow a single path, theories trying to explain them—contrary to those concerned with democratization—can be applied to almost all cases. Further, whereas inequality has two opposite effects on democratization, it affects consolidation only negatively. The two effects of inequality on democratization come from the fact that democracy is demanded by the population but, in the end, is conceded by the elites. In these cases, inequality decreases the willingness of the elites to democratize but increases the incentives of the population to contest the regime. By contrast, democratic breakdowns result from the direct seizure of power by the elites. Because the agreement of the population is not required, the effect of inequality on its willingness to concede dictatorship has little impact. Inequality mainly affects democratic breakdowns by increasing the cost of redistribution to the elites. Therefore, one should expect that when inequality increases the elites are more likely to wage coups against democracies, as argued by previous theories.

Finally, collective action problems do not significantly reduce the capacity of the elites to mobilize.[41] Since the elites form a much smaller group than the population, those involved in coups are more likely to receive selective benefits. For example, while those participating in coups often obtain offices in the new regime, those who participate

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[38] This claim does not disagree with the fact that, in many instances, the support of the population facilitated the overthrow of democracy (for example, see Valenzuela 1978). It says only that democratic breakdown is not a process in which the population concedes political power to the elites, but one in which the latter seizes it (with or without opposition) from the former.

[39] Acemoglu and Robinson 2006, 225.

[40] It is important to note that these assumptions are shared by Boix 2003 and Acemoglu and Robinson 2006. Here, it is simply shown that, given their assumptions on transitions from democracy to dictatorship, the objections presented in the previous section do not apply to their theories of consolidation.

[41] See Weede and Muller 1998.

in revolutions rarely receive such benefits. In addition, participants in coups are much more likely to affect its success than those participating in revolts, again reducing collective action problems. An army officer has, for example, more influence on the outcome of a coup than a single peasant on that of a revolution. Thus, the magnitude of the relationship between inequality and consolidation, uncovered by the theoretical literature, should not be significantly reduced by collective action problems.[42] A combination of these arguments suggests that theories about the effects of inequality on democratization should find little empirical support, whereas those about consolidation are likely to hold.

PREVIOUS LITERATURE

The empirical results on the relationship between inequality and democracy are mixed. Table 1 summarizes the main large-N studies. Some authors find strong evidence of a negative linear relationship,[43] while others find no relationship.[44] One of the major problems with much of this literature is the measure of inequality used. Most recent authors rely on the Gini coefficients of Deininger and Squire or the World Bank.[45] Unfortunately, these data come from different sources that may not be comparable.[46] They contain observations based on expenditure and income, on net and gross income, and on household and per capita surveys. These different data sources may significantly affect the inequality measure. For instance, because of income redistribution, the observations based on gross income should systematically indicate more inequality than those based on net income.[47]

The data sets used by previous authors also contain only a few observations and cover only a small number of countries. Boix, who uses the data of Deininger and Squire, has only 587 observations on all countries for the period 1950 to 1990.[48] The problem is that the

[42] One could even argue that collective action problems increase the capacity of the elites to stage coups against democracies, since they decrease the likelihood that the population will be able to mobilize to oppose coups.

[43] See, for example, Muller 1988, 1995; Boix and Stokes 2003; Boix 2003.

[44] See, for example, Bollen and Jackman 1985; Midlarsky 1992.

[45] Deininger and Squire 1996.

[46] See Galbraith and Kum 2004; Atkinson and Brandolini 2001. Boix 2003 includes some adjustments suggested by Deininger and Squire 1996 to account for these different data sources, for example, by adding Gini points in cases where inequality is underestimated. However, Atkinson and Brandolini 2001 argue that these adjustments do not eliminate the bias.

[47] It makes little sense to compare inequality observations based on net and gross income when studying democracy, since the causal mechanism relating inequality to democracy is precisely redistribution.

[48] Boix 2003; Deininger and Squire 1996. Boix increases the number of observations to about 1000 by using five-year averages.

TABLE 1

EMPIRICAL STUDIES ON THE RELATIONSHIP BETWEEN
INEQUALITY AND DEMOCRACY

Studies	Inequality Data	Method	Effect of Inequality	Limitations
Bollen and Jackman (1985)	income quintiles (World Bank, N≤60)	weighted 2SLS	none	data quality and quantity no distinction democratization/ consolidation no nonlinear test cross-sectional
Muller (1988)	income Gini income quintiles (World Bank, N≤33)	bivariate reg.	none (dem.) negative (cons.)	data quality and quantity one control (econ. dev.) no nonlinear test cross-sectional
Midlarsky (1992)	land Gini (N≤72) agric. density (N≤97) income quintiles (World Bank, N≤55)	OLS	positive (land) none (income)	data quality and quantity no distinction democratization/ consolidation no nonlinear test potential reverse causation cross-sectional
Muller (1995)	income Gini income quintiles (World Bank, N≤64)	OLS	negative	data quality and quantity no distinction democratization/ consolidation no nonlinear test cross-sectional
Burkhart (1997)	income quintiles (World Bank, N≤224)	2SLS	inverted U	data quality and quantity no distinction democratization/ consolidation
Barro (1999)	income Gini income quintiles (D&S, N≤303)	seemingly unrelated reg. (SUR)	negative (weak)	data quality and quantity no distinction democratization/ consolidation no nonlinear test
Boix (2003) and Boix and Stokes (2003)	income Gini[b] (D&S, N≤1042) % family farms	dynamic probit	negative	data quality and quantity no nonlinear test
Epstein et al. (2004)[a]	infant mortality	Markov transition Tobit	negative (Markov) inverted U (tobit)	data quality

TABLE 1, *cont.*

Studies	Inequality Data	Method	Effect of Inequality	Limitations
Papaioannou and Siourounis (2005)[a]	income Gini (World Bank, N≤1570)[c]	probit	none	data quality and quantity
Ansell and Samuels (2008)[a]	income Gini (B&M, N≤4728)[c] % family farms	dynamic probit	positive (income) negative (land)	data quality

[a] Unpublished. Two of these papers have been published (Epstein et al. 2006; Papaioannou and Siourounis 2008), but the published versions do not include the analysis on inequality.

[b] N inflated by taking five-year averages.

[c] N inflated through linear interpolation. D&S denotes Deininger and Squire 1996. B&M denotes Bourguignon and Morrisson 2002.

sample of available observations is strongly biased toward rich, democratic countries that have the capacity and willingness to collect such data.[49] Other authors—who do not use the data set of Deininger and Squire—nevertheless also rely on data sets with only a small number of observations.[50] For example, among cross-country studies, Muller covers only 64 countries.[51] By contrast, the data set used here includes 116 countries.

Authors testing for an inverted U-shaped relationship also find conflicting results.[52] Acemoglu and Robinson do not run any large-N test but look at only four case studies.[53] Burkhart finds an inverted U-shaped relationship.[54] However, he looks only at the level of democracy measured with Freedom House scores and not at the probability of

[49] While the average GDP per capita for the observations included in Deininger and Squire 1996 is 9,260, it is only 6,342 in the full population. By contrast, in the data set used here, the average GDP per capita is 7,099. Similarly, whereas the average polity score in the whole population is -0.74, it is 3.61 for the observations in the data set of Deininger and Squire 1996. In my data set, the average polity score is 1.03.

[50] Deininger and Squire 1996.

[51] Muller 1995.

[52] See, for example, Epstein et al. 2004; Papaioannou and Siourounis 2005. In an earlier version (2004), cited by Acemoglu and Robinson (2006, 193), Papaioannou and Siourounis find an inverted U-shaped relationship. However, once they include new observations, Papaioannou and Siourounis 2005 are unable to find any relationship.

[53] Acemoglu and Robinson 2006.

[54] Burkhart 1997.

regime transition.[55] As a result, he is unable to differentiate between the effects of inequality on democratization and their effects on consolidation. Further, his analysis contains data for only 56 countries, a set of observations that may not be representative of the full population. For example, Burkhart has few observations on sub-Saharan Africa and, especially, the Middle East.[56] The inclusion of more countries from these regions may have affected the estimated relationship, since they tend to have both intermediate levels of inequality and authoritarian regimes.

Using tobit models, Epstein et al. find an inverted U-shaped relationship between inequality and the overall level of democracy, measured with polity scores.[57] However, when they distinguish between democratization and consolidation, the nonlinearity vanishes. Instead, inequality decreases the probability of both democratization and consolidation. They measure inequality as the residual of the regression of infant mortality on variables unrelated to inequality.[58] The problem is that even if infant mortality is likely to be affected by inequality, it would make a better measure of poverty; indeed, many poor and equal countries, like India, have high infant mortality rates.[59] Using this measure would lead us to think that inequality in these countries is actually high.

DATA

DEPENDENT VARIABLE

Regime types are taken from the Przeworski et al. extended database, which covers most countries from 1950 to 2002.[60] There are two types of regimes: democracies and autocracies. To be defined as democratic, a country must satisfy four conditions: (1) the chief executive must be elected either directly or indirectly by the population; (2) the legislature must be elected directly by the population; (3) there must be more than one party; and (4) there must have been at least one alternation in

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[55] Burkhart 1997.

[56] Burkhart 1997.

[57] Epstein et al. 2004.

[58] These are access to safe water, access to health care, health expenditure per capita, total health expenditure, calories per capita per day, a standard of living index, reports of famine, people affected by drought, people affected by earthquakes, people affected by floods, people affected by unnamed storms, and people affected by named storms.

[59] Child mortality is nearly twice as large in India as in Brazil (World Bank data). However, India is relatively egalitarian, while Brazil is among the most unequal countries. In addition, infant mortality is highest in sub-Saharan Africa, whereas Latin America is by far the most unequal region.

[60] Przeworski et al. 2000.

power due to elections.[61] Any regime that does not satisfy one of these conditions is authoritarian.

INDEPENDENT VARIABLE

As noted above, the most important obstacle to studying inequality is the lack of reliable data. Problems arise both from the low number of observations and from the poor quality of those that are available. This article measures inequality with the capital share of the value added in the industrial sector, assembled by Ortega and Rodriguez.[62] It measures the proportion of the value added accruing to the capital owners. Dunning, Acemoglu and Robinson, and Przeworski et al. have also recently used capital shares to measure inequality.[63] According to Dunning, "capital shares represent the best available cross-national indicator of private inequality."[64] Low capital shares are associated with low inequality, because a great portion of the value added in production is accruing to the labor class, as opposed to the capital owners. The database has about 3500 observations covering 116 countries between 1960 and 2000 and was constructed from data collected by the United Nations Industrial Development Organization (UNIDO).

Using capital shares to measure inequality has a number of theoretical and empirical advantages. First, it is consistent with the theoretical literature that focuses on intergroup inequality rather than on overall inequality. Most authors believe that it is only inequality across social classes that affects the regime type. For instance, Boix, and Acemoglu and Robinson look at inequality between the poor and the elites.[65] Capital shares measure the relative income of the elites.[66]

A second advantage is that capital shares are assembled by a single source—the United Nations—that uses the same definitions and method

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[61] The last rule is applied retrospectively. For example, in Japan the LDP (Liberal Democratic Party) won all elections until 1993, when it lost and voluntarily relinquished power. Because the LDP respected the electoral results, Japan is coded as democratic during the full period. Malaysia held three elections between 1957 and 1969. The incumbent party won the first two but not the third. Even so, it refused to cede power. Malaysia and similar cases are autocracies during the whole period. Finally, there are instances, such as Botswana, where the incumbent party never lost elections. As one cannot know whether it would give up power, Przeworski et al. 2000 assume that these countries are not democratic.

[62] Ortega and Rodriguez 2006. Capital shares are defined as one minus the labor shares, which measure the ratio of compensation of employees to the value added in production.

[63] Dunning 2008; Acemoglu and Robinson 2006; Przeworski et al. 2000.

[64] Dunning 2008, 143.

[65] Boix 2003; Acemoglu and Robinson 2006.

[66] For example, Acemoglu and Robinson 2006 define the income of the population and the elites (or rich) respectively as $y^p = (1-\theta)y/(1-\delta)$ and $y^r = \theta y/\delta$, where y is the average income, δ the relative size of the elites, and θ the share of the income accruing to the elites. The capital shares thus directly capture θ.

for all countries. Thus, cross-country comparisons are meaningful. The data set of Ortega and Rodriguez also covers a far larger proportion of the country-years than those employed by previous authors.[67] For example, while the data set of Deininger and Squire contains only 11 percent of the possible observations, that of Ortega and Rodriguez contains more than 67 percent.[68] Since many observations are still missing, the robustness of the results is tested by imputing the missing values.[69]

CONTROL VARIABLES

Diverse economic variables have been shown to affect democracy. Modernization theorists have argued that countries become more likely to install and sustain democracy as they develop.[70] People may be more willing to demand political rights once their basic needs are satisfied. Wealth may also be related to inequality, for instance, through the Kuznets curve. Moreover, many scholars argue that economic performances influence the stability of political regimes;[71] for example, a drastic decrease in wealth may destabilize autocracies.[72] Growth may also influence inequality, because economic crisis or booms tend to affect diverse segments of the population differently. The structure of the economy also affects democracy. In particular, countries that rely heavily on natural resources are less likely to be democratic, notably because the elites are more vulnerable to taxation.[73] Additionally, the revenues emanating from natural resources are usually controlled by the state, which can use them to prevent democratization. The analysis thus includes GDP per capita, GDP per capita growth, and a dummy variable for large oil exporters.[74]

In addition, the social and cultural context can influence democracy. Thus, for example, Islam is thought to be particularly harmful, and Protestantism helpful.[75] Religion may also influence the tolerance of the population toward inequality.[76] Included are variables measuring the percentages of the population that are Muslim, Catholic, and Protestant. Moreover, some scholars suggest that divided societies are

[67] Ortega and Rodriguez 2006.

[68] Deininger and Squire 1996; Ortega and Rodriguez 2006.

[69] The multiple imputation model is described in the appendix.

[70] See, for example, Lipset 1959.

[71] See, for example, Gasiorowski 1995.

[72] See Haggard and Kaufman 1995.

[73] See Boix 2003; Ross 2001.

[74] It takes the value one if the average ratio of fuel exports to total exports in 1984–86 is greater than 50 percent, and zero otherwise.

[75] See Huntington 1991; Midlarsky 1998.

[76] See Milanovic, Gradstein, and Ying 2001.

less likely to establish and maintain democratic institutions.[77] For example, an incumbent may be less willing to leave office if his or her opponent belongs to another ethnic or religious group. Measures of ethnic and religious fractionalization are thus added to the analysis. These indicate the probability that two individuals selected randomly are from different ethnic or religious groups.

Further, many political factors affect the regime type. A dummy variable is included here for former British colonies, which are said to have inherited institutions particularly conducive to democracy.[78] Following Przeworski et al., another dummy variable is added for countries that did not exist in 1945.[79] This captures, for example, the possibility that democracies established by colonizers in new countries are less stable because these countries lack the prerequisites for democracy.

Moreover, I control for the number of transitions from democracy to dictatorship that a country has experienced. Previous studies generally find that this variable increases the likelihood of transition.[80] In fact, countries that have been victims of many coups in the past are more likely to experience coups in future.[81] Also, the interaction between the elites and the population is likely to be different in autocracies that have experienced democracy than in those that did not. For example, the population may find it easier to mobilize and challenge the regime in the former.

Some scholars also argue that presidential democracies are more fragile than other types of democracies.[82] Presidential elections are often described as zero-sum games, where the losers have little incentive to accept electoral results. Because the president remains in office for a fixed term, it is difficult to depose an incompetent or unpopular government without destabilizing the regime.[83] Included is a dummy variable indicating whether the regime is presidential. Finally, it has recently been suggested that international political context affects the likelihood of a country being democratic.[84] The analysis thus controls for the proportion of democracies in the world. All the control variables are taken from the extended data set of Przeworski et al.[85]

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[77] See, for example, Dahl 2000.
[78] See, for example, La Porta et al. 1998.
[79] See Przeworski et al. 2000.
[80] See, for example, Przeworski et al. 2000; Epstein et al. 2006.
[81] Londregan and Poole 1990.
[82] See, for example, Linz 1990.
[83] For a counterargument, see Cheibub 2006.
[84] See, for example, Gleditsch and Ward 2006.
[85] Przeworski et al. 2000.

DESCRIPTIVE STATISTICS

Before undertaking the statistical analysis, I take a preliminary look at the data. Democratic countries are much more equal than autocracies.[86] This observation is consistent with several arguments linking inequality and democracy: inequality may harm democratization, it may inhibit consolidation of already established democracies, or it may itself be affected by the political regime. It is argued here that the observed association can be accounted for mainly by the second of these possibilities.

Table 2 presents the probabilities of regime change at low, intermediate, and high capital share values, using the nonimputed data set.[87] In each regime type the observations are divided into three groups (tiers) containing the same number of country-years. The probability of transition and the number of transitions within each group are reported.

The first row looks at the probability of dictatorships transitioning toward democracy. According to the first group of authors (for example, Boix), greater inequality—that is, larger capital shares—should be associated with smaller probabilities of democratization.[88] As shown by the first row of Table 2, this hypothesis is not supported by the data. If anything, inequality fosters democratization. Very unequal countries are more than three times as likely as very equal ones to democratize.

Many authors view communist and noncommunist dictatorships as different regime types.[89] The former are created by the masses after revolutions to redistribute assets, while the latter are established and maintained by the elites to prevent redistribution. Communist countries are thus excluded in row 2. The results are unchanged. Therefore, the hypothesis that transitions toward democracy are more likely in egalitarian societies finds no evidence.

The hypothesis of Acemoglu and Robinson is not supported either.[90] As shown in row 1, there is no clear nonmonotonic relationship. Inequality is always associated with a higher probability of democratization. These results are unchanged when, in row 2, communist countries are omitted. Thus, there is no evidence for either of the two main theories linking inequality to democratization.

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[86] The mean capital share is 0.6765 in dictatorships and 0.6093 in democracies.

[87] The results reported below are unchanged when the dataset that includes imputed observations is used instead (not reported).

[88] Boix 2003.

[89] See, for example, Boix 2003; Acemoglu and Robinson 2006.

[90] Acemoglu and Robinson 2006.

TABLE 2
PROBABILITY OF REGIME TRANSITION PER CAPITAL SHARE TIERS

| | | Capital Share Tiers | | | # | |
		Low	Middle	High	Transitions	N
1.	dict. to dem.	.017 (10)	.024 (14)	.0524 (31)	55	1761
2.[a]	dict. to dem.	.0181 (10)	.0236 (13)	.0524 (30)	53	1678
3.	dem. to dict.	.0018 (1)	.009 (5)	.0383 (22)	28	1688
4.[b]	dem. to dict.	.0097 (3)	.026 (8)	.0503 (16)	27	934

[a]Excludes communist countries.
[b]Excludes Western countries and Japan. Number of transitions in parentheses.

Inequality, however, has a strong positive effect on the probability of a democracy backsliding to dictatorship. As illustrated in row 3 of Table 2, democracies that have high capital shares are much more likely to break down. Those with capital shares in the high tier are five times as likely to collapse as are those in the middle tier. Moreover, among the low tier, only one democracy—Niger in 1996—has ever broken down. One potential problem is that the effect may be driven by rich developed democracies that are both stable and equal. Row 4 thus excludes Western countries and Japan. The results are unchanged. Democracies with high capital shares are still more than five times as likely to break down as those with low capital shares. Therefore, consistent with the argument presented here, inequality does harm consolidation.

EMPIRICAL RESULTS

This section employs dynamic probit models to show that inequality harms consolidation but does not affect democratization. This method has been used by other authors studying regime transitions.[91] It estimates the probability of countries with a certain regime (in the current period) transitioning to a new regime in the next period. This model enables one to distinguish between the effects of different independent variables on democratization and consolidation and to obtain different estimates for each transition pattern. For example, inequality is allowed to have different effects on transitions from democracy to dictatorship and from dictatorship to democracy. Tables 3 and 4 present respectively

[91] See, for example, Dunning 2008; Przeworski et al. 2000; Boix and Stokes 2003; Boix 2003.

the impact of each independent variable on the probability of democratization and on the likelihood of stable democracy.[92]

Table 3 reports the impact of capital shares on the probability of transition from dictatorship to democracy in both linear and nonlinear models. Positive coefficients indicate that the associated independent variables increase the probability of transition to democracy. Model 1 tests the hypothesis of a negative monotonic relationship, advanced notably by Boix.[93] It shows that lower capital shares are actually associated with smaller probability of democratization, though the relationship is not significant. Thus, contrary to what has been argued, inequality does not harm democratization but instead has a weak positive effect.

Model 2 of Table 3 estimates the nonlinear model by adding capital share squared. The predictions of Acemoglu and Robinson, according to which the relationship is inverted U-shaped, would be supported if the coefficient on capital share is positive and the one on capital share squared is negative.[94] As shown in model 2, both coefficients turn out to have the wrong sign, although none is statistically significant. Figure 1 shows the predicted probabilities of democratization estimated in model 2, when other variables are at their mean or median. The relationship between inequality and democratization is clearly not inverted U-shaped. If anything, it is U-shaped.[95]

Next, models 3 and 4 rerun, respectively, models 1 and 2 with region and decade dummy variables.[96] Controlling for these variables is important, since inequality and democracy vary substantially across regions and time periods. Latin America is the most unequal region, followed by sub-Saharan Africa and the Middle East. Asian, Western, and East European countries are much more equal. The omission of regions and time periods could thus bias the results. For example, Latin American countries are unequal and often politically unstable. By failing to control for regions, we may simply capture the effect of being from Latin America. Another potential problem is that, as discussed

[92] The results reported in Tables 3 and 4 are estimated by the same regressions. Dynamic probit models estimate the likelihood of transitions to and from democracy at the same time. The results are reported separately to facilitate interpretation. The original regression outputs are available from the author upon request.

[93] Boix 2003.

[94] Acemoglu and Robinson 2006.

[95] However, there are few observations at both extremities of the distribution plotted in Figure 1, such that the relationship is largely flat or weakly increasing. In fact, more than 85 percent of the observations have capital shares between 0.45 and 0.8. The generalized additive model (GAM) estimated below also shows that the relationship is not U-shaped.

[96] The region dummies are Western countries (Western Europe, North America, New Zealand, and Australia), Asia, sub-Saharan Africa, Eastern Europe, Latin America, and the Middle East. Asia and the 1990s dummy are excluded during the estimation.

TABLE 3

DYNAMIC PROBIT ANALYSIS OF THE PROBABILITY OF TRANSITION FROM DICTATORSHIP TO DEMOCRACY[a]

| | Baseline | | Dec. & Reg. | | Excl. Comm. | | Imputed | |
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cap. share	.855	−4.0347	.9217	−3.5631	.5537	−6.8561	.5289	−5.1235
	(.6584)	(6.4495)	(.7248)	(6.7459)	(.7006)	(6.5543)	(.6024)	(6.0093)
Cap. share squared		3.636		3.3445		5.494		4.2201
		(4.7785)		(4.9848)		(4.8456)		(4.7446)
Log GDP pc	−.1711	−.1538	−.5555	−.5672	−.2297	−.2217	.0969	.1115
	(.2454)	(.2466)	(.3023)*	(.3054)*	(.2573)	(.2588)	(.2106)	(.2118)
Growth	−.0143	−.0143	−.0125	−.0124	−.0119	−.0116	−.0116	−.0116
	(.0052)***	(.0053)***	(.0057)**	(.0057)**	(.0064)*	(.0065)*	(.0043)***	(.0044)***
Oil	−.4174	−.4701	−.2177	−.2718	−.3037	−.3804	−.4313	−.4905
	(.3202)	(.3299)	(.3457)	(.3563)	(.3204)	(.3311)	(.308)	(.3168)
Muslim	−.0033	−.0029	−.0028	−.0027	−.0076	−.0073	−.0034	−.0031
	(.0032)	(.0032)	(.0036)	(.0037)	(.0035)**	(.0035)**	(.0029)	(.0029)
Catholic	−.0004	3.49e−06	−.005	−.005	−.004	−.0037	−.0007	−.0003
	(.003)	(.003)	(.0049)	(.005)	(.0032)	(.0032)	(.0027)	(.0027)
Protestant	.0016	.0014	.0086	.0086	−.0016	−.002	−.0001	−.0002
	(.006)	(.0059)	(.0068)	(.0068)	(.0065)	(.0065)	(.0055)	(.0054)
Ethnic frac.	−.0007	−.0006	−.0025	−.0025	−.0002	−.0002	−.0009	−.0007
	(.0031)	(.0031)	(.0035)	(.0035)	(.0032)	(.0033)	(.0028)	(.0028)
Religious frac.	.0058	.0053	.0103	.01	.0113	.0106	.0054	.0048
	(.0053)	(.0053)	(.006)*	(.006)*	(.0059)*	(.006)*	(.0042)	(.0043)
British colony	.0208	.0257	−.0572	−.0592	.0143	.024	.0564	.0592
	(.1733)	(.1735)	(.1931)	(.1934)	(.1738)	(.1739)	(.1609)	(.1611)

New country	−.3377	−.3228	−.1591	−.1321	−.2649	−.2555	−.2297	−.2128
	(.2006)*	(.2006)	(.2561)	(.2577)	(.213)	(.2109)	(.1753)	(.1758)
Past transitions	.2273	.2174	.1941	.1851	.2497	.2457	.2605	.2523
	(.0724)***	(.0734)***	(.0759)**	(.0769)**	(.074)***	(.0749)***	(.0608)***	(.0615)***
% dem. in world	2.5164	2.4358	1.699	1.6553	2.6557	2.5471	2.3359	2.2659
	(.6223)***	(.6325)***	(1.6856)	(1.6855)	(.6566)***	(.6673)***	(.5656)***	(.5721)***
Log-Lik.	−310.21	−309.88	−302.47	−302.02	−297.68	−297	−384.5	−383.79
N	3439	3439	3439	3439	3355	3355	4029	4029

***p<.01, **p<.05, *p<.1; all independent variables are lagged; standard errors in parentheses
aColumns 3 and 4 include region and decade dummy variables; columns 5 and 6 exclude communist countries; columns 7 and 8 include imputed observations.
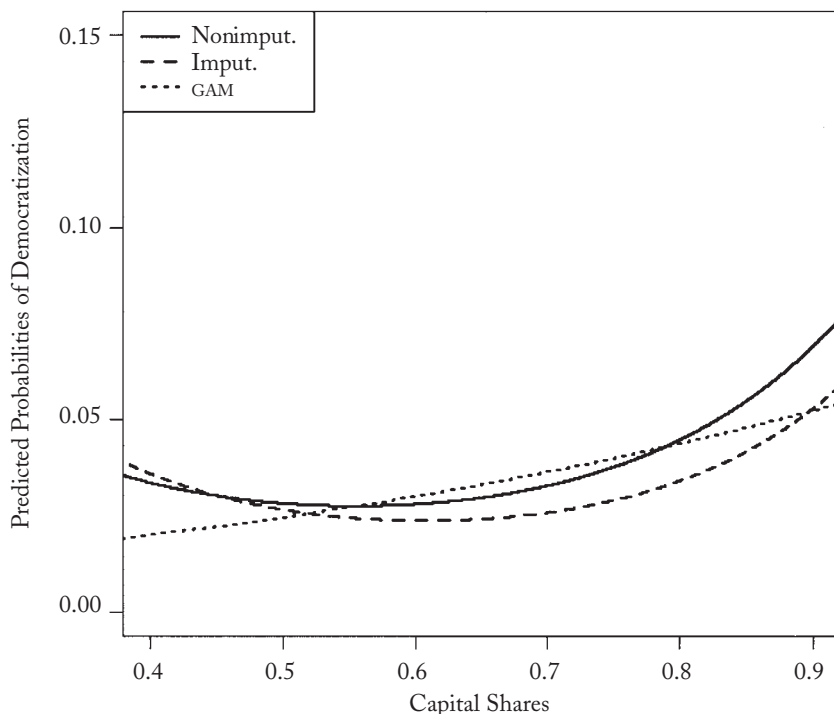
FIGURE 1
PREDICTED PROBABILITIES OF TRANSITION FROM DICTATORSHIP TO DEMOCRACY

above, the predictions of most recent authors do not apply to communist countries, which are included in regressions 1 and 2 of Table 3. I replicate these models without communist regimes in columns 5 and 6. Last, models 7 and 8 use the data set that includes the imputed observations.[97] In all cases, the results are unchanged.[98]

One problem with the nonlinear models estimated in Table 3 is that they may be inflexible. Parametric approaches aimed at handling nonlinearities, for example, by adding polynomials, may not capture more complicated forms of nonlinearity. The problem arises from the fact

[97] The imputed data set includes nine new transitions from autocracy to democracy: Argentina (1963, 1973), Benin (1991), Brazil (1979), Bulgaria (1990), Madagascar (1993), Peru (1963), Romania (1990), and Sudan (1986).

[98] One problem with the database of Ortega and Rodriguez 2006 is that it covers only the industrial sector, which may not always be representative of the whole economy. To address this potential drawback, the analysis is replicated with the capital shares of GDP, compiled by Jayadev 2007. These are calculated as one minus the sum of employers compensation divided by the total GDP. It contains about 2700 observations on 124 countries between 1950 and 2001 and is also constructed from the UNIDO data set. Again, inequality never has the effect predicted by the existing theories (not reported).

that such methods impose a global solution for the full range of inequality values. One possibility is to estimate a generalized additive model (GAM).[99] This method enables us to run a nonparametric estimation of the effect of inequality on democratization, while keeping the parametric setup for the control variables. Inequality has an approximate Chi-squared of 1.612 (p=0.204).[100] The estimated degree of freedom is one. Figure 1 plots the predicted probabilities of democratization, estimated through GAM.[101] Clearly, the relationship is neither inverted U-shaped nor decreasing. Instead, it is weakly increasing.[102]

Table 4 estimates the impact of capital shares on the stability of democracies. Positive coefficients signify that the associated independent variables decrease the probability of backsliding to dictatorship. Model 1 shows that democracies with high capital shares are far more likely to collapse. Figure 2 plots the predicted probabilities of democratic breakdowns estimated in model 1.[103] The effect is statistically significant (at the 1 percent level) and substantial. While the probability of breakdown is 1.36 percent in countries with capital shares at the mean (0.6087), it becomes 4.09 percent in countries with capital shares one standard deviation above (0.7408). Further, when the capital share is lower than about 0.62, the predicted probability of collapse is less than 1.5 percent. This is substantial, given that 54 percent of the democratic country-years have capital shares of less than 0.62. In the full sample, among the twenty-eight democratic collapses, only two—Niger in 1996 and Uganda in 1985—occurred in democracies with capital shares under 0.62. As illustrated in Figure 2, democracies with sufficiently low levels of inequality are nearly immune from breakdowns.

The magnitude of the relationship is best illustrated with some examples. Consider the case of India, which has been democratic during the full period under study without experiencing a single breakdown. During that period, its average predicted probability of falling was 1.16

[99] See Beck and Jackman 1998

[100] GAM does not estimate the coefficient of the smooth term and only calculates an approximate test statistic (here, Chi-squared). The model explains 87 percent of the deviation. The parametric coefficients are the same as in column 1 of Table 3 and therefore are not reported.

[101] The analysis has been replicated by fixing (rather than estimating) the number of degrees of freedom. I tried with 2 to 12 degrees of freedom, without ever finding an inverted U-shaped or decreasing relationship. In all cases, the approximate Chi-squared of inequality is not statistically significant (not reported).

[102] In addition, models including up to five polynomials have been estimated. The relationship between inequality and democratization is never inverted U-shaped (not reported).

[103] These results are unchanged when the semiparametric approach described above is used. The estimated number of degrees of freedom is two and the approximate Chi-squared of inequality is 10.36 (p=0.0056). Since the existing theories do not predict a nonlinear relationship between inequality and consolidation, these results are not reported here. They are available from the author upon request.

TABLE 4
DYNAMIC PROBIT ANALYSIS OF THE PROBABILITY OF STABLE DEMOCRACY[a]

	Baseline	Dec. & Reg.	Excl. Developed	Imputed
	(1)	(2)	(3)	(4)
Cap. share	−3.5472	−3.3647	−3.764	−3.4483
	(1.173)***	(1.2237)***	(1.2656)***	(1.1589)***
Log GDP pc	2.2151	1.98	2.2833	1.7675
	(.5942)***	(.6449)***	(.644)***	(.5245)***
Growth	.02	.0253	.0237	.0094
	(.0131)	(.0138)*	(.0139)*	(.0101)
Oil	.3397	.6929	.5118	.249
	(.514)	(.5632)	(.569)	(.4467)
Muslim	−.0035	−.003	−.0035	−.0029
	(.0046)	(.0053)	(.0048)	(.0043)
Catholic	−.0005	−.0078	.0063	−.0001
	(.0061)	(.0077)	(.0068)	(.0052)
Protestant	−.0006	.004	.0017	.0026
	(.0105)	(.0126)	(.0122)	(.0092)
Ethnic frac.	.0013	.0036	.0032	−.0021
	(.0064)	(.0067)	(.0068)	(.0054)
Religious frac.	.0076	.0163	.0095	.0058
	(.0082)	(.0106)	(.0091)	(.0077)
British colony	.7239	.6271	.9184	.5372
	(.4246)*	(.4399)	(.4445)**	(.3495)
New country	.0867	.3846	.0775	−.0606
	(.3889)	(.4803)	(.3948)	(.3616)
Past transitions	−.0036	−.1009	.0126	−.1318
	(.1435)	(.1466)	(.1502)	(.1056)
Presidential	.0365	.3503	−.4562	−.0778
	(.3917)	(.4311)	(.4456)	(.3325)
% dem. in world	3.8768	2.5716	4.3768	4.4488
	(1.1387)***	(1.8878)***	(1.2283)***	(.9796)***
Log-Lik.	−310.22	−302.47	−285.49	−384.5
N	3439	3439	2622	4029

***p<.01, **p<.05, and *p<.1; all independent variables are lagged; standard errors in parentheses
[a]Column 2 includes region and decade dummy variables; column 3 excludes Western countries and Japan; column 4 includes imputed observations.

percent per year. Now, consider Peru, which experienced four break-downs in only twenty-three years of democratic rule. While the average capital share in India was only 0.5605, it was 0.8276 in Peru. If inequality were as high in India as in Peru, its yearly probability of falling would have been 9.3 percent, about eight times as large. Interestingly, the average predicted probability of the fall of democracy in Peru
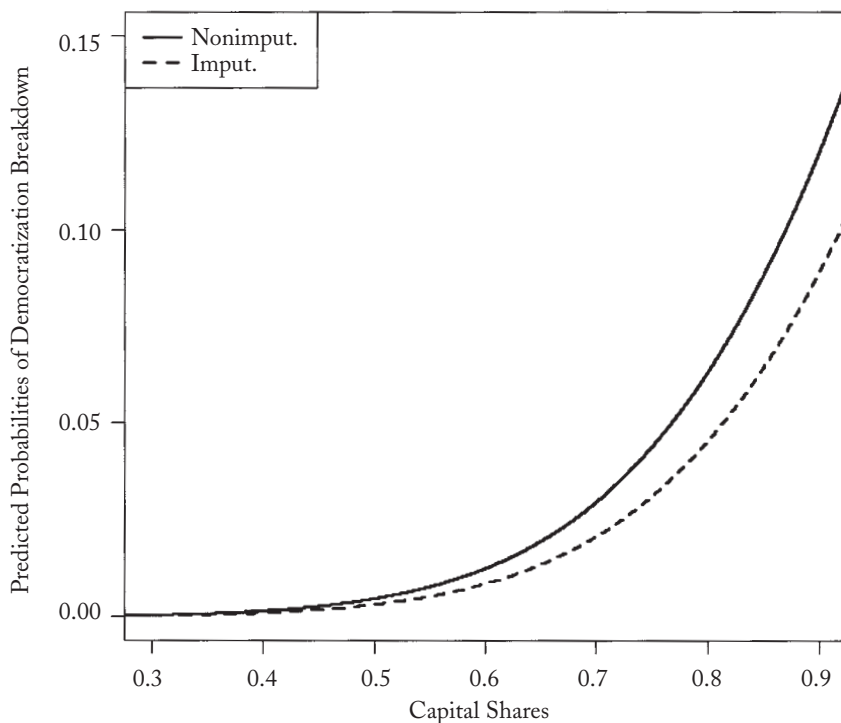
FIGURE 2
PREDICTED PROBABILITIES OF TRANSITION FROM DEMOCRACY TO DICTATORSHIP

was 5.46 percent per year. Thus, apart from inequality, the underlying conditions were more hostile to democracy in India than in Peru. Another case is Nigeria, which had two breakdowns in only twelve years of democracy. With a capital share equal to that of Nigeria (0.8), the probability of the collapse of Indian democracy would have been 7.77 percent, nearly seven times as large as what it was in reality. It thus follows that income distribution is a leading candidate in explaining why some poor democracies, such as India, have been remarkably stable, while others, like Peru and Nigeria, have not.

Model 2 includes region and decade dummy variables. The effect of inequality on consolidation is slightly reduced but continues to be substantial and statistically significant at the 1 percent level. This is surprising since there is only limited variation in inequality within regions. Introducing dummy variables for regions should substantially reduce the effect of inequality. This shows that the estimated relationship is not completely driven by unobserved factors linked to regions or time periods. Another potential problem is that these results may be

driven by rich developed democracies that are very stable and equal. In fact, the average capital share among these countries is 0.5192, and 0.6087 among all democracies. Column 3 redoes model 1 without developed countries, defined as Western countries and Japan. Surprisingly, the effect becomes slightly stronger. Therefore, the relationship is not driven by rich developed democracies. In model 4, column 1 is again replicated, but with the imputed data set. Nine democratic breakdowns are added, none of which has an average imputed capital share under 0.62.[104] Unequal democracies are still far more unstable and the relationship remains significant at the 1 percent level. The probabilities of democratic breakdown predicted with the imputed data are plotted in Figure 2.

In most instances, the effect of the control variables is robust across model specifications and consistent with the findings of other empirical studies. As with Przeworski et al., I also find that wealth is unrelated to democratization but fosters consolidation.[105] Moreover, autocracies, unlike democracies, are particularly fragile when faced with economic crisis. These findings are consistent with those of Epstein et al., but not with those of Gasiorowski.[106] Being an oil producer has no effect on democratization or consolidation. This finding may support the argument of Dunning, according to which natural resource wealth has two opposite, potentially offsetting effects on democracy.[107]

Social and cultural variables fare much worse than economic variables. Once we control for other variables, ethnic and religious fractionalization do not matter for democracy. Further, religion does not seem to affect democracy. Gasiorowski finds similar results.[108] One possible exception is Islam, which inhibits democratization when, in columns 5 and 6 of Table 3, communist countries are excluded. These findings largely echo those of Papaionannou and Siourounis.[109]

Among political factors, being a former British colony does not affect democratization but affects only consolidation, especially in model 3 of Table 4, which excludes developed countries. Again this result is consistent with the previous findings.[110] However, whether or not a country existed in 1945 does not affect its likelihood of being

[104] The new transitions are Argentina (1962, 1966, 1976), Brazil (1964), Peru (1962, 1968), Sierra Leone (1967), Sri Lanka (1977), and Sudan (1989).
[105] Przeworski et al. 2000.
[106] Epstein et al. 2006; Gasiorowski 1995.
[107] Dunning 2008.
[108] Gasiorowski 1995.
[109] Papaionannou and Siourounis 2008.
[110] See, for example, Przeworski et al. 2000.

a democracy. The number of past regime transitions is a key predictor of democratization but not of consolidation. Autocracies that have switched regime often are much more likely to democratize. Epstein et al. obtain similar results.[111] As suggested by Cheibub, democracies with presidential systems are not significantly more fragile than those with parliamentary or mixed systems.[112] Last, as expected, countries are more likely to establish and maintain democracies when many other countries are democratic.

CONCLUSION

Much of the recent literature on democracy suggests that inequality is among the leading determinants of democratization and consolidation. However, these theories have yet to be subjected to strong empirical testing. This article fills this gap. It argues, as anticipated by previous authors, that inequality hurts consolidation; contrary to what they predict, however, inequality has no net effect on democratization. I show that the existing theories that link inequality to democratization suffer from serious limitations: (1) they are useful for understanding only transitions from below and thus do not apply to many other transitions (that is, those from above); (2) even for democratization from below, their predictions are unlikely to hold, since inequality actually has two opposite effects; and (3) they ignore collective action problems, which reduces their explanatory power. However, these objections do not affect the relationship between inequality and consolidation. In particular, while inequality has two opposite effects on the probability of transition to democracy, it unambiguously increases the probability of transition away from democracy.

Employing newly available inequality data, as well as multiple imputation to fill the missing values, this article finds no evidence in favor of the two leading democratization theories. In fact, the results directly contradict their predictions. Inequality does not harm but, rather, weakly promotes democratization, though not significantly. Moreover, contrary to the predictions of Acemoglu and Robinson, the relationship between inequality and democratization is not inverted U-shaped but weakly U-shaped.[113] As expected, however, egalitarian democracies are much more likely to survive. Democracies with sufficiently low levels of inequality are nearly immune from breakdowns.

[111] Epstein et al. 2006.
[112] Cheibub 2006.
[113] Acemoglu and Robinson 2006.

This article provides the first description of the fundamental differences between the paths followed during transitions to and from democracy. The empirical findings suggest that not only inequality but also other variables such as wealth, growth, British colonial heritage, and the number of past transitions affect democratization and consolidation differently. These results raise the interesting question of why these factors have such different effects on two seemingly similar transition processes.

In particular, the parallel between the results presented here and those of Przeworski et al.—who show that wealth does not affect democratization but promotes consolidation—is striking.[114] This similitude suggests that the mechanisms linking, on the one hand, wealth level to democracy and, on the other hand, wealth distribution to democracy may be analogous. Przeworski and Limongi indeed explain the positive relationship between wealth and consolidation by referring to the competition "over the distribution of income."[115] As pointed out by Boix and Stokes, their explanation does not account for why wealth does not influence democratization.[116] However, if, as suggested by Przeworski and Limongi, economic development affects democracy by reducing distributional conflicts, then the arguments developed here may help solve one of the most important puzzles in comparative politics.[117] Whether or not this is the case remains to be explored in the future.

APPENDIX: MULTIPLE IMPUTATION

The multiple imputation is done with *Amelia II*, which accounts for the time-series cross-sectional structure of the data. Ten data sets are imputed for all countries on which at least one capital share observation is available. Resource distribution is highly persistent within countries over time. Therefore, for each country, the available observations are used to impute the unavailable ones. The full data set includes 4029 observations, 590 (15 percent) of which are imputed. It covers 116 countries between 1960 and 2000.

The imputation model includes two polynomials of time, which are interacted with the cross-sectional unit. This enables the patterns over time to differ across countries. This is important because we have no

[114] Przeworski et al. 2000.
[115] Przeworski and Limongi 1997, 166.
[116] Boix and Stokes 2003.
[117] Przeworski and Limongi 1997.

reason to believe that inequality evolves in the same way over time in all countries. As recommended by Honaker and King, I include lags and leads for my central variable, capital shares.[118] Given the high proportion of missing values (15 percent), I set the empirical prior at 5 percent of the total number of observations, which is relatively high.[119] The online documentation on *Amelia II* recommends that the empirical prior should be increased in data sets with high degree of missingness and many parameters. It notes that "a prior of up to 5 percent is moderate in most applications."[120] The capital share variable is also bounded between 0 and 1.

Many other data sets have been imputed using alternative setups, without significantly affecting the results. In particular, to verify that my results are not driven by the choice of the empirical prior, I redo the imputation with an empirical prior of 0.5 percent (not reported). The results are unchanged. There is no inverted U-shaped or decreasing relationship between inequality and democratization. Moreover, capital share has a substantial and significant (at the 1 percent level) positive effect on the likelihood of democratic breakdown.[121]

As advised by King et al., all control variables are included in the imputation.[122] The model also uses three other measures of inequality. First, Jayadev proposes an alternative definition of capital share that is calculated as a proportion of the total GDP.[123] Those of Ortega and Rodriguez are proportional to the value added in production.[124] Second, I include the proportion of farming land that is used by family farms, which is reported by Vanhanen.[125] Family farms are defined as the "farms that provide employment for not more than four people, including family members, [...] that are cultivated by the holder family itself and [...] that are owned by the cultivator family and held in ownerlike possession."[126] A larger proportion of family farms indicates less land inequality.

Third, I use the Gini coefficients from the Estimation of the Household Inequality and Inequity (EHII), which is estimated by the University of Texas Inequality Project (UTIP). The UTIP uses the UNIDO data set

[118] Honaker and King 2007.
[119] The documentation on *Amelia II* suggests starting at 0.5 or 1 percent.
[120] Honaker, King and Blackwell 2007, 13.
[121] More detail on the imputation model is available from the author upon request.
[122] King et al. 2001.
[123] Jayadev 2007.
[124] Ortega and Rodriguez 2006.
[125] Vanhanen 1997. Boix 2003 also uses this dataset to measure inequality.
[126] Vanhanen 1997, 48.

to compute the Theil's T, a measure of the spread in wage pay. It regresses the Deininger and Squire Gini coefficients on the Theil's T and corrects for the bias in the data source (for example, pretax versus posttax income).[127] It then uses the predicted values as estimated Gini coefficients. The data set covers more than 3500 country-years from 1963 to 2002. Because the UTIP corrects for the bias in the data source, cross-country comparisons are meaningful. Its major drawback is that, since it looks only at wage dispersion and not at inequality between the lower and upper classes, it measures inequality within the labor class. As discussed above, the recent theoretical literature has emphasized inequality across social classes, and therefore the EHII database may not capture the relevant type of inequality. Despite these drawbacks, these data provide information that is useful for the imputation.

Moreover, the multiple imputation model employs diverse variables closely related to inequality. For example, it uses the data on education attainment of Barro and Lee.[128] This database contains the proportion of the population that has no schooling, an elementary school education, a secondary school education, or a university education. It also gives the average number of education years. It thus provides a detailed measure of inequality of education attainment. The proportion of the population that has no schooling is interacted with the proportion that has university degrees. A country is likely to be more unequal if there is, at the same time, a large proportion of the population with no schooling and with university degrees. The proportion of the population with no schooling is also interacted with the average number of education years. Again, a high proportion of people who never went to school coupled with a high average number of education years should indicate more inequality.

In addition, some scholars argue that trade openness affects inequality, although its actual effect is controversial.[129] The sum of total exports and imports divided by the total GDP is included. These data are taken from the extended data set of Przeworski et al.[130] To capture the effect of the Kuznets curve—according to which there is an inverted U-shaped relationship between GDP per capita and inequality—I add GDP per capita squared. Inequality is also closely related to infant mortality;[131] therefore, child mortality (World Bank) is included.

[127] Deininger and Squire 1996.
[128] Barro and Lee 2000.
[129] See, for example, Kumar and Mishra 2008; Mahler et al. 1999.
[130] Przeworski et al. 2000.
[131] See Epstein et al. 2004.

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