Democracy and Globalization[1]

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June 2006

1. Introduction

Democracy and globalization go hand in hand. So say those impressed by the opening to the world economy of the countries of Central and Eastern Europe following the demise of Soviet-led authoritarianism. And so say those impressed by the outward orientation of Latin America since the wave of democratization that began in 1978.[2] Insofar as free international transactions benefit society as a whole, democracy that renders leaders more accountable to the citizenry should be conducive to the removal of restrictions on such transactions.[3] The democracy-globalization nexus is further reinforced by positive feedback from economic and financial globalization to political democratization. The exchange of goods and services is a conduit for the exchange of ideas, and a more diverse stock of ideas encourages political competition.[4] In financially open economies, the government and central bank must be transparent in order to retain the confidence of the markets, and transparency spells doom for autocratic regimes. So say those impressed by how the difficulties of managing financial globalization spurred the transition to a more open and competitive democratic system in Indonesia. Between 1975 and 2002, there was a quadrupling in the number of democratic countries. Over the same period, global

[1] University of California, Berkeley and University of Colorado, Boulder, respectively. We thank Charles Boix, Ernesto Lopez-Cordoba, Chris Meissner, Kevin O'Rourke and Alan Taylor for help with data, Sudarat Ananchotikul and Zane Kelly for excellent research assistance, and Helen Milner for sympathetic comments.

[2] See for example Munoz (1994).

[3] See Garrett (2000) or Milner and Kubota (2005). This of course assumes the feasibility of side payments to special interests that might be adversely affected; we return to this below.

[4] In the words of Dailami (2000, p.9), this is the idea that "countries more open to international capital flows are also more open to offering political rights and civil liberties to their citizens." American political leaders are fond of making this point; Lopez-Cordova and Meissner (2005) provide some illustrative quotations from statements by recent U.S. presidents. But the point has an esteemed political lineage, from Kant (1795) to Huntington (1991) to Przeworski et al. (1996).

trade as a share of GDP rose from 7.7 to 19.5 per cent. The share of countries open to international capital flows, as measured by the International Monetary Fund, rose from 25 to 38 per cent. Evidently there is a powerful dynamic at work.

Of course, every causal statement in the preceding paragraph could be exaggerated or simply wrong. While one can point to cases like Central Europe where economic opening was encouraged by political democratization, one can equally point to cases like Bolivia and Peru where democratization has fueled a popular backlash against opening to the rest of the world. Studies like that by Yu (2005) not only reject the hypothesis that democratization leads to openness but in fact conclude in favor of the opposite. Yu rationalizes his finding by observing that concentrated interests may be better able to secure the imposition of protectionist policies in democratic political systems where they are better represented. O'Rourke and Taylor (2005) argue similarly on the basis of the Stolper-Samuelson theorem: in countries where labor is the scarce factor of production, democratic reforms that raise labor's leverage over policy will encourage protectionism rather than opening to the rest of the world.[5] Others suggest that democratization will not result in working class support for globalization where domestic distortions prevent the benefits of opening from trickling down to the poor. These perspectives suggest that the relationship running from democracy to globalization is at best ambiguous.

The same point can be made about the relationship running from openness to democratization. While it is possible to point to cases like Indonesia where economic and financial opening and the difficulties of autocratic regimes in managing it helped to precipitate a shift to democratization, again one can point to cases – here China is a case in point – where economic and financial opening have not undermined autocratic

[5] Still others explain cases like Bolivia and Peru, where the working class appears disenchanted with globalization, on the grounds that these economies are natural-resource rather than labor abundant and that natural resources are more complementary with capital than labor (Perry and Olarreaga 2006).

control. Again some empirical work is consistent with this skeptical view: econometric studies by Bussmann (2002), Li and Reuveny (2003) and Rigobon and Rodrik (2004) all find no impact of trade openness on democracy or even a negative relationship. Authors like Dailami (2000) caution that capital account liberalization may limit the ability of governments to deploy redistributive taxation, regulation, and risk-sharing policies, thereby weakening support for democratic forms of governance. That there have been parallel trends in the direction of political democratization and economic globalization in the last quarter century is undeniable. But this does not mean that the relationship is stable or general. And correlation does not mean causation.

Still, for many people the idea that there are causal connections between globalization and democracy is intuitively appealing. Many social scientists appear to harbor the feeling that such relationships exist. Maybe the data just require additional analysis. There are many more country cases than the examples in our lead paragraph; this suggests teasing out the causal connections using a treatment-effects approach to compare cases where there were changes in openness and changes in democratization with cases where there were not. The preceding argument suggesting the existence of a bi-directional relationship between globalization and democracy points to the need for an empirical strategy that accounts for the possibility of two-way causality. And there have been previous waves of democratization and globalization; looking over a longer period may be useful for uncovering the underlying relationship and establishing the generality – or otherwise – of the process.

In reality, there has been a great deal of work on these topics, including not a few classics. The idea that globalization promotes the diffusion of democratic ideas goes back to Kant (1795). Authors such as Schumpeter (1950), Lipset (1959) and

Hayek (1960) argued that free trade and capital flows, by enhancing the efficiency of resource allocation, raise incomes and lead to the economic development that fosters demands for democracy. Within modern political science, the connections between economic and political liberalization is one of the foundational topics of the subfield of international political economy.

Still, none of this previous work has satisfactorily addressed the substantive and methodological issues we raise above. Most studies look only at one of the two causal connections, from democracy to globalization or vice versa. Since they are not concerned with two-way causality, sometimes they do not even acknowledge the existence of an endogeneity problem, much less develop an appropriate instrumental variables strategy for dealing with it. They rarely acknowledge that democratization has different dimensions and that economic globalization includes both the globalization of trade and the globalization of finance.[6] Few studies take advantage of the fact that there have been prior waves of globalization and democratization.

These observations provide the point of departure for our own analysis of democracy and globalization. We consider two dimensions of globalization, analyzing the determinants and effects of both trade liberalization and capital account liberalization. We similarly consider several dimensions of democratization, both as cause and effect. We estimate these relationships using an instrumental variables strategy that we think is a step forward relative to previous work.

To anticipate, the findings support the hypothesis of a positive two-way relationship between democracy and globalization. Not unlike the assertions of our opening paragraph, it does in fact appear that the two variables positively influence one another, with reinforcement running in both directions. However, these effects

[6] It should of course include the globalization of labor, although in the most recent wave governments and their constituents have been reluctant to accommodate the pressures of globalization that arise in this domain.

are not uniform across time and space; in particular, the impact of democracy on globalization varies with resource endowments and global economic conditions. General conclusions, not surprisingly, remain elusive. But the evidence here is at least at start.

2. Recent Literature

Appendix Table 1 summarizes the empirical literature on the impact of democracy on globalization. Much of this work is of recent vintage. In a relatively early contribution, Grofman and Gray (2000) examined the impact on trade openness (imports plus exports as a share of GDP) of the number of years a country was under authoritarian rule. They report a negative effect of authoritarianism on trade. Giavazzi and Tabellini (2005) consider a larger country sample and a different measure of democracy, drawn from the Polity data set, but report the same positive effect of democracy on trade liberalization.[7] However, the study by Yu (2005) noted above shows that substituting a still larger country sample and minor changes in specification can reverse this result. Finally, O'Rourke and Taylor (2005) utilize historical data from the pre-1913 wave of globalization.[8] They argue that democratization that broadens the extent of the franchise should encourage trade openness in labor-abundant countries, since labor, which now votes, benefits from trade liberalization, but discourage it in labor-scarce countries, following standard Stolpher-Samuelson logic. Including a democracy variable and its interaction with a measure of the land/labor ratio produces ordinary least squares regression results consistent with this supposition.

[7] Precise procedures followed in studies utilizing information from the Polity data set vary, but typically they follow Gurr et al. (1990) in combining information on the competitiveness of the process for selecting the chief executive, the openness of that process, institutional constrains on the chief executive's decision making power, the competitiveness of political participation, and the existence of binding rules on political participation.

[8] Which limits their analysis to three dozen countries.

Importantly from the present point of view, none of these studies employs an instrumental variables strategy. In this light, a recent study by Milner and Kubota (2005) is a step forward. The authors measure trade openness in a number of ways, including the unweighted average statutory tariff rate and the Sachs-Warner index of economic openness.[9] They similarly measure democracy in a number of ways: the now-standard Polity index, Geddes' (1999) data on autocracy, and Przeworksi et al.'s (2000) dichotomous index of democratic regimes. While most of their estimates are by ordinary least squares (they argue on a priori grounds that reverse causality running from trade openness to the political regime is unlikely to be important), they also report some instrumental variables estimates. The average age of the party system and the level of secondary school completion are used as instruments for democracy. While only one regression is reported (tariff rates regressed on the Polity-based measure of democracy), the previously-reported positive effect continues to hold.

A parallel strand of work looks at the impact of democracy on financial openness. Quinn (2000), using democracy and autocracy indicators from the Polity data set and his own measure of capital account openness, finds that democracies are more likely to remove capital controls. Brune and Guisinger (2003), using an alternative measure of the dependent variable in conjunction with the democracy indicator of Przeworski et al. (2000), similarly report a positive impact of democratic openness on financial openness, especially when the democratic government in power is "capital friendly" and "right leaning." Again, however, neither study acknowledges the possibility of endogeneity.[10]

[9] As constructed originally by Sachs and Warner (1995) and updated by Wacziarg and Horn Welch (2003).

[10] This despite the fact that Quinn acknowledges the possibility of reserve causality from international financial liberalization to subsequent democratic reversals.

Appendix Table 2 summarizes recent empirical research on the effect of economic and financial globalization on democracy. Bussmann (2001), Li and Reuveny (2003), Rigobon and Rodrik (2004), and Giavazzi and Tabellini (2005) all consider the impact of trade openness on a Polity-based measure of democratization. Li and Reuveny report a negative impact, but questions can be raised about the adequacy of their method of dealing with the endogeneity of trade, which is by lagging the independent variable. Rigobon and Rodrik (2004), invoking identification through heteroskedasticity, similarly find a negative impact. Bussmann and Giavazzi-Tabellini, in contrast, find no impact of trade openness on democracy. Giavazzi and Tabellini rely on a difference in differences methodology; they compare countries where there were transitions to or from greater openness with countries where the regime remained unchanged instead of attempting to control explicitly for endogeneity. Bussmann instruments her trade openness variable, but questions can be raised about whether her instruments -- GDP per capita, investment and government consumption – satisfy the exogeneity and exclusion restrictions.[11] Rudra (2005) argues that the effect of trade openness on democratization is positive but contingent – that one finds a positive impact only in countries with high or rising levels of social spending (where there exists a social safety net).[12] Papaioannou and Siourounis (2005) limit their sample to initially non-democratic countries and conclude that trade openness plays a significant role in driving transitions to democracy.

One of the more sophisticated recent studies in this vein is Lopez-Cordova and Meissner (2005), who use the gravity model to obtain instruments for trade. They

[11] For example, there is a large literature in which it is argued that income levels (GDP per capita, in other words) is affected by democratization.

[12] We find this result a bit perplexing. The positive conditioning effect of the existence of a social safety net would be easier to understand in a regression of trade openness on political variables (rather than the opposite of what we describe here), on Rodrik (1998) grounds (that, in more open economies, societies demand better-developed social safety nets).

regress democracy on fitted values of trade where trade is a function of population and the distance between trading partners. They also use historical data starting in 1870. In contrast to most of the studies just described, they find a positive impact of trade openness on democratization. This positive relationship is not limited to particular "waves" of democratization. Yu (2005) estimates similar relationships over a shorter period and obtains similar results.

We are aware of only two studies touching on the impact of international financial openness on democratization. Relying on timing for identification, Quinn (2001) finds that financial openness increases the probability of transitions away from democracy. Rudra (2005) finds the opposite: a positive relationship but one that is again contingent on rising levels of social spending (paralleling her argument about the contingent effects of trade openness).

In sum, a number of studies find some evidence of a positive relationship running from democracy to globalization, although this conclusion is not unanimous and questions can be raised about methodology and therefore about the robustness of findings. As for the impact of trade openness on democracy, early studies generally reported no significant relationship, while more recent work finds in favor of a positive link. Work on the impact of financial openness on democracy is too scanty to support firm conclusions.

3. Identification

Research on the connections between democracy and openness is only as convincing as its identification strategy. We therefore start with a discussion of the instrumental variables used in our analysis.

Studies of the impact of trade openness on democracy have utilized the gravity model to identify the exogenous component of trade. The gravity model looks to

country size on the grounds that smaller countries produce a narrower range of inputs and outputs and hence benefit from exchanging these with the rest of the world, and to distance to a country's trading partners as a measure of transport costs. If it has shown nothing else, the resulting literature has shown that size and distance are robustly related to trade. Both variables are plausibly exogenous over the annual horizon that is the focus of our analysis.[13]

A question is whether they also satisfy the exclusion restriction for valid instruments. We are not aware of arguments linking country size to democratization. Casual empiricism does not point in one direction or the other.[14] Similarly, it is not obvious why a country's distance from the world's major markets should affect its political regime. Once again there are examples pointing in both directions.[15] All this is consistent with the idea that the basic arguments of the gravity model are plausible instruments for identifying the exogenous component of trade.[16]

One strand of literature on the political economy of capital controls argues by way of analogy with merchandise trade: small countries have the greatest difficulty in producing a diversified portfolio of financial assets and hence the greatest incentive to engage in financial trade.[17] Another appeals to theories of optimal taxation, arguing that where the inflation tax is higher and fiscal imbalances are more severe the

[13] Alesina and Spolaore (2003) suggest reasons why trade may feed back to country size in the intermediate and long run.
[14] For every United States there is a China, and for every El Salvador there is a Togo.
[15] For every New Zealand there is a Turkmenistan.
[16] One may worry about the possibility that *who* a country trades with is a function of its political regime. Hence if the distance variable is taken as a weighted average of the distance to a country's principal trading partners, the resulting measure will have an endogenous component. We therefore compute this variable as the distance from a country to the world's other markets (weighting distance to each individual country by the latter's share in world trade rather than by its share in the subject country's trade). One may also worry that country size is endogenous with respect to the political regime (democracy comes to Czechoslovakia and the country splits into two). The response would be that such changes in country size are heavily dictated by historical factors and in the short run are few and far between.
[17] See Martin and Rey (2005) and Driessen and Laeven (2005). The second pair of authors emphasizes the advantages of financial trade not just for small countries but for small developing countries in particular.

authorities will have a greater tendency to tax capital imports.[18] We are not aware of convincing evidence that democracies have lower (or higher) inflation rates or smaller (or larger) budget deficits; we take this as suggesting that inflation and budget deficits plausibly satisfy the exogeneity condition. Similarly, we have not identified a literature in which these variables independently affect the political regime and hence violate the exclusion criterion. A final strand of literature considers global determinants of countries' choice of international financial regime, pointing to peer effects (capital account openness is more likely when many other countries have opened in previous periods) and systemic-stability effects (capital account openness is less likely when there have been a large number of currency crises in previous periods).[19] Both timing and the small country assumption, which is appropriate for most of our observations, support the maintained hypothesis of the exogeneity of these instruments. And it is not clear why these variables should affect the political regime other than via policies toward the capital account (in other words, they plausibly satisfy the exclusion restriction).

We make use of all of these literatures to identify instruments for capital account policies. Our consolidated instrument list thus includes country size, inflation, the budget deficit, the number of other countries with capital controls, and the number of other countries experiencing currency crises.[20]

The literature on democratization provides potential instruments for the political regime. A long line of authors have argued that democratic political institutions arise in an environment where a relatively affluent and homogeneous populace has experience with or exposure to participatory politics. This observation

[18] See e.g. Grilli (1995).
[19] See the work by Simmons and Elkins (2004).
[20] All lagged, as they typically are in empirical studies of the incidence and determinants of capital controls.

points to the connection between democracy and the general level of economic and social development, as proxied by, inter alia, per capita wealth or income.[21] But we cannot use wealth or per capital income as instruments for democracy as they do not satisfy the exclusion restriction – that is, they almost certainly has an independent impact on the propensity to engage in commercial and financial trade.

Recent studies of democratization do however point to other factors playing a causal role in the emergence of democracy. Sachs and Warner (2001) and Ross (2001) have focused on countries' natural resource endowments, arguing that greater reliance on mineral exports leads to concentrated power, reducing the probability that dictatorships will become democratic. Again there may be reasons to worry about the exclusion restriction; countries specializing in the production of natural resources may be more inclined to trade, insofar as they depend and/or can afford to import a range of other goods. Przeworski et al. (2000) argue that transitions to democracy are more likely in former British colonies, where citizens or their forbearers had positive experience with democratic practice, and less likely in countries with a history of frequent transitions between democracy and dictatorship, where experience with democracy has been less satisfactory.[22] This variable is also likely to satisfy the exclusion restriction for a valid instrument in an equation explaining economic and financial openness; we know of no study that has demonstrated a link running from transitions from democracy or constitutional age to globalization. These variables are

[21] This relationship has attracted an enormous amount of attention over the years – to the extent that it has its own name, "modernization theory" – and is in resurgence thanks, in part, to the contributions of Acemoglu and Robinson (2005). Precursors range from Lipset (1959) to Dahl (1989) to Huntington (1991).

[22] Country studies point in the same direction; see McLean (2006). While cast in terms of government quality, La Porta, et al (1999) also find a positive relationship between British colonial heritage and democracy; conversely, they find a negative relationship between socialist legal heritage and democracy. In addition to the findings of Przeworski, et al, evidence supporting the hypothesis that political stability is conducive to the emergence of democracy is provided by Boix and Stokes (2003) and Epstein, et al (2006), although the former measure stability in terms of the age of the country's constitution and the latter conceive of stability in terms of the country's prior transitions to dictatorship.

also plausibly exogenous with respect to economic and financial openness: only with effort can one can construct an argument relating trade or capital market liberalization today to prior experiences with dictatorship, constitutional age, or colonial experience.

Again, we draw on all these studies in what follows. Our instrument list for democracy is number of prior transitions to dictatorship, the country's constitutional age, colonial heritage, natural resource endowment, and various geographical indicators. To check for robustness we also estimate the same regressions without resource endowments and geography in the instrument list.

4. Data

We examine the relationship between democracy and globalization in as large a sample as possible using the longest historical time series available. We have data on trade, capital controls, democracy and requisite instruments annually for the period 1870-2000. Our sample broadens over time as a result of the existence of a growing number of independent states and greater data availability. The sample of countries for which comparable data on international trade exist begins with 14 in 1870, doubles by the end of World War I (to 28), doubles again by the end of World War II (to 56), and reaches a maximum of 156 by 1998. Our sample for capital controls expands in analogous fashion.

We measure trade openness as imports plus exports as a percentage of gross domestic product.[23] As a robustness check we also employ the dichotomous measure of trade liberalization originally constructed by Sachs and Warner (1995) and

[23] Our primary sources for import and export data are the compilations published by Mitchell (various dates) and Banks (various dates). Gross domestic product data comes primarily from Maddison (2001), supplemented by Mitchell (various dates) and Banks (various dates). Specifics regarding the creation of the trade openness and GDP series are contained in the appendix.

extended by Wacziarg and Welch (2004). Sachs and Warner classify a country as closed if non-tariff barriers cover 40 per cent or more of trade, average tariff rates are 40 per cent or more, the black market exchange rate depreciated by 20 per cent or more relative to the official exchange rate, or a socialist economy existed. This measure is available from 1950-2000 and covers 150 plus countries.[24]

Capital controls are measured in the manner of the International Monetary Fund's *Annual Report on Exchange Arrangements and Exchange Restrictions* (*EAER*), supplemented with historical sources. *EAER* seeks to capture whether there are explicit legal restrictions on capital transitions. The IMF is the source for this variable from 1950; for the period 1870-1950 we rely on the coding of Eichengreen and Bordo (2003).

For democracy we employ the dichotomous measure proposed by Przeworski et al. (1990). Przeworski et al. argue that a country should be regarded as democratic if governments are chosen in contested elections. This means that a country is coded as democratic if it has elections where more than one party competes and it is not the case that the same party always wins. The authors provide data for 150 countries covering 1950-1990; Boix and Rosato (2001) extend these data backward to 1800 while Cheibub and Ghandi (2005) update them through 2000.

An alternative is the age or maturity of the political regime. The dichotomous measure would code, say, Britain and Croatia as equally democratic (both would be coded "1"), notwithstanding the fact that the two countries are fundamentally different in terms of their cumulated experience with open political competition. One way of quantifying these differences is by constructing a measure of the length of time a country has been a democracy. Our measure, "Age of Democracy," counts for each

[24] We are aware of the critique that the Sachs-Warner measure is dominated by the black-market-premium component. As such, it is probably best interpreted as capturing a combination of trade and exchange restrictions (in which case it is, however, still relevant to our questions).

country i at time t the number of uninterrupted year up to time t that country i has been democratic.

We also employ data from the POLITY project, which codes countries' level of democracy as a function of institutional rules. It is less concerned with turnover per se than Przeworski et al. For sake of comparison we construct a dummy variable coded one if the POLITY score is strictly positive and zero otherwise. We also use the POLITY data set to create a measure of age of democracy in a manner similar to that described above.

POLITY is also the source of information on constitutional age. POLITY defines constitutional change as occurring either when there is a political transition or when the absolute value of the score changes by at least three points. This allows for constitutional changes in both democracies and dictatorships.

5. Methods

When the outcome variable is continuous, as in the case of trade openness and age of democracy, we estimate our models using two stage least squares. When the outcome is discrete (capital controls and the dichotomous measure of democracy) we estimate instrumental variables probit models (Newey 1987).

We include time fixed effects throughout, either the entire vector of year dummies or, in the interest of greater parsimony, dummy variables for the interwar, Bretton Woods, and post-Bretton Woods periods (the gold standard period of course being the omitted alternative).[25]

[25] When we consider the Sachs-Warner measure of trade openness, since exists only from 1950, we distinguish only the Bretton Woods and post-Bretton Woods periods. Time dummies pick up the possibility that there might be "waves" of democratization (or trade opening, or capital account liberalization) occurring simultaneously, at a particular point in time in multiple countries, for reasons beyond those for which we can control. These are a simple correction for the possibility of changes in the structural relationship over time. Our decision to cluster the year dummies into these four groups reflects our reading of the historical literature on globalization in particular.

Given the panel nature of our sample, the errors are likely to be heteroscedastic and serially correlated. There are two common approaches to dealing with these problems in the context of panel data. The first, fixed effects estimation, includes a set of country specific intercepts to account for average differences across countries that are constant over time. The second approach, random effects—or error components—assumes that all countries have a common intercept but that specific differences across countries are reflected in differences in the error term. A random effects model is preferred in settings where the geographic and historical determinants of a variable do not vary over time. This is our benchmark approach. But as we discuss in the section on robustness (below), the use of random rather than fixed effects is not critical; we obtain similar results both ways. The second problem—that the errors might otherwise be serially correlated—is dealt with through the inclusion of a set of period dummy variables.

When the dependent variable is discrete (as in the case of our binary indicator of democracy and our measure of capital controls), dealing with heteroscedasticity and serial correlation is not trivial.[26] The use of fixed effects – for country, year or both – when the dependent variable is discrete is problematic as we would be forced to drop cases where the dependent variable does not vary in either year t or for country i. Consider, for example, the use of year dummies in a model of capital controls. We have data on capital controls and their covariates going back to 1870. No country, however, used capital controls until 1919. Adding temporal dummy variables would entail the loss of all observations up to 1919 even though the absence of capital controls in that portion of the data set is informative of the questions considered in this paper. To deal with problems associated with temporal persistence

[26] An instrumental variables random effects probit model has yet to be developed as far as we know.

in our discrete dependent variable models, we include a lagged dependent variable. While perhaps less satisfactory than the treatments used in the cases where the dependent variable is continuous, this has the benefit of accounting for unmeasured country-specific factors that influence the dependent variable at time t.[27]

6. Results

Table 1 reports results for the impact of democracy on trade openness, where we control also for the other determinants of trade openness highlighted by the gravity model. We show results both using the dichotomous measure of democracy and the continuous measure (age, or number of continuous years democratic). We utilize two alternative instrument lists, only one of which includes the measure of natural resource dependence and the regional dummy variables for Latin America, Asia, Africa and the Middle East.[28]

The results are similar across columns: democracy has a positive effect on trade openness. This is the same result found previously by O'Rourke and Taylor using ordinary least squares. Note that the estimated impact of openness is little affected by dropping the geographic instruments.[29]

Table 2 reports analogous estimates for financial openness (the dependent variable equaling unity in the presence of capital controls). The results again support the idea of a positive relationship running from democracy to globalization: democratic countries are more likely to remove capital controls. This is true with and

[27] While different econometricians say different things about the consistency of such estimates, what matters here is that none of the results change when we drop the lagged dependent variable.
[28] On the grounds that these variables may be picking up other geographical characteristics of countries with an independent impact on the propensity to trade, as discussed above.
[29] Note also that the control variables are well determined and enter with plausible signs (greater distance from the principal markets leads to less trade, larger countries trade more but with an elasticity closer to zero than one. More populous countries trade more. Richer countries trade a smaller share of GDP, other things equal, reflecting the presence of a larger service sector.

without the geographical instruments. The finding is consistent with Quinn's earlier ordinary least squares results.

Table 3 completes the picture with evidence on the impact of trade and financial openness on democracy. The results are consistent with the hypothesis that globalization promotes democracy. The coefficient on the measure of financial openness (in column 2) is significantly different from zero at the 95 per cent level, while that for trade openness is significant at the 90 per cent level (column 1). Note that both measures of openness are instrumented and that we control for additional determinants of the probability of a democratic regime. In column 3 we include proxies for these two dimensions of globalization at the same time. Both retain their expected signs; now trade openness is significant at the 95 per cent level, while financial openness/capital controls is significant at the 90 per cent level. This evidence is supportive of the idea that both aspects of globalization matter for democracy.

In sum, we find evidence here of positive relationships running in both directions between globalization and democracy. This suggests the possibility of a virtuous spiral as the two phenomena evolve so as to reinforce one another. But it also suggests sensitivity to shocks and the possibility of reversals – that negative shocks to either economic or political openness may set the system off in the opposite direction. Before exploring the implications further, however, we first examine the robustness of our results.

7. Robustness

We study robustness in several ways. We consider alternative measures of our dependent and independent variables. We use alternative econometric set-ups. Perhaps most critically, we consider alternative instruments.[30]

Alternative measures. In Table 4 we substitute an alternative measure of democracy: number of continuous years under a democratic regime. The results for both trade and financial openness (columns 1 and 2, respectively) are the same as before. In column 3 again we include both trade and financial openness as explanatory variables. Both variables continue to have their expected signs, although only the presence of capital controls is statistically significant at conventional confidence levels.[31] This is not entirely surprising; given the high correlation between the two measures of economic openness (especially the instrumented versions, given overlap in the instrument lists), including both plausibly gives rise to multicolinearity. Note, however, that the two openness measures are still jointly significant at the 99 per cent level.

In addition, we substitute the POLITY measure of democracy for that of Przeworski et al. (We construct a dummy variable coded one if the POLITY score is strictly positive and zero otherwise.) Using these data we also construct an alternative measure of the age of democracy.[32]

When we substitute the POLITY measure for the Przeworski et al measure, we continue to obtain results substantively and statistically similar to those reported in

[30] To avoid the proliferation of tables we report, but do not include, the findings from all of our robustness tests. The additional results are available from the authors on request.

[31] In an earlier version of this paper where the table in question did not include the period fixed effects (for the interwar, Bretton Woods and post Bretton Woods periods), both trade openness and capital account openness were individually significant at the 90 per cent level or better. This might be taken as further supporting our basic story. On the other hand, one can argue that omitting period fixed effects may have biased the coefficient on trade openness upward (thus, in the interwar period trade openness was low and democratization was also low, and so forth).

[32] The dichotomous measures of democracy from Przeworski and POLITY agree 88 per cent of the time; the major disagreements arise when countries have competitive electoral systems yet do not yet meet the suffrage requirement that is part of the Przeworski, et al definition. The correlation between the age of democracy measures is also quite high at 81 per cent.

Section 5.[33] This is true when we use democracy both as an independent and a dependent variable. This finding reassures us that the results reported above are not contingent on the specific measures of political regime used in our analysis.

Similarly, when we substitute the Sachs-Warner measure of openness for the trade share, we continue to find that democracy has a positive impact on trade openness. This is true for both the continuous and dichotomous measures of democracy and both with and without geographical instruments (Table 5). Recall that the Sachs-Warner measure is only available since 1950; hence this test also entails limiting the analysis to the second half of the 20th century. We also therefore reestimated the relationship using the export-plus-import share on this shorter period; again, the results carry over.

Similarly, we substituted an alternative measure of financial openness, the first year that the capital account was liberalized after the demise of the Bretton Woods system of fixed exchange rates. Doing so entailed limiting the sample to the post-1970 period. The results, in Table 6, are again supportive of the view that democracies are quicker to remove capital controls.

Alternative econometric specifications. As a further robustness check we included a set of n-1 country dummy variables in our trade and age-of-democracy models. Adding them entailed dropping other explanatory variables related to geography and colonial origin that do not vary with time. With the exception of the impact of capital controls on the age of democracy (table 4, column 2), our conclusions are robust to the inclusion of these country fixed effects.[34]

[33] There is an exception: when we use the dichotomous measure of democracy based on the POLITY score we no longer find a statistically significant impact of capital controls on the probability of democracy (the parallel regression is column 2 of table 3). These results are available upon request.
[34] It is not possible to include country fixed effects in the capital controls or dichotomous democracy models, as noted above. Including dummy variables in models with lagged dependent variables causes inefficient estimates. In any case, there are a number of countries where the dependent variable of

As an alternative correction for heteroscedastic and autocorrelated errors we estimated all the same models using two-step generalized methods of moments (GMM). This allows for the computation of heteroscedastic and autocorrelation consistent standard errors within an instrumental variables context.[35] The GMM estimator produced parameter estimates and standard errors that are substantively similar to those reported above.[36]

Another robustness check was to focus on transitions to and from democracy rather than simply on the political regime at a point in time. We estimated a Markov transition model of the impact of globalization on democratization. This allows us to ask the question: conditional on a country being a democracy at time t-1, does globalization increase (or decrease) the probability of a transition to dictatorship? It allows us to analyze within a single empirical model both the probability that a country will undergo a political transition and the probability that the existing regime will remain stable.

Denote democracy for country i at time t as D_{it} and the indicator of globalization in country I at time t as $G_{it.}$[37] We can write the Markov transition model as a probit:

$$P(D_{it}) = \Phi\{\alpha_0 + \alpha_1 G_{it-1} + \beta_0 D_{it-1} + \beta_1 D_{it-1} G_{it-1}\}$$

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interest (democracy or capital controls) does not change over time. In those cases the inclusion of country dummies would result in the loss of a significant number of observations. That said, concern that unmeasured heterogeneity would result in biased estimates are mitigated through the inclusion of a lagged dependent variable which, all things being equal, account for these unmeasured factors.

[35] From a statistical point of view this estimator is more efficient in the face of heteroscedasticity and serial correlation than standard IV estimation and, if the errors are neither heteroscedastic nor serially correlated, it fares no worse. It should be noted that GMM does not have desirable properties in small samples. The use of autocorrelation consistent standard errors also requires that we choose an optimal lag (m). Following the recommendation of Stock and Watson (2003) we set $m=0.75T^{1/3}$ which, ranges between 4 and 5 for our samples. The choice between these two lags is inconsequential for the results we report.

[36] We could not achieve convergence when we included the year dummies so they were dropped from those models. To account for the fact that both globalization and democracy tend to trend upwards over time we included a time trend.

[37] For the ease of exposition we ignore other independent variables that may influence democracy.

where $P(D_{it})$ is the probability that the country will be democratic, and Φ is the cumulative normal distribution. When a country is a dictatorship at time t-1 ($D_{it-1}=1$) the impact of globalization on the probability of democracy at time t is given by α_1. A statistically significant positive (negative) value of α_1 is interpreted as evidence that globalization increases (decreases) the probability of a transition to democracy. Likewise, if a country is democratic at time t-1, a positive (negative) sum $\alpha_1 + \beta_1$ suggests that globalization raises (reduces) democratic stability – that a country that is democratic at time t-1 will remain so at time at t. Hence the tables of Markov results have two columns. The first one (denoted α) contains the coefficients when democracy at t-1 is equal to zero and can be interpreted in terms of transitions to/from democracy. The second (denoted $\alpha+\beta$) reports the coefficients when democracy at t-1 is equal to one and can be interpreted in terms of democratic stability.[38]

The results, in Table 7, are somewhat weaker than before. For trade openness, we get no independent impact on the probability of a transition to democracy, although the probability of remaining democratic is significantly higher for countries that are open to trade. For financial openness, we get no impact on the probability remaining democratic, although the probability of a transition to democracy is significantly greater in countries that are open to capital flows. Table 8 includes both measures of globalization in the same equation. The results there do not suggest an impact on the probability of a transition to democracy, but they do point to the conclusion that economically and financially open economies are more likely to remain democratic.

[38] The standard errors in the $\alpha+\beta$ column are based on a Wald test of the joint significance of the two terms. A complication in estimating the Markov model is that we have two endogenous variables: the measure of globalization and its interaction with lagged democracy. As the value of the interaction term is a function of the endogenous globalization variable, we treat both the globalization variable and its interaction with lagged democracy as endogenous and instrument both of them.

Alternative instrument lists. To see if our results were driven by our selection of instruments, we divided the instruments for democracy into two categories: those related to geography (continent dummy variables and the indicator for natural resource exporter) and those related to history (number of prior transitions to autocracy, constitutional age, colonial origin, and socialist legal origin). We estimated separate models excluding one set of instruments at a time. In no case did this result in parameter estimates and hypothesis tests different from what we report.

The instrument for trade and financial openness that is most suspect from the point of view of endogeneity is the size of the economy. We therefore reestimated the models dropping this variable from the instruments for the these two dimensions of globalization. Again, the results remained unchanged.

8. Trade Theory and Contingent Effects

The literature suggests a number of directions in which one might want to extend these results. For example, O'Rourke and Taylor (2005) suggest that the impact of democratization on openness should be contingent a country's factor endowment: democratization increases the likelihood that policy reflects the interests of workers, who now vote, and workers will prefer trade openness in labor abundant countries. It is assumed that the impact of opening on relative returns to factors of production can be predicted from the Stolper-Samuelson theorem, and that factor owners vote their interests. It is further assumed that prior to democratization, which enfranchises labor, decision making is controlled by large landowners and wealthy capitalists.

Following O'Rourke and Taylor, we therefore interact democracy with the land/labor ratio.[39] Again we use the fitted value of democracy from the first-stage regression and include democracy by itself as well as the interaction term in the second stage. Results are in Table 9.[40] While we continue to get a positive coefficient for the impact of democracy on trade, we now also get a negative coefficient on the interaction of democracy with the land/labor ratio. The Stolper-Samuelson interpretation, with two factors and two sectors, would be that where labor is the relatively scarce factor, it is landowners who benefit from opening, both relatively and absolutely, and labor when enfranchised is better able to vote its pocketbook. We find this pattern for the full period 1870-2000. We find it also for the 1870-1913 period on which O'Rourke and Taylor focus.[41] We again find it for 1960-2000. The one period for which the pattern does not obtain is the interwar years, when trade collapsed in the face of a Great Depression and it can be argued that trade policy was driven by factors other than the Stolper-Samuelson theorem (Eichengreen 1981). The general conclusion is that the impact of democratization on trade openness may be broadly positive, but it is contingent on both factor endowments and the state of the global economic and political environment.

In Table 10 we add the capital/labor ratio and the capital/labor-democracy interaction.[42] Capital stocks, even more historical capital stocks, tend to be measured

[39] We follow O'Rourke and Taylor and standardize the land/labor ratio to mean zero. We obtained data for the land-labor ratio from O'Rourke and Taylor for the period prior to 1939 and from the World Bank's World Development Indicators for the period after 1960.

[40] Note that in this model and those that follow we treat both democracy and the interaction of democracy with the land-labor ratio (and the capital-labor ratio, below) as endogenous. We also follow O'Rourke and Taylor and include a set of country-specific fixed effects so as not to overstate the impact of these ratios on globalization.

[41] Although our estimates, unlike theirs, are derived using instrumental variables.

[42] The models in Table 10 include three endogenous variables: democracy and its interaction with the land/labor and capital/labor ratio. Because we estimate this model with fixed country effects we need an additional time-varying instrument. Following Przeworski et al (2000) we include a variable that captures the number democracies in the system at time t. This variable, however, is collinear with our set of year dummies so we substitute a linear time trend.

with error; it is thus not surprising that individual significance levels are now lower. We are thus reluctant to make much of these results. Note, however, that the land/labor ratio and land/labor-democracy interaction enter with the same signs as before, and the two are still jointly significant.[43] In other words, that the capital stock was not included in the previous table doesn't appear to have affected anything there. Note also that the capital/labor ratio and capital/labor-democracy interaction enter with signs opposite to those on the land/labor ratio and land/labor-democracy interaction.[44] This begins to look like a specific-factors model in which land and labor are used in one sector ("agriculture") while capital and labor are used in the other ("industry"). Landowners and capitalists have opposing preferences. With which one labor sides depends on its consumption basket, and how effectively it makes its preferences felt depends on the extent of democratization.[45]

By the same token, where capital is the relatively abundant factor it should prefer the removal of capital controls, which opens up opportunities for investing abroad, while where it is the relatively scarce factor it should prefer a closed capital account in order to avoid having its rate of return bid down by capital inflows. We therefore estimated the same equations, with interaction terms, for the determinants of capital account policies. Results are in Table 11. Again, the individual coefficients are not precisely estimated, so not too much should be made of them. But, for what they are worth, consider the full-period estimates. The capital-labor ratio is negatively associated with capital controls, as predicted, while the land-labor ratio is positively associated; again this looks like a specific factors model where capital is

[43] See the F-tests at the bottom of the table.
[44] Once more the pair is jointly significant.
[45] In general it is not possible to make reliable predictions about how factor proportions will map into preferences about trade policy in a three-factor, two-good model, as noted by O'Rourke and Taylor (2005) and shown by Thompson (1985, 1986). One must make further assumptions, like those required to obtain the specific-factors model, in order to derive unambiguous implications.

used in "industry" while land is used in "agriculture," the two sector-specific factors have opposite preferences, and labor's preferences depend on whether it consumes mainly agricultural or industrial goods. In this case it looks like labor sides with the capitalists rather than the landlords.

Of course, in this world where trade flows and factor flows are substitutes, it is not clear why the interaction terms should have different signs in Tables 10 and 11. While we commend O'Rourke and Taylor's effort to apply trade-theoretic logic to identify different effects in different countries, we would not want to push this approach too far.

9. In Lieu of a Conclusion

In this paper we have presented a battery of evidence suggesting positive relationships running both ways between trade and democracy, though exceptions to this generalization appear to obtain at particular times (during the interwar period) and places (in labor-scarce countries). As in any case where positive feedbacks are present, there is the possibility of dynamic instability – that is, a positive or negative shock may send the system off in the positive or negative direction without limit. In lieu of a conclusion, we offer a few speculations about this possibility.

Our inferences about dynamics are just suggestive, given the basically static system that we have estimated.[46] But such speculations are intriguing. If the system is dynamically unstable, then we can perhaps understand how in the 1930s negative shocks to trade and democracy could send the system down toward progressively lower values of both variables, seemingly without limit (at least until the system was shocked again after World War II). Analogously, dynamic instability implies that we

[46] There is, of course, a lagged dependent variable in our determinants-of-democracy equation, which gives the system a modestly dynamic flavor, but it does not have important implications for our story, as we explain below.

may now be witnessing positively reinforcing increases in globalization and democracy that will similarly continue without limit (absent, of course, a large negative shock that sends the system off in the other direction). But if the system is stable – despite the existence of positive two-way relationships between democracy and globalization – then we perhaps have a way of understanding how the "third wave" of democratization after 1978 lent some encouragement to globalization, but not without limit. We have a way of understanding how the decline in transport costs due to containerization encouraged trade and also lent impetus to democratization, but again only within limits. In this stable case, both democracy and globalization eventually settle down at levels higher than prior to the shock, because there is resistance to allowing them to rise further. Some might say that this is a plausible characterization of what we have seen in recent years.

When the bivariate relationships between two variables are both positive, undergraduates are taught to gauge stability by comparing the own effects to the cross effects. In the present context the question is whether the globalization-as-a-function-of-democracy curve is steeper than the democracy-as-a-function of globalization curve when plotted with democracy on the horizontal axis and globalization on the vertical axis.[47] For illustrative purposes, we calculated the relative slopes of the two loci for the case of trade.[48] The estimated configuration is in Figure 1.[49]

[47] And other variables are, naturally, held constant at their respective means.

[48] Using the estimates for trade from the third column of Table 1 and the estimates for democracy from the first column of Table 3. It turns out that the results are again the same when we consider our basic estimates for the impact of financial openness on democracy and of democracy on financial openness (results available from the authors on request).

[49] In the case of the democracy-as-a-function-of-globalization schedule, this is the short-run effect, ignoring the effect of the lagged dependent variable. When we instead plot the long-run effect, the democracy-as-a-function-of-globalization schedule becomes steep (the effect of an increase in globalization is larger since the partial effect associated with the lagged dependent variable is between zero and one). The shift in the values of both variables due to a shock to either of one becomes larger in the long run, but the stability analysis remains the same, since the democracy-as-a-function-of-globalization schedule was the steeper one before, and it is even steeper now.

This is the stable case. Imagine a "third wave" whose effect is to increase the level of democracy associated with any level of trade. The relatively steep "predicted democracy" schedule shifts to the right (since we expect a higher level of democracy for any level of trade). The system is now off the "predicted trade" schedule, so the level of trade rises until the system is back on that curve. The higher level of trade implies a higher level of democracy, so the system now moves to the right until it is back on the "predicted democracy" schedule. But each time a variable increases again, that increase is smaller than before. Eventually the system converges on two stable, how higher, levels of democracy and trade. One could play the same game by positing instead a decline in transport costs due to the advent of containerization that causes the relatively flat predicted-trade schedule to shift up.[50]

Taken literally, this suggests that the bivariate relationship between globalization and democracy, while positive in both directions, has limits. Whether this is good or bad news, assuming that one prefers high values of both variables, depends on the nature of the shocks.

[50] These results are for the entire 1870-2000 period. We obtain similar patterns—albeit with different slopes—when we examine the interwar, Bretton Woods and post Bretton Woods periods separately.

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APPENDIX TABLE 1: STUDIES OF THE EFFECT OF DEMOCRACY ON GLOBALIZATION							
Author(s)/Year	**Countries**	**Period**	**Dependent Variable**	**Measure of Political Regime**	**Political Control Variables**	**Economic Control Variables**	**Instrumental Variables**
Grofman and Gray (2000)	31 countries	1960-1995	Trade Openness (imports plus experts over GNP)	Number of years country has been authoritarian	• Proportional representation • Presidential system • Number of districts	• GDP • Population	
Fidrmuc (2001)	25 transition countries	1990-1998	Liberalization index (internal and external market liberalization and privatization, De Melo et al., 1996)	Lagged Democracy index (measuring political rights and civil liberties, the Freedom House)		Lagged liberalization index	
Quinn (2000 and 2002))	80 developed and emerging markets countries	1995-1997	Measures of financial openness: • Change in capital account openness (Quinn, 1997) • Change in current account openness (Quinn, 1997)	Polity index (change and level)	• Vote share of 23 Communist parties • Number of revolutions, coups, guerrilla wars (Banks, 2001)	• Level of dependent variable: Capital (or current) account openness of leading economies • Change and level of GDP • Change and level of investment • Population growth • Change and level of trade openness • Change and level of oil price • Year and country dummies	
Milner and Kubota (2005)	100 Developing Countries	1970-1999	Measures of trade policy: • Average statutory tariff rate • Economic liberalization indicator (Sachs and Warner, 1995, updated by Horn, Welch and Wacziarg, 2003	Measures of democracy: • Polity index • Dictator index (Geddes, 1999) • Binary variable coding "democratic" regime (Alvarez et al., 1996, and Przeworski et al., 2000)	<u>Internal factors:</u> • Economic crisis dummy • Balance of payment crisis dummy • Number of years a government has been in the office <u>External factors:</u> • IMF agreement dummy • US exports and imports • GATT/WTO membership	<u>Internal factors:</u> • Log of population • Real GDP per capita <u>External factors:</u> • Average tariff level for all LDCs • Average level of openness (Sachs and Warner, 1995)	• Average age of the party system (Beck et al., 2001) • Level of secondary school completion among population over fifteen years (Barro and Lee, 2000)
Giavazzi and Tabellini (2005)	140 countries	1960-2000	Economic liberalization indicator (Sachs and Warner, 1995, updated by Horn, Welch and Wacziarg, 2003)	Polity index	• A dummy for socialist legal origin interacted with the main independent variable	• Country fixed effects • Year fixed effects	
Yu (2005)	157 IMF members	1962-1998	Log real bilateral exports from country i to country j	Polity index	• WTO membership indicator • Regional trade agreement dummy (FTA, GSP, NAFTA, ASEAN, etc.)	• Log GDP • Log GDP per capita • Emission level of carbon dioxide (proxy for environmental quality) • Geographical controls	• Judicial independence • Death penalty abolition

APPENDIX TABLE 2: STUDIES OF THE EFFECT OF GLOBALIZATION ON DEMOCRACY							
Author(s)/Year	**Countries**	**Period**	**Dependent Variable**	**Measure of Globalization**	**Political Control Variables**	**Economic Control Variables**	**Instrumental Variables**
Bussman (2001)	65 countries	1950-1992	Polity index	Trade Openness	• British colony dummy (the Correlates of War (COW) data set) • Militarized interstate disputes	• Log real GDP per capita • Human capital (Barro-Lee, 1994) • Growth of real GDP per capita	Instruments for *Openness*, *Dispute*, and *Growth:* • Log of population • Real GDP per capita • Investment • Government consumption • Terms of trade • Capability ratio • Alliance index • Major powers dummies • Openness, Growth and Conflict in PRIE
Li and Reuveny (2003)	127 countries	1970-1996	Polity index	• Trade Openness • Financial openness (Net inflows of FDI to GDP and Portfolio investment/GDP) • Democracies in the region	Lagged dependent variable	• Inflation • Log GDP per capita • Real GDP growth • Year dummies	
Lopez-Cordova and Meissner (2005)	115 countries	1870-2000	Polity index	Trade Openness	• Lagged Polity index • Log land area • Landlockedness • Common borders • Common language	• Log population • Time dummies	• Log distance • Common border dummy • Island dummy • Common language dummy
Rudra (2005)	59 LDCs (excluding Eastern and Central Europe)	1972-1997	• Polity index • Political and civil liberties (the Freedom House)	• Trade Openness • Financial openness (Gross capital flows to GDP, FDI to GDP, and Portfolio flows to GDP)	• Regional Democracy • World Democracy • Social spending to total government spending • Potential Labor Power	• GDP per capita • GDP growth • Urbanization • Inflation	Higher moments of independent variables
Papaioannou and Siourounis (2005)	92 countries that were non-democratic in 1960	1960-2000	Democratization indicator (based on both Polity index and the Freedom of House)	• Trade Openness • Trade openness policy indicator (Wacziarg and Welch, 2003) • Permanent trade liberalization indicator (Wacziarg and Welch, 2003)	• Years since independence • Armed conflict ending (Armed Conflict Dataset, 2003, and International Peace Research Institute, Oslo) • Religious fragmentation	• Log GDP • GDP per capita growth • Currency crisis dummy (Kraay, 2003) • Banking crisis dummy (Caprio and Klingebiel, 2003)	
Giavazzi and Tabellini (2005)	140 countries	1960-2000	Polity index	Sachs-Warner economic openness indicator	• Proportional representation • Parliamentary system	• Country fixed effects • Year fixed effects	Argue that difference-in-differences methodology controls for endogeneity
Yu (2005)	157 IMF members	1962-1998	Polity index	Trade Openness	Death penalty abolition	CO2 emissions	• WTO members • Gravity Variables

Data Appendix

GDP: The majority of data comes from Maddison (2001) and is augmented with series from Banks (various years) and Mitchell (various years). To obtain a consistent series the data were converted to PPP. The converted series from Maddison where then extrapolated backwards or forwards using the growth rate from Banks or Mitchell. Where an entire series was missing in Maddison we used the series from Banks or Mitchell.

Trade Openness: Data on imports and exports come from Mitchell and Banks and were converted to PPP and then divided by GDP to obtain the ratio (imports+exports)/gdp

Capital Controls: Data prior to 1970 are from Bordo, Eichengreen, Klingebiel and Martinez-Peria (2001). From 1970-2000 the data comes from Ghosh, Gulde and Wolf (2002).

Population: The primary source for population is Banks (various years) augmented by data from the Penn World Table 6.1 and the World Bank's *World Development Indicators*.

Population Density: The primary source for population is Banks (various years) augmented by data from the World Bank's *World Development Indicators*.

Area: The primary source for population is Banks (various years) augmented by data from the World Bank's *World Development Indicators*.

Urban Population: The primary source for population is Banks (various years) augmented by data from the World Bank's *World Development Indicators*.

Inflation: Data prior to 1970 are from Bordo, Eichengreen, Klingebiel and Martinez-Peria (2001). From 1970-2000 the data comes from Ghosh, Gulde and Wolf (2002).

Government Balance: Data prior to 1970 are from Bordo, Eichengreen, Klingebiel and Martinez-Peria (2001). From 1970-2000 the data comes from Ghosh, Gulde and Wolf (2002).

Democracy: We use the dichotomous measure developed by Przeworski et al. (1990) who calculate it from 1950-1990. We use the coding from Boix and Rosato (2001) for the period 1800-1949 and from Cheibub and Ghandi (2005) for the period 1991-2000.

Land/Labor and Capital/Labor Ratios: We used the data from O'Rourke and Taylor (2005) for the period prior to 1960 World Bank's *World Development Indicators* for the period after 1960.

Table 1
Effect of Democracy on Trade Openness
1870-2000

	Democracy = Age of Democracy		Democracy = Dichotomous Measure	
	With geographic instruments	Without geographic instruments	With geographic instruments	Without geographic instruments
Democracy (t-1)	0.138**	0.145**	0.194**	0.195**
	(0.032)	(0.033)	(0.056)	(0.056)
Log(Distance (t-1))	-1.290**	-1.288**	-1.354**	-1.355**
	(0.167)	(0.167)	(0.166)	(0.166)
Log(Area (t-1))	0.117**	0.117**	0.126**	0.126**
	(0.060)	(0.060)	(0.060)	(0.060)
Log(Population (t-1))	0.215**	0.218**	0.155**	0.155**
	(0.044)	(0.044)	(0.041)	(0.041)
Log(GDP (t-1))	-0.144**	-0.147**	-0.113**	-0.113**
	(0.034)	(0.034)	(0.032)	(0.032)
Constant	8.301**	8.298**	8.850**	8.855**
	(1.432)	(1.433)	(1.421)	(1.421)
N	7250	7250	7250	7250

Dependent variable: Log[(Imports+Exports)/GDP]
Models estimated via random effects instrumental variables regression. Exogenous variables in the first stage model include: constitutional age, number of prior transitions to dictatorship and dummy variables for oil exporter, socialist legal origin, British colonial heritage, Spanish colonial heritage, and French colonial heritage. Geographic instruments are dummy variables for Latin American and the Caribbean, Asia, Africa and the Middle East. All models are estimated with a set of year fixed effects.
* 0.10 ** 0.05

Table 2
Effect of Democracy on Capital Account Policies
1870-2000
(Dependent variable equals 1 in the presence of capital controls)

	Democracy = Age of Democracy		Democracy = Dichotomous Measure	
	With geographic instruments	Without geographic instruments	With geographic instruments	Without geographic instruments
Democracy (t-1)	-0.078*	-0.120	-0.324*	-0.467*
	(0.047)	(0.081)	(0.174)	(0.282)
Capital Controls (t-1)	3.744**	3.729**	3.747**	3.773**
	(0.099)	(0.100)	(0.094)	(0.103)
Interwar Period	1.285**	1.284**	1.296**	1.293**
	(0.151)	(0.150)	(0.150)	(0.151)
Bretton Woods Period	1.630**	1.621**	1.623**	1.606**
	(0.155)	(0.156)	(0.155)	(0.163)
Post Bretton Woods Period	1.194**	1.139**	1.200**	1.147**
	(0.162)	(0.193)	(0.164)	(0.198)
Log(GDP (t-1))	-0.011	-0.001	-0.011	-0.002
	(0.026)	(0.031)	(0.025)	(0.028)
Log(GDP Per Capita (t-1))	-0.094**	-0.078**	-0.097**	-0.083**
	(0.023)	(0.035)	(0.021)	(.031)
# Systemic Curr. Crises (t-1)	0.015*	0.015*	0.016*	0.015*
	(0.009)	(0.009)	(0.009)	(0.009)
Inflation (t-1)	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Government Balance (t-1)	-0.005*	-0.005*	-0.005**	-0.005**
	(0.003)	(0.003)	(0.003)	(0.002)
Constant	-2.169**	-2.279**	-2.121**	-2.189**
	(0.279)	(0.320)	(0.259)	(0.269)
N	4909	4909	4909	4909

Models estimated via instrumental variables probit. Cell entries are maximum likelihood estimates with robust standard errors in parentheses. Exogenous variables in the first stage model include: constitutional age, number of prior transitions to dictatorship and dummy variables for oil exporter, socialist legal origin, British colonial heritage, Spanish colonial heritage, and French colonial heritage. Geographic instruments are dummy variables for Latin American and the Caribbean, Asia, Africa and the Middle East.
* 0.10 ** 0.05

Table 3
Effect of Trade and Capital Account Policies on Democracy
Dichotomous Measure of Democracy
1870-2000

	Trade Openness	Capital Controls	Trade Openness and Capital Controls
Endogenous Variable: Trade	0.120*		0.161**
	(0.064)		(0.07)
Endogenous Variable: Capital Controls		-0.772**	-0.565*
		(0.274)	(0.306)
Democracy (t-1)	3.719**	3.776**	3.762**
	(0.148)	(0.176)	(0.115)
Log(Age of Constitution(t-1))	-0.189**	-0.255**	-0.291**
	(0.040)	(0.052)	(0.045)
Prior Transitions to Dictatorship (t-1))	-0.062	-0.031	-0.012
	(0.051)	(0.051)	(0.053)
Oil Exporter	-0.293	-0.417**	-0.378
	(0.225)	(0.185)	(0.245)
Socialist Legal Origin	-0.571**	-0.184	-0.321
	(0.162)	(0.237)	(0.254)
Latin America and Caribbean	-0.368**	-0.319	-0.369*
	(0.131)	(0.165)	(0.209)
Middle East	-1.322**	-1.390**	-1.522**
	(0.295)	(0.363)	(0.276)
Africa	-0.898**	-0.563**	-0.682**
	(0.194)	(0.220)	(0.217)
Asia	-0.699**	-0.633**	-0.650**
	(0.210)	(0.233)	(0.230)
British Colonial Heritage	0.229*	0.294**	0.331**
	(0.144)	(0.151)	(0.169)
French Colonial Heritage	-0.180	-0.010	0.004
	(0.156)	(0.197)	(0.221)
Spanish Colonial Heritage	0.109	-0.074	0.055
	(0.098)	(0.147)	(0.201)
Log(GDP Per Capita (t-1))	0.209**	0.154**	0.237**
	(0.049)	(0.049)	(0.062)
Growth Rate (t-1)	0.525	0.432	0.522
	(0.451)	(0.613)	(0.629)
Urban Population (t-1)	0.237	0.173	0.067
	(0.394)	(0.380)	(0.378)
Population Density (t-1)	0.001**	0.002**	0.002**
	(0.001)	(0.001)	(0.001)
Interwar Period	-0.252**	-0.276	-0.421*
	(0.099)	(0.173)	(0.250)
Bretton Woods Period	-0.049	0.396	0.094
	(0.144)	(0.287)	(0.344)
Post Bretton Woods Period	-0.053	0.383	-0.086
	(0.198)	(0.313)	(0.392)
Constant	-2.311**	-1.773**	-1.823**
	(0.204)	(0.292)	(0.030)
N	6901	4819	

Dependent variable: Dichotomous measure of democracy
Models estimated via instrumental variables probit. Cell entries are maximum likelihood estimates with robust standard errors in parentheses. In column 1, exogenous variables in the first stage model include: the lagged values of geographic area, average distance from the rest of the world, population, and GDP. In column 2, exogenous variables in the first stage model include the lagged values of the number of systemic currency crises, the proportion of other countries with capital controls, inflation, and the government balance.
* 0.10 ** 0.05

Table 4
Effect of Trade and Capital Account Policies on Democracy
Alternative (Continuous) Measure of Democracy
1870-2000

	Trade Openness	Capital Controls	Trade Openness and Capital Controls
Endogenous Variable: Trade Openness (t-1)	0.007*		0.006
	(0.004)		(0.0064)
Endogenous Variable: Capital Controls(t-1)		-0.126**	-0.110**
		(0.027)	(0.028)
Log (Age of Democracy (t-1))	0.982**	0.974**	0.981**
	(0.003)	(0.004)	(0.004)
Log (Age of Constitution(t-1))	-0.020**	-0.030**	-0.031**
	(0.003)	(0.003)	(0.004)
Log (GDP Per Capita (t-1))	0.013**	0.010**	0.012**
	(0.003)	(0.002)	(0.005)
Growth Rate (t-1)	0.111**	0.109**	0.127**
	(0.042)	(0.051)	(0.054)
Urban Population (t-1)	0.004	-0.024	-0.011
	(0.025)	(0.034)	(0.029)
Population Density (t-1)	0.000*	0.001**	0.001**
	(0.000)	(0.000)	(0.000)
Prior Transitions to Dictatorship (t-1))	0.006*	0.025**	0.013**
	(0.003)	(0.005)	(0.005)
British Colonial Heritage	0.023**	0.050**	0.026**
	(0.010)	(0.017)	(0.012)
French Colonial Heritage	-0.004	0.021	0.004
	(0.012)	(0.020)	(0.016)
Spanish Colonial Heritage	0.000	-0.004	-0.000
	(0.012)	(0.024)	(0.017)
Africa	-0.064**	-0.044	-0.035*
	(0.014)	(0.023)	(0.018)
Latin America and Caribbean	-0.025*	-0.041*	-0.025
	(0.013)	(0.024)	(0.096)
Middle East	-0.058**	-0.120**	-0.099**
	(0.021)	(0.026)	(0.024)
Asia	-0.054**	-0.074**	-0.054**
	(0.013)	(0.025)	(0.023)
Socialist Legal Origin	-0.019	0.015	0.019
	(0.014)	(0.023)	(0.021)
Oil Exporter	-0.004	-0.025	-0.023
	(0.012)	(0.022)	(0.019)
Interwar Period	-0.037**	-0.016	-0.027
	(0.012)	(0.018)	(0.019)
Bretton Woods Period	-0.021*	0.083**	0.064**
	(0.012)	(0.028)	(0.030)
Post Bretton Woods Period	-0.013	0.067**	0.050
	(0.015)	(0.029)	(0.035)
Constant	0.057**	0.098**	0.095**
	(0.0154)	(0.025)	(0.024)
N	6901	4819	4482

Dependent variable: Log(Age of Democracy+1)
Models estimated via random effects instrumental variables regression. . In column 1, exogenous variables in the first stage model include: the lagged values of geographic area, average distance from the rest of the world, population, and GDP. In column 2, exogenous variables in the first stage model include: the lagged values of the number of systemic currency crises, the proportion of other countries with capital controls, inflation, and the government balance. In column 3, all of the above exogenous variables are included.
* 0.10 ** 0.05

Table 5
Effect of Democracy on Trade Openness
Alternative (Sachs-Warner) Measure of Openness
1950-2000

	Democracy = Age of Democracy		Democracy = Dichotomous Measure	
	With geographic instruments	Without geographic instruments	With geographic instruments	Without geographic instruments
Democracy (t-1)	0.440**	0.363*	1.309**	1.117**
	(0.129)	(0.187)	(0.216)	(0.299)
Years Closed [(a)]	0.036**	0.035**	0.031**	0.030**
	(0.006)	(0.006)	(0.006)	(0.007)
Log (Dist (t-1))	-0.377	-0.315	-0.369	-0.360
	(0.312)	(0.304)	(0.268)	(0.284)
Log(Area (t-1))	-0.039	-0.040	-0.031	-0.029
	(0.040)	(0.037)	(0.040)	(0.038)
Log(Population (t-1))	-0.012	-0.036	-0.035	-0.044
	(0.109)	(0.137)	(0.104)	(0.098)
Log(GDP (t-1))	-0.028	0.012	-0.020	0.002
	(0.108)	(0.127)	(0.090)	(0.091)
Post BW Period	-0.400**	-0.438**	-0.341*	-0.361**
	(0.172)	(0.176)	(0.175)	(0.178)
Constant	-48.940**	-45.141**	-42.153**	-39.468**
	(8.982)	(8.554)	(8.012)	(8.254)
N	3023	3023	3023	3023

Dependent variable: Updated Sachs-Warner trade openness measure.
Models estimated via instrumental variables probit. Cell entries are maximum likelihood estimates with robust standard errors in parentheses Exogenous variables in the first stage model include: constitutional age, number of prior transitions to dictatorship and dummy variables for oil exporter, socialist legal origin, British colonial heritage, Spanish colonial heritage, and French colonial heritage. Geographic instruments are dummy variables for Latin American and the Caribbean, Asia, Africa and the Middle East.
* 0.10 ** 0.05
(a) Number of continuous years closed since 1950.

Table 6
Effect of Democracy on Capital Account Policies
Alternative Measure of Policies (Time until Liberalization)
1970-2000

	Democracy = Age of Democracy		Democracy = Dichotomous Measure	
	With geographic instruments	Without geographic instruments	With geographic instruments	Without geographic instruments
Democracy (t-1)	-0.208**	-0.251**	-0.696**	-0.789**
	(0.067)	(0.116)	(0.211)	(0.335)
Capital Controls (t-1)	4.132**	4.099**	4.125**	4.10**
	(0.190)	(0.199)	(0.182)	(0.191)
Years Closed[(a)]	-0.038**	-0.037**	-0.032**	-0.030**
	(0.009)	(0.009)	(0.009)	(0.009)
Log(GDP (t-1))	0.047	0.061	0.038	0.047
	(0.035)	(0.047)	(0.035)	(0.042)
# Systemic Currency Crises (t-1)	0.029**	0.028**	0.027**	0.025**
	(0.012)	(0.012)	(0.012)	(0.012)
Inflation (t-1)	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Government Balance (t-1)	-0.007**	-0.007**	-0.007**	-0.007**
	(0.003)	(0.003)	(0.003)	(0.003)
Log(GDP Per Capita (t-1))	-0.074**	-0.055	-0.090**	-0.078**
	(0.030)	(0.048)	(0.026)	(0.036)
Constant	72.638**	70.362**	57.831**	58.530**
	(17.999)	(17.817)	(17.466)	(17.694)
N	2772	2772	2772	2772

Dependent variable: Initial capital market liberalization after 1970.
Models estimated via instrumental variables probit. Cell entries are maximum likelihood estimates with robust standard errors in parentheses Exogenous variables in the first stage model include: constitutional age, number of prior transitions to dictatorship and dummy variables for oil exporter, socialist legal origin, British colonial heritage, Spanish colonial heritage, and French colonial heritage. Geographic instruments are dummy variables for Latin American and the Caribbean, Asia, Africa and the Middle East.

* 0.10 ** 0.05

(a) Number of continuous years closed since 1970.

Table 7
Effect of Trade and Capital Account Policies on Democracy
Markov Models
1870-2000

	Trade Openness		Capital Controls	
	α	**α +β**	**α**	**α+β**
Endogenous Variable	-0.52	0.73**	-0.77**	-0.837
	(0.33)	(0.32)	(0.27)	(0.93)
Log(Age of Constitution(t-1))	-0.17**	-0.11	-0.26**	0.077
	(0.08)	(0.09)	(0.05)	(0.11)
Prior Transitions to Dictatorship (t-1))	0.002	-0.21**	0.31**	-0.19**
	(0.068)	(0.08)	(0.11)	(0.08)
Log(GDP Per Capita (t-1))	-0.03	0.62**	0.15*	0.26**
	(0.10)	(0.17)	(0.04)	(0.08)
Growth Rate (t-1)	-1.68**	4.85**	-0.87	5.08**
	(0.78)	(1.04)	(0.74)	(1.13)
Urban Population (t-1)	2.65**	1.15	0.29	0.28
	(1.28)	(0.78)	(0.58)	(0.68)
Population Density (t-1)	0.003**	0.001	0.003*	0.002
	(0.001)	(0.001)	(0.001)	(0.002)
Oil Exporter	-0.47**		-0.56**	
	(0.23)		(0.27)	
Socialist Legal Origin	-0.087		0.50*	
	(0.23)		(0.27)	
Latin America and Caribbean	0.088		-0.18	
	(0.27)		(0.22)	
Middle East	-1.22**		-1.62**	
	(0.28)		(0.41)	
Africa	-0.214		0.19	
	(0.53)		(0.32)	
Asia	-0.256		-0.68**	
	(0.25)		(0.27)	
British Colonial Heritage	0.61**		0.55**	
	(0.31)		(0.23)	
French Colonial Heritage	-0.22		0.34	
	(0.18)		(0.27)	
Spanish Colonial Heritage	0.10		0.12	
	(0.15)		(0.23)	
Interwar Period	-0.44**		-0.267	
	(0.184)		(0.173)	
Bretton Woods Period	-0.30		0.396	
	(0.20)		(0.287)	
Post Bretton Woods Period	-0.37		0.398	
	(0.028)		(0.313)	
Constant	-2.17**	-0.78	-1.07*	-0.39
	(0.19)	(0.72)	(0.469)	(0.64)
N	6901		4819	

Dependent variable: Dichotomous measure of democracy
α represents the probability of a transition to democracy
α+β represents the probability of a stable democracy
Models estimated via instrumental variables probit using a two-step estimator. Both the globalization measure and its interaction with the lag of democracy are considered endogenous variables. In column 1, exogenous variables in the first stage model include: the lagged values of geographic area, average distance from the rest of the world, population, and GDP. In column 2, exogenous variables in the first stage model include: the lagged values of the number of systemic currency crises, the proportion of other countries with capital controls, inflation, and the government balance.
* 0.10 ** 0.05

Table 8
Effect of Trade and Capital Account Policies on Democracy
Combined Models
1870-2000

	Probit	**Markov Model**	
		A	**α+β**
Endogenous Variable: Trade Openness (t-1)	0.16**	-0.27	0.62*
	(0.06)	(0.53)	(0.34)
Endogenous Variable: Capital Controls (t-1)	-0.56*	1.032	-1.05*
	(0.31)	(1.15)	(0.59)
Log(Age of Constitution(t-1))	-0.28**	-0.36**	-0.011
	(0.04)	(0.10)	(0.11)
Prior Transitions to Dictatorship (t-1))	-0.01	-0.02	-0.18**
	(0.053)	(0.11)	(0.09)
Log(GDP Per Capita (t-1))	0.237**	-0.03	0.61**
	(0.06)	(0.11)	(0.20)
Growth Rate (t-1)	0.52	-1.63*	4.67**
	(0.62)	(0.89)	(1.31)
Urban Population (t-1)	1.34	1.51*	1.01
	(0.37)	(0.82)	(0.78)
Population Density (t-1)	0.002**	0.003*	0.001
	(0.001)	(0.001)	(0.001)
Oil Exporter	-0.37	-0.04	
	(0.25)	(0.33)	
Socialist Legal Origin	-0.37*	-0.26	
	(0.21)	(0.44)	
Latin America and Caribbean	-0.332*	0.005	
	(0.18)	(0.35)	
Middle East	-1.51**	-1.09**	
	(0.28)	(0.47)	
Africa	-0.707**	-0.304	
	(0.21)	(0.77)	
Asia	-0.65**	-0.11	
	(0.21)	(0.42)	
British Colonial Heritage	0.33**	0.20	
	(0.16)	(0.46)	
French Colonial Heritage	-0.001	-0.44	
	(0.22)	(0.30)	
Spanish Colonial Heritage	0.04	0.125	
	(0.20)	(0.23)	
Interwar Period	-0.422*	-1.023**	
	(0.250)	(0.362)	
Bretton Woods Period	0.094	-0.509	
	(0.344)	(0.616)	
Post Bretton Woods Period	-0.086	-0.799	
	(0.390)	(0.686)	
Constant	-1.85**	-1.52**	-0.57
	(0.29)	(0.58)	(0.76)
N	4482	4482	

Dependent variable: Dichotomous measure of democracy
α represents the probability of a transition to democracy
α+β represents the probability of a stable democracy
Models estimated via instrumental variables probit using two-step estimator. Both the globalization measure and its interaction with the lag of democracy are treated as endogenous. In column 1, exogenous variables in the first stage model include: the lagged values of geographic area, average distance from the rest of the world, population, and GDP. In column 2, exogenous variables in the first stage model include: the lagged values of the number of systemic currency crises, the proportion of other countries with capital controls, inflation, and the government balance. In column 3, exogenous variables include all of the above.

0.10 ** 0.05

Table 9
Democracy, Land-Labor Ratios and Trade Openness,
Various Periods
(Dependent Variable is Trade Openness)

	1870-2000	1870-1913	1919-1938	1960-2000
Democracy (t-1)	1.708*	2.772*	0.105	-0.799*
	(0.904)	(1.451)	(1.715)	(0.464)
Land-Labor Ratio (t-1)	1.904**	12.153**	-1.235	0.975*
	(0.795)	(4.397)	(7.510)	(0.511)
Democracy * Land-Labor Ratio (t-1)	-4.417*	-4.426*	0.057	-3.072**
	(2.577)	(2.389)	(2.088)	(1.239)
Interwar Period	0.666			
	(0.573)			
Bretton Woods Period	-0.148			
	(0.584)			
Post Bretton Woods Period	-1.594			
	(1.697)			
Log (Average Distance (t-1))	3.488	3.753	-0.345	2.969**
	(2.575)	(3.009)	(1.764)	(0.810)
Log (Area (t-1))	-0.922	-11.253**	0.189	-0.872**
	(0.741)	(5.511)	(0.522)	(0.379)
Log (Population (t-1))	2.039**	5.445**	-0.817*	1.151**
	(1.028)	(2.581)	(0.491)	(0.232)
Log (GDP (t-1))	-0.433**	0.337	0.028	-0.249**
	(0.182)	(0.310)	(0.160)	(0.066)
Constant	-38.044	-27.610	8.400	-28.267**
	(23.745)	(33.384)	(10.080)	(8.281)
Joint F-Tests (p-value)				
Democracy, Land-Labor Ratio,	23.98	12.58	4.26	20.46
Interaction	(0.0000)	(0.0056)	(0.2345)	(0.0001)
N	5561	632	492	4279

Dependent variable is Log[(Imports+Exports)/GDP]. Models estimated via instrumental variables regression with country and year fixed effects. Both democracy and its interaction with the land/labor ratio are considered endogenous. Exogenous variables used in the first stage are constitutional age and the number of prior transitions to autocracy.

Table 10
Democracy, Capital-Labor Ratios, Land-Labor Ratios and Trade Openness, Various Periods
(Dependent Variable is Trade Openness)

	1870-2000	1870-1913	1919-1938	1960-2000
Democracy (t-1)	0.811**	-0.279	0.927	-1.287
	(0.224)	(0.605)	(6.025)	(0.824)
Capital-Labor Ratio (t-1)	-0.465**	-0.405	-0.594**	0.092
	(0.221)	(0.353)	(0.265)	(0.148)
Land-Labor Ratio (t-1)	1.553**	2.987	0.397	2.069*
	(0.334)	(3.807)	(21.843)	(1.253)
Capital-Labor Ratio * Democracy (t-1)	1.027	1.362**	1.126	-0.813
	(0.887)	(0.551)	(2.708)	(0.632)
Land-Labor Ratio * Democracy (t-1)	-2.303**	0.903	-0.817	-4.809**
	(0.849)	(0.968)	(8.141)	(2.299)
Interwar Period	0.269			
	(0.209)			
Bretton Woods Period	0.241			
	(0.238)			
Post Bretton Woods Period	0.418			0.116
	(0.278)			(0.072)
Log(Average Distance (t-1))	2.065**	0.410	-1.706	4.243**
	(0.798)	(0.653)	(3.121)	(1.530)
Log(Area (t-1)	-0.794**	-8.561*	0.369	-0.917**
	(0.333)	(4.767)	(2.155)	(0.461)
Log(Population (t-1))	1.798**	0.502	-0.339	1.258**
	(0.443)	(1.742)	(0.809)	(0.612)
Log (GDP (t-1))	-0.371**	0.145	0.249	-0.452**
	(0.082)	(0.161)	(0.425)	(0.136)
Trend	-0.014*	0.007*	-0.014	0.007
	(0.008)	(0.004)	(0.136)	(0.011)
Constant	-0.349	27.289	36.556	-51.739**
	(10.964)	(19.560)	(265.807)	(17.643)
Joint F-Tests (p-value)				
Democracy, Ratios & Interactions	57.65	12.08	11.96	23.51
	(0.0000)	(0.0337)	(0.0353)	(0.0003)
Democracy, Capital-Labor Ratio & Interaction	45.31	10.10	6.77	9.38
	(0.0000)	(0.0177)	(0.0785)	(0.0247)
Democracy, Land-Labor Ratio & Interaction	38.33	6.56	6.65	10.14
	(0.0000)	(0.0875)	(0.0839)	(0.0174)
N	5115	552	467	3941

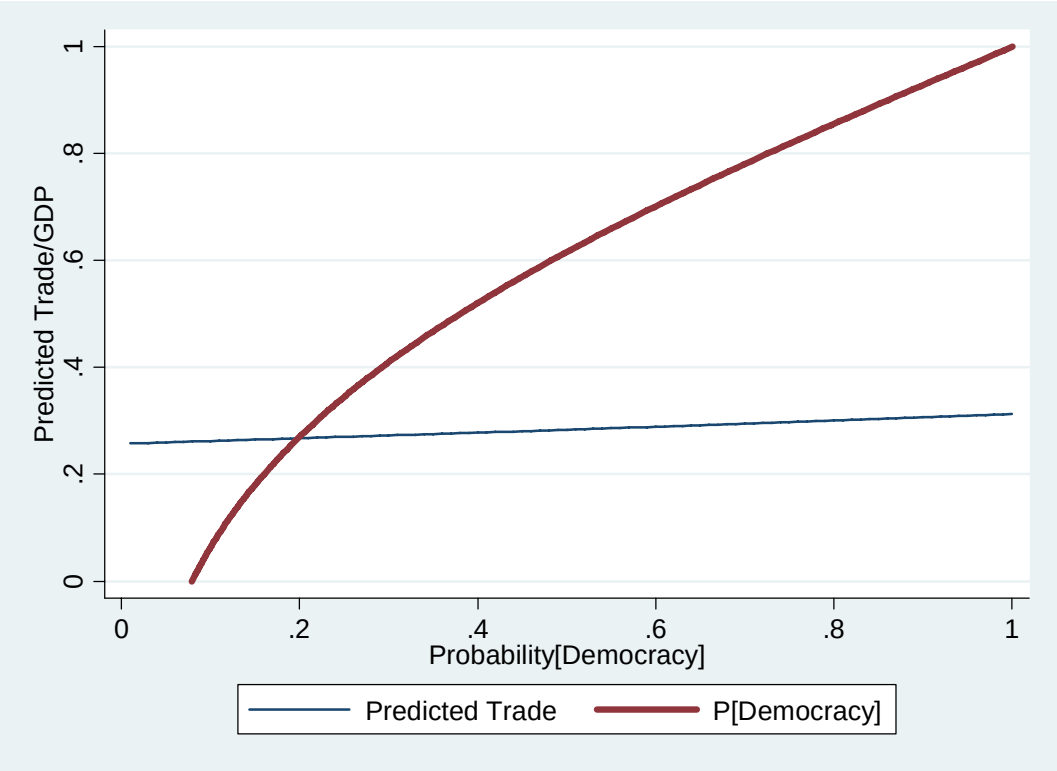
Dependent variable is Log[(Imports+Exports)/GDP]. Models estimated via instrumental variables regression with country fixed effects. Year specific dummy variables are not included as they are collinear with the number of other democratic countries in the system; a linear time trend is included in their place. Both democracy and its interaction with the land/labor ratio are treated as endogenous. Exogenous variables used in the first stage are lagged constitutional age, the lagged number of prior transitions to autocracy, and the lagged number of other democratic countries in the system.

Table 11
Democracy, Capital-Labor Ratios, Land-Labor Ratios and Financial Openness, Various Periods
(Dependent variable equals 1 in the presence of capital controls)

	1870-2000	1919-1938	1960-2000
Democracy (t-1)	-0.160	0.779	-0.084
	(0.310)	(5.132)	(0.546)
Capital-Labor Ratio (t-1)	-0.168	-6.989	-0.203*
	(0.105)	(8.600)	(0.105)
Land-Labor Ratio (t-1)	0.043	-2.368	-0.071
	(0.143)	(4.352)	(0.277)
Capital-Labor Ratio * Democracy (t-1)	-0.172	8.110	-0.035
	(0.252)	(14.482)	(0.246)
Land-Labor Ratio * Democracy (t-1)	0.005	0.205	0.482
	(0.271)	(5.715)	(0.666)
Capital Controls (t-1)	3.582**		3.629**
	(0.121)		(0.144)
Interwar Period	1.715**		
	(0.713)		
Bretton Woods Period	0.775		
	(0.716)		
Post Bretton Woods Period	0.316		-0.470**
	(0.706)		(0.200)
Log (GDP (t-1))	0.013	-0.169	0.018
	(0.033)	(0.476)	(0.034)
# Systemic Crises (t-1)	0.022**	0.192	0.020**
	(0.009)	(0.328)	(0.010)
# of Countries with Capital Controls (t-1)	2.035**	3.535	2.432*
	(0.656)	(4.714)	(1.260)
Inflation (t-1)	0.000	0.013	0.000
	(0.001)	(0.053)	(0.001)
Government Balance (t-1)	-0.003	-0.024	-0.004
	(0.005)	(0.088)	(0.006)
Constant	-3.662**	-0.049	-3.276**
	(0.788)	(4.453)	(1.137)
Joint F-Tests (p-value)			
Democracy, Ratios & Interactions	21.38	2.98	22.99
	(0.0007)	(0.7030)	(0.0003)
Democracy, Capital-Labor Ratio & Interaction	19.31	2.23	9.02
	(0.0002)	(0.5266)	(0.0291)
Democracy, Land-Labor Ratio & Interaction	0.61	2.03	3.94
	(0.8934)	(0.5660)	(0.2684)
N	4051	253	3315

Models estimated via instrumental variables probit using two-step estimator. Democracy and its interactions with the land/labor and capital/labor ratios are all treated as endogenous. Exogenous variables in the first stage model include the lagged values of the number of systemic currency crises, the proportion of other countries with capital controls, inflation, the government balance, and dummy variables for the Interwar, Bretton Woods and Post-Bretton Woods periods.
* 0.10 ** 0.05

Figure 1
Estimated Relationships Between Trade and Democracy
(Democracy is on the horizontal axis, trade on the vertical)



Note: to generate these relationships we took the estimate impact of democracy on trade (Table 1) and obtained the predicted values holding all other variables at their means. We then took the exponent and standardized these values so that they run between 0 and 1. Similarly, we took the estimated the impact of trade on democracy and obtained the predicted probability of democracy. Since this falls between 0 and 1 it does not need to be standardized. (We also standardized the actual value of trade openness so that it ranges between 0 and 1.)