Constitutional Engineering and the Stability of Democracies

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Abstract

This paper develops and empirically tests a theory of the impact of political institutions (presidentialism, federalism and proportional representation) on the stability of democratic regimes. The paper first introduces a complete model describing how the underlying distribution of assets and preferences across individuals shapes the choice of the type of political regime (democracy vs dictatorship). It then examines how different constitutional frameworks modify that choice. Holding the structural or economic parameters of the model constant, the paper shows that (1) proportional representation may have a positive but small effect on democratic consolidation; (2) presidentialism may reduce the chances of democratization, but only under certain conditions (an economy with concentrated fixed assets) and for reasons not considered in the literature -- it bolsters the rent-seeking capacity of politicians; and (3) federalism, and particularly a system of sovereign nations, is likely to foster democratic institutions: as wealthy nations split or establish credible safeguards from poor areas, the chances of democracy increase. To estimate the effect of a country institutional characteristics and economic conditions on the survival of democratic regimes, the paper employs Cox proportional hazard models on a sample that covers all democratic spells from mid 19th century through the end of the 20th century.

Ever since the emergence of political theory, political thinkers have debated which political institutions foster democracies, individual freedoms and good governance. Aristotle's analysis of different types of constitutional regimes and their political effects was retaken and elaborated upon by most modern philosophers. Referring to the history of the Roman republic as well as to contemporary evidence from Venice and other Italian cities, Machiavelli discussed at length the conditions underlying successful republican states in his *Discourses on the First Ten Books of Titus Livy*. In the *Spirit of Laws* Montesquieu described in painstaking detail the foundations, structures and operation of monarchies, aristocracies and democracies and the potential causes of their decay. In turn, John Stuart Mill's *Considerations on Representative Government* examined the constitutional basis of a successful representative democracy.

Contemporary political scientists rekindled the debate on the potential effects of different constitutional structures in response to successive waves of democratic breakdowns across the world in the 20th century. In an influential essay, Ferdinand Hermens argued that the fall of the Weimar republic was partly caused by an extremely fragmented party system in turn fostered by proportional representation (Hermens 1942). Linz, among others, identified presidentialism as an important culprit in the instability and fall of several democratic regimes in Latin America (Linz 1994; Linz and Valenzuela 1994). More recently, the search for the 'right' institutions to strengthen democracy has been bolstered by a growing formal literature stressing the equilibrium-inducing role of institutional rules and searching for 'self-enforcing' constitutional norms.

Despite the recent drive to identify the impact that formal rules and constitutions may have on democratic stability, our understanding of their contribution to the eventual survival of democracies is incomplete both theoretically and empirically. From a theoretical point of view, neoinstitutionalist scholars have explored the impact of institutional arrangements without taking into account preexisting economic and social conditions within which institutions operate. Yet, in looking at

constitutions as if they were operating in a social vacuum, the institutionalist approach has disregarded the claim, made by a substantial body of democratic theory, connecting democratization to social and economic development (and a correlated set of cultural practices, educational values and economic structures).[1] From an empirical point of view, studies on the consequences of constitutions are still relatively circumscribed. Most studies have focused on presidentialism and its effects and they have only looked at the period after World War Two (Stepan and Skach 1994; Przeworski et al. 2000).

Given the shortcomings of the current literature, the purpose of this article is straightforward. Its aim is to assess the impact of different constitutional arrangements (the type of electoral system employed to choose the legislative body; the relationship between the executive and the legislative branches; and the level of political decentralization) on the stability of democracy, conditional on the underlying non-institutional variables (such as the level of development, the distribution of wealth or the degree of ethnic fractionalization). Accordingly, the article is organized as follows. The first part of the article offers a theoretical discussion of the mechanisms through which different electoral laws, presidentialism (as opposed to parliamentarism) and federalism may shape the probability of a democratic breakdown. This theoretical discussion is backed up with descriptive statistics of the distribution of democratic breakdowns given different constitutional structures and social and economic variables. The second part of the article then tests the theoretical discussion employing Cox

[1] See Lipset (1959), Cutright (1963), Przeworski et al. (2000) and Boix and Stokes (2003) on economic development and democratization. On the structure of society and democracy see, in turn, Moore (1966), Luebbert (1991), Rueschemeyer et al. (1992) and Boix (2003). The neoinstitutionalist literature has been handicapped by a second theoretical flaw. No formal models, which have abundantly employed to account for varying equilibria within already well-established democratic regimes, have been developed to link different types of constitutions to the stability of regime.

proportional models to estimate the effects of a country institutional characteristics and social conditions on the survival of democratic regimes. Our universe of cases encompasses all sovereign countries from mid 19th century to the end of the 20th century.

This article shows that changing the constitutional framework of a country has a small impact on the stability of a democratic regime. Broadly speaking, a democracy does not collapse as long as its political actors have no incentives to deviate from complying with its electoral outcomes. Politicians and voters have, in turn, little interest in rejecting an (unfavorable) democratic result when the political decisions the electoral majority adopts differ moderately from the preferred positions of the minority. This only follows when the distribution of wealth and the range of political preferences among voters are relatively homogeneous. By contrast, as the interests and the distribution of assets among voters become more polarized, democracy becomes harder to sustain since the electoral minority will grow more alienated from the decisions taken by the majority. In relatively homogeneous, non-polarized polities, constitutional rules become relatively superfluous to the survival of democracy. Democracy is a self-enforcing mechanism regardless of the constitutional institutions that are employed to govern the country. In polarized societies, unfortunately, rewriting the constitution to prop up the democratic edifice is likely to be of little help. If it reinforces the position of the majority, it reduces even further the incentives of the minority to comply with the democratic outcome. If particular constitutional guarantees are put in place to protect the minority, the majority has also strong incentives to challenge the legal framework in order to 'democratize' it even further.

Although tinkering with the constitution is an ineffective means to sustain a democracy in most cases, the article finds two exceptions to this general rule. First, federalism reduces the level of political conflict and bolsters the chances of democratic consolidation. This is likely to be the case because federalism decentralizes the policy-making process to smaller and generally more

homogeneous territories. This lessens, in turn, the differences between electoral winners and losers and raises the incentives of all parties to comply with any electoral outcomes. Second, political institutions that increase the political accountability of policy-makers reduce the chances of a democratic breakdown. As discussed later in more detail, in countries where wealth is mostly immobile, presidentialism may be worse than parliamentarism because it makes it easier for the president, who concentrates many powers, to confiscate properties and strengthen his grip on power. This leads then to a process of contestation between the president and the legislative branch (or even a third party, such as the army) that threatens to subvert democracy. Similarly, the jurisdictional fragmentation that accompanies federalism reduces too the ability of politicians to seek rents and accumulate resources and therefore minimizes the likelihood of distorted democratic procedures.

THEORY. THE CONDITIONAL IMPACT OF POLITICAL INSTITUTIONS

To model the impact of different institutional arrangements on democratic stability, it is convenient to think of contemporary (representative) democracies as a composite of two games. In the first place, a democratic regime is a procedure through which its citizens decide (by casting a vote or a sequence of votes) how to govern themselves. More specifically, it is a procedure through which the majority of the population determines the position (or welfare) of each member of the population (and therefore of the minority that has not agreed with that majority). In the second place, a representative democracy is a game in which the principal, the public, delegates into an agent, the politician or policy-maker, a given set of instruments to execute certain goals (generally speaking, those willed by the majority).

Democratic Compliance

Consider in sequential order the ways in which these two dimensions of any democratic

procedure relate to its stability. If a democracy is a procedure in which the minority is subject to the will of the majority, a democratic regime will only become possible if the minority nonetheless accepts the electoral outcome. Since the definition and composition of the minority may vary with each issue or decision put to a vote, we can restate the same idea in more general terms. A democracy will only be possible if any participating agent accepts the possibility that the outcome generated by a popular vote may differ from its preferred alternative.

To shed more light on this proposition, consider it in a slightly more specific manner in the context of a representative democracy where two candidates compete for a given political office such as the presidency of the state. After both candidates engage in an electoral campaign and voters cast their ballots, the candidate with most votes is proclaimed winner and assumes the presidency. The loser must wait for new elections to be held in the future to have a chance to be elected. In the mean time, he has to accept the decisions and the policy program of the elected politician. The electoral process carries no guarantees, in itself, that any of the two politicians will respect the terms and continuity of the procedure. The loser may abide by the election, accept the defeat and wait till the new electoral contest takes place. But, if it is too unsatisfactory for him to behave well, that is, if the current benefits of the office he is forsaking are too large, he may denounce the results and eventually stage a coup to grab the presidency by non-electoral means. In turn, the winner may have as well an incentive to use her tenure of the presidency to shift resources in her favor to boost her future electoral chances, to alter the rules of electoral engagement and even to postpone or cancel the new election.

A stable or successful democracy, that is, the uninterrupted use of free and fair voting mechanisms to reach any political decisions and to select public officials, will only take place if both the winner and the loser have an interest in complying with the outcomes of the periodic votes they

employ to decide how to govern themselves.[1] This will be a function of two conditions. First, the smaller the policy differences between majority and minority, the higher the incentives everyone will have to comply with the democratic outcome since the losses experienced by the minority will tend to be negligible. The variance in policy preferences may have different sources. Preferences may vary along redistributive issues. In this case, the distribution of income is likely to determine the heterogeneity of policy preferences: the more unequal a society is, the more heterogeneous its distribution of preferences should be. Preferences may also vary according to religious and ethnic preferences – as fragmentation along those lines increases, heterogeneity should go up as well. Second, the likelihood of a stable democratic outcome will increase with the costs of overturning democracy – in more general terms, the probability of a stable democracy will rise as the political and organizational resources of both the majority and the minority become more balanced.[2]

Representation and Policy Mandates

In contrast to classical democracies, contemporary democratic regimes are, above all, representative governments. Citizens delegate the capacity to set and implement policies in the hands of professional politicians elected to parliament and the executive. The interests of the principal (the public) and its agent (politicians) are not always identical – in fact, they may often be at odds. Even while partly acting on the interests of their potential electors (the wealthy, the middle class, the workers or a particular economic sector), policy-makers are likely to pursue their own political agenda. Even if they are honest, their ideas about what enhances the welfare of the public may differ

[1] For seminal analysis of democracy as an equilibrium resulting from a game in which no one has any incentive to deviate from complying with electoral results, see Przeworski (1991) and Weingast (1997).

[2] For an exploration of how heterogeneous conditions sap democracies, see Boix (2003).

from what the public itself wants. In some instances, politicians may be simply interested in enriching themselves while in office. Thus, a lack of information among the public both about the conditions under which politicians take decisions and about the precise nature of the policies they implement opens up the space for significant inefficiencies and corruption among politicians. Moreover, general elections are very crude mechanisms to make politicians accountable. Since they only happen from time to time, politicians remain isolated from any credible mechanism to check and correct their behavior. Because elections are fought over numerous issues, electors have to decide over the performance of politicians in the context of a very noisy environment. The electoral winner has substantial incentives to use her tenure of the legislative or the executive branch to shift resources in her favor to boost her future electoral chances, to alter the rules of electoral engagement and even to postpone or cancel the new election. In turn, the losers may respond by challenging the democratic outcome itself.[3]

With this very brief description of the mechanisms of democracy, we can now turn to the ways in which different constitutional traits (presidentialism, electoral systems and federalism) may affect the incentives of actors maintain a democratic regime.

Presidentialism

[3] On the literature of delegation and political accountability, see Przeworski, Stokes and Manin (1999) and Adserà, Boix and Payne (2003).

In an influential essay in the neoinstitutionalist literature, Linz (1994) has argued that, other things being equal, a presidential system is more likely to jeopardize democracy than a parliamentarian regime for three main reasons. First, since presidential elections consist in the selection of only one candidate, they generate a sharp zero-sum game in which the winner takes all while the loser is effectively deprived of all power. With political minorities excluded from the political game, any consensual politics are impossible to develop, the legitimacy of the constitutional regime becomes fragile and democratic breakdowns are more likely. Second, presidential elections raise the stakes of the electoral game excessively, hence increasing the level of political tension and ideological polarization. Finally, political conflict becomes so intense that the odds that, first, any of the candidates will behave 'properly' during the electoral campaign and that, second, they will accept the outcome after the elections, will be very low. Electoral manipulation will be rampant, the winner will resort to illicit strategies to secure his reelection in the future and the loser will be likely to challenge the outcome. Perhaps more important, the institution of the presidency endows its incumbent with substantial means to capture societal resources and to enlarge his power base.[4]

The first two reasons fall under the previous discussion over the extent to which institutions mediate the impact that preference heterogeneity may have on democratic stability. By contrast, the last reason is mainly related to the principal-agent dilemma that comes with representative government. As discussed shortly, neither of the two first claims, that is, that presidentialism generates a system of 'majoritarian' politics and that it polarizes both the party system and the electorate, seem to be inherent to presidential regimes. On the contrary, both of them may equally occur in parliamentarian constitutions. As for the third argument, it also seems wrong if we

[4] Linz (1994) also lists other several defective characteristics of presidentialism, such as the presence of a 'dual democratic legitimacy' (of both the executive and congress) and the temporal rigidity of the presidential mandate. For the purposes of the discussion that follows, these defects can be subsumed in the three problems already listed.

unconditionally apply it to all presidential regimes. Still, it may be valid in those countries that are abundant in immobile assets. Since those assets can be easily taxed and expropriated, presidential regimes may be more likely than parliamentary regimes to engender a dynamic of conflict resulting in a coup.

Presidential Majorities

To examine whether presidential systems intensify the power of the majority, assume a simple scenario with two candidates running for presidential office and each one of them promising a given policy (for example, a certain level of taxes and of redistribution). In a world with complete information (and full participation), they should converge on the same ideal policy – the one preferred by the median voter. Now, this scenario and the political solution it generates are in no way unique or specific to presidentialism. In parliamentary regimes the same result will occur, for precisely the same reasons. Parliament will end up voting for the median voter ideal point, that is, the policy preferred by the majority.[5]

Whether the policy approved under a presidential system will be a politically stable equilibrium, that is, whether the losers will accept the democratic outcome, will depend on the underlying distribution of interests. If the policy is too extreme (for example, taxes are too high) and the political resources at the disposal of the losers considerable, a coup will take place. Otherwise, democracy will remain in place. Yet, once more, the result is in no way different from what will happen under parliamentarianism: whether the policy voted by parliament will be acceptable to the losing side or not will simply be a function of the structural characteristics of the economy and the

[5] Naturally both regimes lead to similar solutions provided that they have the same national median voter – that is, that parliamentarian regimes do not malapportion electoral districts in a way that shifts the parliamentarian median away from the median voter.

distribution of political resources.

Presidentialism and Political Polarization

A similar result emerges when we examine the claim that presidentialism breeds higher levels of political polarization than parliamentarianism. Keeping the distribution of voters' preferences constant, the electoral process leads to polarization if there is either uncertainty about the distribution of voters or reputational problems among politicians. In those circumstances, either the contenders diverge in their policy promises or the winner, once in office, deviates from his electoral promise and imposes a different policy. If that policy is too skewed in relation to the median voter, political turmoil and the probability of an eventual coup should increase. But here again, there is nothing inherent in a presidential regime (vis-à-vis a parliamentarian constitution) that should increase the level of uncertainty or the credibility problems of presidential candidates.

Presidentialism and Expropriation

Consider the nature of the third claim about the dangers of presidentialism -- namely that it both raises the stakes of the game to such levels and gives presidents so much power that it jeopardizes the electoral process. A presidential system makes it easier for a single politician to behave as a harsh rent-seeker and, in fact, from the perspective of the owners of the assets, as a bandit, than a parliamentarian regime.

In a parliamentary system a simple majority suffices to topple the prime minister. Because the prime minister is strongly tied to (and by) the coalition of policy-makers that has put her in office, she can only accumulate more power and assets with difficulty. Precisely because an excessive accumulation of resources in her hands would reshape the balance of power between the prime minister and her parliamentary supporters, the latter have an incentive and the capacity (that comes

from the prime minister reliance on parliamentary support) to get rid of her leader.

By contrast, once he has won the presidential election, the presidential incumbent is only partly (or discontinuously) accountable to all the other branches of government. Presidents are elected for fixed terms and can be only removed for exceptional causes and by strong supramajorities. Unencumbered by the opposition, the president has more autonomy to seize assets, to organize extra-legal coalitions and eventually to impose a dictatorship. In cases of acute political confrontation, the congressional opposition or the armed forces, supposedly behaving as a moderating power, may even decide to launch a coup to preempt the actions of the president. Notice that the weaker Congress is, the more autonomy presidents may have. Congress is particularly weak when its party system is very fragmented and therefore unable to build majorities to make the president accountable. If that is the case, presidential systems with congresses elected through proportional representation (the prevalent system of Latin American republics) should lead to more instability, other things being equal.

The capacity of the president to accumulate power and properties is, however, conditional on the nature of assets in the country. The threat of presidential expropriation looms large when the existing assets are very country-specific, that is, they are hardly movable, and probably when they are concentrated in a few hands. In those circumstances, a strong executive simply gives its holder an excellent opportunity to grab those assets. By contrast, rent appropriation by politicians decreases as assets become more mobile since, in response to the threat of distortionary regulation or outright expropriation, their holders can shift them away from the policy-maker.[6] Accordingly, mobile capital renders presidential systems pretty harmless. In other words, whereas presidential systems are especially dangerous in underdeveloped countries, they should exhibit similar rates of democratic breakdown than parliamentarian regimes in developed economies. Thus, adopting presidentialism is

probably a bad idea in sub-Saharan Africa and a substantial part of Latin America. It may also be an error in post-socialist economies rich in natural resources. But it should have no deleterious consequences in developed economies with relative equality and highly mobile assets.

[Table 1 here]

To get a first cut at the extent to which democratic stability varies by type of constitutional regime and social and economic conditions, Table 1 reports the observed probability of democratic breakdown for the universe of sovereign countries in the world for a period that roughly extends from 1850 to 1999. The probability of democratic breakdown is the ratio of the total number of cases of democratic breakdown over the total number of annual observations of democracy.

The definition of democratic political regime is taken from Boix and Rosato (2001), where all sovereign countries from 1800 to 1999 are coded as either democratic or authoritarian. Countries are coded as democracies if they meet three conditions: elections are free and competitive; the executive is accountable to citizens (either through elections in presidential systems or to the legislative power in parliamentary regimes); and at least 50 percent of the male electorate is enfranchised.

Table 1 gives that probability of democratic breakdown disaggregated by presidentialism and parliamentarism. Presidential regimes include strictly presidential systems as well as semi-presidential constitutions. The coding of countries as either presidential or parliamentarian has been done using Cox (1997), IDEA (1997), Linz and Valenzuela (1994), Shugart and Carey (1992) and the Keesing's Contemporary Archives.

For each type of executive-legislative arrangement the results are tabulated by level of per capita income in US $ of 1996, the average level of urbanization and industrialization, the percentage of family farms, and the index of ethnic fractionalization. For the first three indicators, the period of analysis extends from the mid-19th century to the end of the 20th century. For the latter indicator, the

[6] See Adserà, Boix and Payne (2003) for a formal discussion and empirical test.

number of observations encompass the period from 1950 to 1999.

As already noticed by Stepan and Skach (1994) and Przeworski et al. (2000) among others, presidential systems have a higher rate of failure on average. Whereas the annual probability of democratic breakdowns among presidential regimes is 3 percent, it is only slightly over 1 percent in parliamentarian regimes. The distribution of presidential breakdowns is, however, skewed. In line with the recent quantitative literature on democratic crisis, the likelihood of experiencing a democratic breakdown declines with per capita income (Przeworski et al. 2000, Boix and Stokes 2003). Within that trend, presidential regimes have a higher annual rate of failure than parliamentarian regimes, particularly between $2,000 and $8,000. By contrast, for high levels of development (over $10,000) there have been no failures under a presidential system – this is not shown in Table 1, which only displays data for $8,000 or more. Identical results take place for the average level of urbanization and industrialization. At low levels of industrialization, presidential regimes are more brittle than parliamentarian systems. But their stability becomes similar as they become highly industrialized. For different levels of inequality, measured through the proportion of cultivated land in the hands of family farms, the results are strongly in line with our predictions. In countries with a small number of family farms, the rate of democratic breakdown is almost 5 percent among presidential regimes – almost twice the rate in parliamentarian systems. The negative impact of presidentialism disappears, however, in relatively equal economies.

Finally, Table 1 shows the performance of presidentialism and parliamentarism by the level of ethnic fractionalization (from the quartile with the lowest level of fractionalization to the one with the highest index). The index of ethnic fractionalization, recently developed by Alesina and his collaborators (2002), measures the probability that two randomly selected people from a given country will not belong to the same ethnic group. The yearly probability of democratic breakdowns increases with ethnic fractionalization. Whereas in essentially homogeneous countries it is less than 1

percent, it jumps to around 7 percent in highly fractionalized states. Presidential systems perform worse than parliamentary regimes systematically – the difference, however, is moderate.

Voting Mechanisms and the Case of Proportional Representation

In principle, the stability of a democratic regime should not be fundamentally affected by the electoral system in place. Assuming a one-dimensional policy space and well-behaved utility functions, both majoritarian and proportional representation systems will lead to the adoption of the policy preferred by the median voter. In a plurality system, politicians will converge on the median voter's ideal point (Shepsle 1991). In a proportional representation system, although politicians may not converge on the median voter, actual policy (in parliament) will depend on the median parliamentarian (Laver and Schofield 1990). It is also safe to predict that the median parliamentarian will be close to the median voter (Huber and Powell 1996).[7]

Still, one may think of two ways in which different mechanisms of representation may have different effects on the survival of democracies. In the first place, whereas under proportional representation the median parliamentarian (representing the median voter) does not vary over time, in non-PR systems, and given partial divergence among competing parties (Alesina and Rosenthal 1995), the average policy will be equal to the median voter ideal point over time, but it will vary from election to election. Now, if the sectors at the two opposite sides in the policy space are risk averse, the introduction of proportional representation should make a democracy more stable since the

[7] Notice that the equivalence in policy outcomes under both electoral systems is based on the assumption that electoral districting is such that the national median voter at election time remains so in parliament (through his representative). This is the case if the whole country is a single district (as in the case of direct presidential elections or pure proportional representation elections). The assumption is broken if electoral districts are carved so that the median voter ceases to be decisive in the policy-making process.

agents' expected utility will not be inherently diminished by repeated swings in the outcome.[8]

In the second place, proportional representation increases the likelihood of having multiparty coalitions (Laver and Schofield 1990), therefore raising the number of partners in government. The multiplicity of coalition partners reduces the rent-seeking possibilities of one of those agents at the expense of all others. Although this result may have no consequences in countries rich in mobile assets, in asset-specific countries proportional representation should reduce the number of regime crisis and democratic breakdowns (in the same way that parliamentarism does vis-à-vis presidentialism).

Some scholars maintain that majoritarian and proportional representation parliaments have different effects over policy and thus democratic stability because they coordinate political actors through different mechanisms. Whereas Westminster regimes produce two parties and solid one-party majorities that govern excluding the rest of social actors, proportional representation structures are more conducive to the representation of minorities (which are left aside in a plurality system) in government through broad ministerial coalitions. Proportional representation systems therefore reduce the incentives any one may have to stage a coup against democracy. This argument is mistaken, however, because it wrongly conflates the institution of proportional representation with the practice of consociationalism (a system in which several parties belonging to very different political subcultures govern together). Proportional representation may be indeed a necessary condition to have consociationalism. But it is never a sufficient condition. Thus, once parliament has been elected, and always assuming one-dimensional policy space, the median voter's bliss point constitutes an equilibrium in both systems. To put it differently, consociational practices may enhance the survival of democracies (a point we do not examine here). But proportional electoral

[8] If we further assume that risk-aversion declines with per capita income, majoritarian electoral rules should lead to even more instability than proportional representation in poor economies.

systems alone do not generate any more stability than majority systems through this channel.

[Table 2 here]

Table 2 shows the impact of the type of electoral system on democratic stability. Regimes with proportional representation are those cases in which the electoral system employed to elect the main legislative chamber is based on electoral districts that are larger than one seat and use proportional allocation rules. Chambers elected on the basis of plurality or two-round single-member districts are coded as majoritarian systems. In those cases in which the main legislative chamber is elected through a mixed system (with a fraction of the seats allocated through proportional representation and the rest through majoritarian mechanisms), we code them as proportional representation if the majority of the seats are assigned through proportional methods and as majoritarian otherwise. Within each type of electoral system, it distinguishes between presidential regimes (reported in regular font in each first column) and parliamentary systems (displayed in italics, in every second column). This is done to explore the claim made by the literature that democratic stability is particularly jeopardized by the combination of presidentialism and a legislature elected through proportional representation (Mainwaring 1993). For each type of electoral regime, the results are again tabulated by level of per capita income, the average level of urbanization and industrialization, the percentage of family farms, and ethnic fractionalization.

Overall, majoritarian regimes are worse than proportional representation regimes. Democratic breakdown rates are twice as high in the former. But the impact of electoral regimes is ultimately mediated by the type of executive in place. Under presidentialism, which has an average breakdown rate of 3 percent (Table 1), the democratic breakdown rate jumps to 4.5 percent if majoritarian rules are employed yet declines to around 2.2 percent for proportional electoral laws. Under parliamentarism, the breakdown rates fall to 1.5-1.8 percent and 0.8-1.0 percent respectively.

Consider now the effect of electoral rules within each executive-legislative system. Among

presidential regimes, majority rule is worse than proportional representation in low income and middle income countries. Similar results are obtained for industrialization and patterns of agrarian property. Majoritarian systems are much worse in agrarian or unequal societies. Within parliamentary systems, the results are slightly reversed. At low levels of per capita income, the probability of democratic breakdown is higher for proportional representation systems. Yet over $4000 the impact of electoral rules is similar. Majority rule yields somewhat worse results in highly agrarian and highly unequal societies.

Finally, the relationship between ethnic fractionalization and electoral systems is as follows. Within presidential systems, the use of majority rule in the election of congress is worse than proportional representation. Within parliamentary systems, majority rule is only worse for the top two quartiles in terms of fragmentation. Generally speaking, in highly homogeneous countries none of the two systems makes any difference.

Political Decentralization

Federalism should strengthen democratic regimes for two reasons. In the first place, a federal system accommodates inter-territorial heterogeneity and therefore minimizes political conflict as follows. Imagine a country with two regions, *A* and *B.* Whereas *A* is a rich region, that is, most of its inhabitants and, particularly, its median voter, are wealthy, region *B* is a low-income region and most of its inhabitants are relatively poor. In a unitary state the populations of the two regions vote together to set national policy. Assume further that *B* has a larger population than *A* so that the electoral majority (and therefore policy) is in *B*'s hands, that is, in the hands of low-income voters. *A* will consent to this arrangement if the benefits that come from it, such as trade gains from having a common market and security gains which accrue as a result of a reduction of the military threat that each region poses to the other one or as a result of *A* and *B* pooling their army and military resources

to balance against a third territory, *C*, outweigh the set of transfers and regulations that *B* may be inclined to impose on *A*. The degree to which those transfers will be set up will vary with the income differences across regions. The more divergent the standards of living across countries, the higher the incentives of low income voters to tax the richer areas (or to establish common regulations to homogenize the distribution of wealth). The threat of more redistribution reduces in turn the willingness of richer regions to accept a one-person-one-vote arrangement.[9]

If the costs of taxation exceed the benefits of trade and peace to the point of jeopardizing a democratic union, a partial solution to achieve some form of integration without falling into authoritarianism would consist in limiting the degree to which all the regions pool their assets and authority together. This strategy would imply maintaining most political decisions in the separate hands of each region joining the union and then enumerating, in a relatively strict manner, the policy domains (such as free movement of labor and capital) in which common decisions are taken and the procedures according to which they should be taken. To put it differently, as the level of inter-territorial heterogeneity rises, and holding constant trade and peace gains, a higher degree of political decentralization (and, in a related manner, giving stronger guarantees to every territory vis-à-vis the other members of the union) should make democracy more feasible at the national level.[10] The survival of relatively democratic regimes in the North Eastern and Western areas of the United States in the 19th century was dependant on the maintenance of a de facto confederate system -- where states enjoyed nearly complete sovereignty over taxes and the legality of slavery. With a very

[9] Naturally, inter-territorial differences threatening the union are not restricted to income but may related to religion, language, ethnicity and so on. For recent work on the political economy of federal unions, see Bolton and Roland (1997).

[10] Naturally, this is a partial solution since although the low-income regions would rather have this type of weak union to no union at all, they would prefer complete political integration (with tax and transfer powers in the hands of all the union) over any other alternative constitutional arrangement.

centralized state, those units would have been affected by the harsh inequalities of the South and a democratic system would have been harder to sustain. Indeed, it was the assertion of the federal government, under and administration opposed to slavery, which led to the American civil war.

Federalism may also contribute to democratic stability for a second reason. The creation of several tiers of government and the fragmentation of power across several territories makes it harder for any politician to accumulate excessive resources and assets, to rig the electoral process, and therefore to polarize the political process (just as parliamentarian regimes may be better than presidential institutions at constraining the executive).[11]

[Table 3 here]

Table 3 shows the likelihood of breakdown of federal and non-federal systems, tabulated by the same economic indicators employed in previous tables. Again, it reports the same data for both presidential regimes (first column, regular font) and parliamentary systems (second column, italics). On average federalism has a moderately lower breakdown rate than unitary states. The introduction of federalism reduces the breakdown rate from 3.3 percent to 2.5 percent in presidential systems and from 1.5 percent to 0.4 percent in parliamentary systems.

Within presidential systems and by level of development, federalism works much better under $7,000. Between $7,000 and $10,000, it is worse, with three democratic breakdowns, which correspond to the Argentinean crises of 1962, 1966 and 1976. Above $10,000 the type or territorial structure has no impact. Federal systems have fewer transitions to authoritarianism for all levels of industrialization and urbanization except one. For different levels in the distribution of rural property, the differential impact of federalism is absent or negligible. Finally, federal regimes (with presidentialism) are generally much worse in ethnically very fragmented countries.

[11] See Myerson (2004) for a formal discussion along these lines.

The most important result, however, is that in combination with parliamentarism, federalism clearly behaves as a democratic stabilizer. Almost no federal parliamentarian system has experienced a democratic breakdown. By contrast, non-federal countries are much more affected by non-institutional conditions: they only become stable when poverty, inequality and the proportion of fixed wealth decline.

EMPIRICAL ANALYSIS

Estimation Method

To test the potential impact of different constitutional frameworks on democratic stability, we use Cox proportional hazard models to estimate the effect of a country institutional characteristics and economic conditions on the survival of democratic regimes. In this model, for countries $i = 1,...,N$, each entering a state (i.e. the starting year of a democratic spell) at time $t = 0$, the (instantaneous) hazard rate function for country i at time $t > 0$ is assumed to take the proportional hazards form:

$$\lambda_{it} = \lambda_0(t)\, exp(X'_{it}\beta)\, \varepsilon_i$$

where λ_{it} is the hazard function of the country i at time t; $\lambda_0(t)$ is the baseline hazard function that takes a non-parametric form; $exp(.)$ is the exponential function; X_{it} is a vector of covariates summarizing observed differences between individual countries at t; and β is a vector of parameters to be estimated. Thus, Cox's partial likelihood model allows derivation of the estimates of the coefficients β from a proportional hazard model without placing any restrictions on the shape of the baseline hazard. We incorporate ε_i, a Gamma distributed random covariate with unit mean and variance $\sigma^2=\mu$, to describe unobserved heterogeneity between countries to account for those countries that undergo more than one transition in our sample. Results are robust to estimating robust errors by clustering on countries, alternatively, and can be obtained from the authors.

Data

The political data set is taken from Boix and Rosato (2001), where all sovereign countries from 1800 to 1999 are coded as either democratic or authoritarian. Countries are coded as democracies if they meet three conditions: elections are free and competitive; the executive is accountable to citizens (either through elections in presidential systems or to the legislative power in parliamentary regimes); and at least 50 percent of the male electorate is enfranchised.[12] This data set includes 70 transitions from democracy into authoritarian regimes out of 176 democratic periods (the remaining 106 cases are democracies still in place in 1999 or disappeared as a result of either foreign occupation, partition or inclusion in a larger state).

The independent variables are:

1. Proportional representation: a dichotomous variable that takes the value of 1 if the electoral system employed to elect the main legislative chamber is based on proportional representation, 0 otherwise. In those cases in which the main legislative chamber is elected through a mixed system (with a fraction of the seats allocated through proportional representation and the rest through majoritarian mechanisms), we code them as 1 if the majority of the seats are assigned through proportional methods and 0 otherwise.

2. Parliamentarism is a dummy variable coded 0 for the presence of presidential and semi-presidential systems, and 1 otherwise. Both the proportional representation variable and the parliamentarism variable have been built based on Cox (1997), IDEA (1997), Linz and Valenzuela (1994), Shugart and Carey (1992) and the Keesing's Contemporary Archives.

3. Federalism: a dichotomous variable taken from Downes (2000) and coded 1for federal

[12] For the period from 1950 to 1990, the coding is taken from Przeworski et al. (2000) with one exception: Argentina 1950-54, which Przeworski codes as a democracy from 1950 to 1954, but that Boix and Rosato code an authoritarian regime to make the regime consistent with the nondemocratic practices in place in the 1940s.

systems and 0 otherwise.

4. Per capita income expressed as PPP $ of 1996. We employ two data sets for per capita income:

(a) A small data set that includes per capita income as reported in the Penn Wold Tables 6.1 (Summers-Heston 2000), covering the period from 1950 to 1999, plus data from Maddison (1995). The Maddison data set provides observations for the period previous to 1950, essentially for developed countries and some large Asian and Latin American cases. The Maddison data has been adjusted to make it comparable with the Summers-Heston dataset. The combination of both data sets gives us a panel of over 7,600 country-year observations for the period 1850 to 1999. We call this data set, data set 'alpha'.

(b) A larger data set which extends the previous data set in two ways. First, it interpolates the data between non-continuous country-year observations reported by Maddison (who reports, for some countries, data for 1820 and 1850 but in most cases does not start continuous series until 1870). Second, it employs the estimates supplied by Bourguignon (2003) for the world (divided in 46 different regions) since 1820 (and mostly for every twenty years) to calculate all missing data. This second data set or data set, called 'beta', contains almost 15,000 country-year observations of per capita income -- that is, 89 percent of all years of sovereign countries. Although this data set is a fragile one -- for example, it does not allow us to calculate yearly growth rates, it overcomes one serious problem of the first data set: the overrepresentation of developed countries. Whereas in the first (smaller) data set, 50 percent of the observations have a per capita income above $3,371 (in $ of 1996), in the second (larger) data set, the median per capita income is $1,732. In other words, about 5,600 country-years with a per capita income lower than $1,800 are missing in the shorter data set.

5. Percentage of family farms over the total area of holdings. The percentage of family farms captures the degree of concentration and therefore inequality in the ownership of land. That measure,

gathered and reported by Vanhanen (1997), is based on defining as family farms those "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 or held in ownerlike possession." (Vanhanen 1997: 48) The definition, which aims at distinguishing `family farms' from large farms cultivated mainly by hired workers, is not dependent on the actual size of the farm -- the size of the farm varies with the type of product and the agricultural technology being used.[13] The data set, reported in averages for each decade, ranges from 1850 to 1999. It varies from countries with 0 percent of family farms to nations where 94 percent of the agricultural land is owned through family farms: the mean of the sample is 30 percent with a standard deviation of 23 percent.[14]

6. The index of occupational diversification, also developed by Vanhanen, which is the average of the percentage of non-agricultural population and the percentage of urban population. The urban population is defined as population living in cities of 20,000 or more inhabitants. This index also covers the period from 1850 to 1999. It has a mean of 33 percent and varies from 3 to 99 percent.

7. The level of ethnic fractionalization, computed as one minus the Herfindhal index of ethnolinguistic group shares, with new data gathered and calculated in Alesina et al. (2003).

8. Religious fractionalization, also computed as one minus the Herfindhal index of religious groups, also taken from Alesina et al. (2003).

9. Percentage of Muslims, Catholics and Protestants, taken from LaPorta et al. (1999).

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[13] A detailed discussion and description of the data can be found in Vanhanen (1997: 49-51) and the sources quoted therein.

[14] An extensive literature has related the unequal distribution of land to an unbalanced distribution of income. For the period after 1950, and excluding the cases of socialist economies, the correlation coefficient among the Gini index and the percentage of family farms is -0.66. For countries with a per capita income below $2,000 the correlation coefficient is -0.75.

10. Economic growth rate (in the year before the observed event).

Per Capita Income and Political Institutions

We first consider the effect of political institutions on the survival of democracies, alone and conditional on per capita income. Table 4 reports the likelihood of transitions from democracy into authoritarianism for electoral systems (Model 1), presidentialism (Models 2 and 3) and federal arrangements (Model 4) separately and for all institutions together (Model 5) for the period 1820 to 1999. For each model (except Model 3) we have run two estimations -- the first one employing the small data set 'alpha' and the second data set 'beta'.

[Table 4 here]

Model 1 in Table 4 shows that both per capita income and the coefficient for proportional representation are negative – they diminish the likelihood of a democratic breakdown -- and statistically significant in data set 'alpha'. In data set 'beta', which has 17 failures more than the estimation with the first data set, the coefficient for proportional representation remains quite stable in size but it loses all statistical significance. To capture the effects of different electoral systems, we simulate the joint effect of per capita income, electoral rules and their interaction in Figure 1.[15] More specifically, we simulate the evolution of the survival rate, that is, the proportion of democracies that will be still in place at each point in time, for majoritarian and proportional representation regimes at three different levels of per capita income ($1,000, $4,000 and $15,000).

Figure 1 shows that for low levels of development the survival rate is very low. Only about 50 percent of democracies reach their sixth year in countries with a per capita income of $1,000 – this level of per capita income corresponds to the twenty-fifth percentile in the sample. By their 15th year

[15] The simulations are done based on the data 'beta' column of each Model.

the survival rate is about 25 percent. This contrasts with survival rates close to unity in countries with a per capita income of $15,000. Conditional on the effect of per capita income, the impact of different electoral rules is as follows. For low and medium levels of per capita income, the survival rate is higher under proportional representation than under majoritarian systems. Thus, for example, in a country with a per capita income of $1,000, the survival rate stands at 59 percent among proportional representation cases and at 35 percent for majoritarian cases in the tenth year after the transition to democracy. At a per capita income level of $4,000, the difference is much smaller – 79 percent versus 72 percent. For high per capita income countries, proportional representation systems fare slightly worse. But the difference is negligible.

[Figures 1 and 2 here]

Model 2 in Table 4 considers in turn the effect of presidentialism. Presidential regimes alone have no statistically significant impact on the stability of democratic regimes. Still, the coefficient of presidentialism interacted with development is significant.[16] To facilitate the interpretation of these results, Figure 2 simulates the joint effect of per capita income, constitutional rule and their interaction. Parliamentarian and presidential regimes fare very similarly in countries with low per capita income (parliamentary regimes seem to be slightly worse). Non-institutional factors are here too dominant and condemn most cases to failure. Differences are substantial, however, for medium levels of development. Presidential regimes are there much worse than parliamentarian regimes. Ten years after a democratic transition, the survival rate is 85 percent for parliamentary regimes and 69 percent for presidential constitutions. Twenty years after the transition, survival rates are 69 percent and 43 percent respectively. As per capita income increases, the performance gap between the two types of executives declines.

[16] The results for presidentialism are not robust to the exclusion of a single (and crucial) case: Argentina. They are robust, however, to the introduction of Argentina as a dummy variable.

According to the descriptive data displayed in Table 2, the negative effect of presidentialism (relative to parliamentarian regimes) varies with the type of electoral regime employed to elect the legislature. Model 3 in Table 4 estimates the probability of democratic survival in two separate subsamples: countries with legislatures elected through proportional representation and countries with legislatures elected through majoritarian systems. In the latter case, presidentialism alone ceases to be significant but it reduces the probability of democratic breakdown in conjunction with income. In proportional representation cases, presidentialism alone strengthens democracy but then weakens the latter as countries develop. Figure 3 simulates the results for three different levels of development. For low and medium levels of per capita income, having a congress elected with proportional representation seems to stabilize democracies, at least in the first years after the transition to democracy. By contrast, presidential systems with majoritarian congresses are better performers in rich countries.

[Figures 3 and 4 here]

Model 4 in Table 4 tests the impact of federalism. As predicted, federalism reduces the likelihood of breakdown – although according to the positive sign of the interactive term, this effect lessens with development. The simulations of Figure 4 show that at very low levels of development ($1,000), unitary democracies are more likely to collapse than federal democracies. The survival rate after 15 years is 59 percent in federal states yet only 26 percent in unitary countries. The differences narrow as per capita income goes up. For high levels of development, federal states become more brittle. However, this last result seems to be driven by just one country. Once we exclude Argentina from our estimations, federal and unitary states are equally stable at high levels of per capita income.

Finally, Model 5 tests the impact of all variables together. In the data set ‘alpha’ only proportional representation remains significant. Federalism is not statistically significant although its coefficient is stable relative to Model 4. In the larger data set “beta”, presidentialism is significant in

interaction with per capita income. All in all, it is federalism that remains strongly significant with very stable coefficients.

Robustness Tests. To confirm the validity of the results reported in Table 4, we have proceeded to run the models with single-country deletion. Results are robust to the exclusion of single countries – with the exception of Argentina for presidential regimes. We have also controlled for land area, population, ethnic fractionalization, religious fractionalization, the proportion of Catholic, Protestant and Muslim believers, the lagged growth rate and regional dummies. Again, the results in Table 4 do not vary with the introduction of those controls. Among these control variables, ethnic fractionalization reduces the rate of democratic survival. The growth rate increases it. Population slightly reduces the probability of a democratic breakdown. In the following subsection we turn to examine ethnic fractionalization in more detail.

Endogeneity. In exploring the role that different constitutional structures newspapers may have on the reduction of democratic instability, we need to address the extent to which the existence of particular institutions may not be endogenous to our model. That is, it may be the case that it is only countries that have certain characteristics that make democracies successful which in turn choose successful institutional rules (e.g. federal parliamentarism).

We tackle this issue by instrumenting our institutional traits for a different set of variables that are arguably exogenous to the success of democratic regimes. For presidentialism we have identified five variables that explain the choice of executive: the log of the area of the country, year, two dummies for Africa and Latin America, and, particularly, the variable "Presidential Preconditions." This latter variable is built as follows: it predicts presidentialism in non-colonized countries that moved to democracy through violence (civil wars or revolutions), in former colonies that either became independent through violent means, and in former colonies that achieved their independence peacefully from metropolis governed by presidential regimes. In a probit model to

explain the choice of presidentialism, all five variables are significant at the 0.01 level and together result in a pseudo-r2 equal to 0.58. In turn, federalism is instrumented through the same variables plus being a former British colony – in a probit model, the pseudo-r2 is 0.34. Electoral systems are instrumented through log of population, year, former French colony, former British colony and former United States-administered territories – the pseudo-r2 is 0.39.

[Table 5 here]

Table 5 reports the models of Table 4 now with institutional variables instrumented – that is, we employ the fitted value of electoral systems, presidentialism and federalism (alone and in the interactive term) obtained through the probit estimations. Income is taken from the 'beta' data set. Generally, the coefficients do not change relative to the estimations in Table 4, with the exception of the interactive term of electoral system and per capita income, which becomes much larger. The statistical significance of the electoral systems and presidentialism variables strengthens. By contrast, federalism and its interactive term become statistically insignificant in Model 3 – although they border the significance test at 10 percent. When all constitutional rules are regressed, presidentialism and federalism are significant and in line with the results of Table 4. All in all, the results in Table 4 seem to hold up to the instrumentation of constitutional rules.

Ethnic Fractionalization and Political Institutions

As discussed in the theory section, preference heterogeneity, fed by ethnic differences, may jeopardize democracy. In the robustness tests performed on the models of Table 4, ethnic fractionalization is never statistically significant. However, in Table 6 we display a set of models which add a measure of ethnic fractionalization and its interaction with constitutional structures to the basic set-up of Table 4 (where we employed income and institutions as independent variables).

Since the measure of ethnic fractionalization only starts in 1950, the sample shrinks by about 40 percent and the number of democratic failures by more than a third. Moreover, the covariates seem to be plagued by collinearity problems. Hence results should be interpreted with caution. According to Model 1, which estimates the impact of presidentialism, ethnic fractionalization has a strong negative impact on democratic survival. This effect, however, disappears under presidential regimes: the negative coefficient of the interactive term "presidentialism*ethnic fractionalization" cancels out any negative effects of ethnic fragmentation. As in Model 1, ethnic fractionalization increases the likelihood of a democratic breakdown in Model 2. Proportional representation stabilizes democracies but (according to simulated results not shown here) not to the point of overcoming the effects of ethnic divisions: the estimate of electoral system alone completely counteracts the slightly negative coefficient of the interaction of fragmentation and electoral rules. Finally, contrary to theoretical expectations, Model 3 shows that federalism does not mediate in any way in ethnically diverse societies: the coefficient of the interactive term of federalism and ethnic fractionalization does not reach statistical significance (not even in a joint test).

[Table 6 here]

Political Institutions, Property Distribution and Industrialization

Table 7 extends the same analysis to the period 1850 to 1997, now interacting the type of constitution with the percentage of family farms and with the index of occupational diversification, which is the average of non-agricultural population and urban population. These estimations have two advantages. First, they employ variables that go beyond per capita income and thus proxy, even though in an imperfect manner, the underlying conditions we pointed to in the theoretical discussion. Second, they cover almost all democratic breakdowns.

[Table 7 here]

In line with previous research, a more equally distributed land and higher rates of industrialization and urbanization contribute substantially to the survival of democratic regime (Boix 2003). In countries were the agrarian property is concentrated in few hands and the level of industrialization is low, democracies break down very quickly. Conversely, in countries with a high proportion of family farms or very high levels of industrialization, democracies survive independently of the constitutional structure in place.

Model 1 in Table 7 examines the impact of the type of electoral rule on the survival of a democratic regime. Models 2 and 3 do so for presidentialism and federalism respectively. Their impact conditional on the distribution of land is minimal. Their effect in interaction with the level of industrialization and urbanization is stronger and requires its simulation. This is done in Figures 5 through 7.

[Figures 5 through 7 here]

Figure 5 simulates the effect of different electoral systems for different patterns of industrialization and industrialization (and a fixed proportion of family farms at its mean value). For the lowest levels of industrialization and urbanization, majoritarian electoral rules are correlated with more fragile democracies. Otherwise, that is, at high levels of development, the effect of electoral rules disappears.

The impact of the type of executive-legislative relations turns out to be marginal according to Figure 6. Underdeveloped economies break down early on, regardless of the executive in place. Developed countries are much more stable – within them, presidential regimes exhibit a slightly higher rate of authoritarian transitions.

Finally, Figure 7 simulates the impact of unitary and federal systems. Unitary states are much worse among agrarian countries. Their survival rate is about half the survival rate among federal cases. By contrast, federal states perform worse among industrialized and urbanized countries. As

before, however, this result is mostly driven by Argentina – once this country is excluded from the sample, federal and unitary states perform equally well at high levels of development.

CONCLUSIONS

This paper has explored the extent to which designing different institutional settings can raise the chances of democratic consolidation. To date, neoinstitutionalists have explored the potential beneficial effects of proportional representation, parliamentarism or federalism without controlling for the distribution of interests and the levels of political mobilization in the countries under study. Yet the consequences of institutions can only be determined in the context of a fully specified model, that is, a model where preferences are described (and then allowed to vary for different types of constitutional designs). The paper theorizes about the conditions under which institutions, given an underlying distribution of preferences, may reduce democratic breakdowns. It then tests the theory by estimating the probability of democratic breakdowns in a sample that extends from 1820 to 1999. It employs data on democratic regime as coded in Boix and Rosato (2002), per capita income data based on Maddison, Bourguignon and Summers and Heston, data on property distribution and economic development taken from Vanhanen, and data on ethnic and religious fractionalization.

Contemporary (representative) democracies can be thought of as a composite of two 'games'. In each one of them different constitutional frameworks may affect the likelihood of democratic consolidation through different channels. On the one hand, democracy is a procedure through which the majority of the population determines the position (or welfare) of each member of the population and therefore of the minority that has not agreed with that majority. A democracy will only be possible if any participating agent accepts the possibility that he will remain in the minority, that is, that the outcome generated by a popular vote may differ from his preferred alternative. The likelihood that a democracy will collapse will increase with the heterogeneity of policy preferences

and with any increasing imbalance in resources among different political actors. Except for federalism, which may reduce conflict by creating relatively homogeneous subnational territories, political institutions do not per se affect the chances of democratic breakdown. If individuals have any incentives (deriving from the preexisting distribution of policy preferences and resources) to impose a dictatorship or to engage in rebellious action against the government, no change in the way preferences are aggregated can bridle the interests of the social agents. If the minority imposes a set of constitutional rules that deliver a policy outcome unacceptable to the median voter, the majority will reject them. Anticipating the reaction of the majority, the minority will then have to employ some force to sustain the institutional system working to their advantage.

On the other hand, contemporary democracies are also a game in which the principal, the public, delegates into an agent, the politician or policy-maker, a given set of instruments to execute certain goals (generally speaking, those willed by the majority). Given self-interested politicians, the delegation of decision-making and policy implementation inherent to representative democracies may open up the space for significant inefficiencies and corruption among politicians. The winner may have as well an incentive to use her tenure of the presidency to shift resources in her favor to boost her future electoral chances, to alter the rules of electoral engagement and even to postpone or cancel the new election. In turn, the losers may respond by challenging the democratic outcome itself. Institutional mechanisms may then restrain the ability of rent-seekers and therefore reduce the instability of democratic regimes in the following way: the more decentralized the decision-making process, that is, the larger the number of actors that are needed to take decisions, the harder it will be for any actor to deviate from the principal's instructions. Thus, federalism, parliamentarism and perhaps proportional representation should reduce democratic crisis more than unitary constitutions, presidentalism and majoritarian electoral rules. Institutional decentralization will only be important, however, in economic settings in which economic assets are immobile and relatively concentrated

and therefore easy to grab.

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Table 1. Observed Probability of Democratic Breakdown by Presidentialism and Economic Conditions, 1850-1999

	Presidential Regimes			*Parliamentary Regimes*		
	Annual Observations	Observed Failures	Probability of Breakdown [a]	Annual Observations	Observed Failures	Probability of Breakdown [a]
Per Capita Income US $ of 1985 (1850-1999)						
0-1,999	159	8	5.03 %	264	15	5.68 %
2,000-3,999	373	14	3.75 %	461	10	2.17 %
4,000-5,999	199	4	2.01 %	540	4	0.74 %
6,000-7,999	104	3	2.88 %	319	2	0.63 %
8,000 and over	169	2	1.18 %	825	0	0.00 %
Total	1,004	31	3.09 %	2,409	31	1.29 %
Average Percentage of Non-Agricultural and of Urban Population (1850-1999)						
0-24.9	93	9	9.68 %	241	12	4.98 %
25-49.9	464	15	3.23 %	693	13	1.88 %
50-74.9	362	9	2.49 %	916	3	0.33 %
75-100	114	0	0.00 %	447	0	0.00 %
Total	1,033	33	3.19 %	2,297	28	1.22 %
Percentage of Family Farms (1850-1999)						
0-24.9	442	22	4.98 %	181	5	2.76 %
25-49.9	298	8	2.98 %	756	16	2.12 %
50-74.9	248	3	1.21 %	830	6	0.72 %
75-100	45	0	0.00 %	530	1	0.19 %
Total	1,033	33	3.19 %	2,297	28	1.22 %
Index of Ethnic Fractionalization (1950-99)						
0-0.060	123	1	0.81 %	84	1	0.12 %
0.0601-0.270	323	9	2.79 %	398	2	0.01 %
0.271-0.676	320	12	3.75 %	290	7	2.41 %
0.677-1	58	5	8.62 %	144	10	6.94 %
Total	824	27	3.28 %	1,643	20	1.22 %

[a] Ratio of observed failures to annual observations.

Table 2. Observed Probability of Democratic Breakdown by Electoral Laws and Economic Conditions, 1850-1999

	Legislature Elected Through Majoritarian Laws In regular font: presidential regimes *In italics: parliamentarian regimes*						Legislature Elected Through Proportional Representation In regular font: presidential regimes *In italics: parliamentarian regimes*					
	Annual Observations		Observed Failures		Probability of Breakdown [a]		Annual Observations		Observed Failures		Probability of Breakdown [a]	
Per Capita Income US $ of 1985 (1850-1999)												
0-1,999	70	*186*	5	*9*	7.14%	*4.84%*	44	*49*	2	*4*	4.88%	*8.16%*
2,000-3,999	128	*222*	7	*4*	5.47%	*1.80%*	234	*208*	6	*5*	2.56%	*2.40%*
4,000-5,999	48	*257*	2	*2*	4.17%	*0.78%*	145	*234*	2	*2*	1.38%	*0.85%*
6,000-7,999	29	*83*	2	*0*	6.90%	*0.00%*	74	*177*	1	*2*	1.35%	*1.13%*
8,000 and over	78	*245*	0	*0*	0.00%	*0.00%*	90	*519*	2	*0*	2.22%	*0.00%*
Total	353	*993*	16	*15*	4.53%	*1.51%*	584	*1,187*	13	*13*	2.22%	*1.10%*
Average Percentage of Non-Agricultural and of Urban Population (1850-1999)												
0-24.9	41	*134*	6	*7*	14.63%	*5.22%*	26	55	1	*3*	3.84%	*5.45%*
25-49.9	177	*308*	8	*8*	4.52%	*2.60%*	250	360	7	*5*	2.80%	*1.39%*
50-74.9	97	*285*	3	*2*	3.09%	*0.70%*	257	535	6	*2*	2.33%	*0.37%*
75-100	47	*179*	0	*0*	0.00%	*0.00%*	67	236	0	*0*	0.00%	*0.00%*
Total	362	*614*	17	*17*	4.70%	*1.88%*	600	1,186	14	*10*	2.33%	*0.84%*
Percentage of Family Farms (1850-1999)												
0-24.9	94	*70*	10	*2*	10.64%	*2.86%*	327	*63*	12	*1*	3.67%	*1.59%*
25-49.9	41	*377*	5	*11*	12.20%	*2.92%*	219	*310*	1	*4*	0.46%	*1.29%*
50-74.9	203	*419*	2	*2*	0.99%	*0.48%*	33	*340*	1	*4*	3.03%	*1.18%*
75-100	24	*38*	0	*0*	0.00%	*0.00%*	21	*473*	0	*1*	0.00%	*0.21%*
Total	362	*904*	17	*15*	4.70%	*1.66%*	600	*1,186*	14	*10*	2.33%	*0.84%*
Index of Ethnic Fractionalization (1950-99)												
0-0.060	59	*160*	1	*0*	1.69%	*0.00%*	512	*530*	0	*1*	0.00%	*0.19%*
0.0601-0.270	51	*160*	5	*0*	9.80%	*0.00%*	219	*122*	4	*1*	1.83%	*0.82%*
0.271-0.676	100	*100*	6	*5*	6.00%	*5.00%*	218	*166*	5	*0*	2.29%	*0.00%*
0.677-1	10	*72*	2	*6*	20.0%	*8.33%*	40	*6*	2	*1*	5.00%	*0.17%*
Total	220	*492*	14	*11*	6.36%	*2.24%*	528	*834*	11	*3*	2.08%	*0.36%*

[a] Ratio of observed failures to annual observations.

Table 3. Observed Probability of Democratic Breakdown by Federalism and Economic Conditions, 1850-1999

	Non-Federal Systems						Federal Systems					
	In regular font: presidential regimes *In italics: parliamentarian regimes*						In regular font: presidential regimes *In italics: parliamentarian regimes*					
	Annual Observations		Observed Failures		Probability of Breakdown [a]		Annual Observations		Observed Failures		Probability of Breakdown [a]	
Per Capita Income US $ of 1985 (1850-1999)												
0-1,999	111	*219*	6	*15*	5.41%	*6.87%*	49	*45*	2	*0*	4.08%	*0.00%*
2,000-3,999	307	*360*	12	*9*	3.91%	*2.50%*	66	*101*	2	*1*	3.03%	*0.99%*
4,000-5,999	144	*457*	3	*4*	2.08%	*0.87%*	55	*83*	1	*0*	1.82%	*0.00%*
6,000-7,999	33	*251*	2	*1*	6.06%	*0.40%*	71	*68*	1	*1*	1.41%	*1.47%*
8,000 and over	96	*647*	0	*0*	0.00%	*0.00%*	73	*178*	2	*0*	2.74%	*0.00%*
Total	691	*1,758*	23	*29*	3.33%	*1.50%*	314	*475*	8	*2*	2.55%	*0.42%*
Average Percentage of Non-Agricultural and of Urban Population (1850-1999)												
0-24.9	71	*192*	9	*12*	11.23%	*6.25%*	22	*49*	1	*0*	4.55%	*0.00%*
25-49.9	364	*529*	13	*12*	3.57%	*2.27%*	100	*164*	2	*1*	2.00%	*0.61%*
50-74.9	242	*670*	4	*2*	1.65%	*0.30%*	121	*246*	5	*1*	4.13%	*0.41%*
75-100	48	*361*	0	*0*	0.00%	*0.00%*	66	*86*	0	*0*	0.00%	*0.00%*
Total	725	*1,752*	25	*26*	3.45%	*1.48%*	309	*545*	8	*2*	2.59%	*0.37%*
Percentage of FamilyFarms (1850-1999)												
0-24.9	329	*181*	17	*5*	5.17%	*2.76%*	114	*0*	5	*0*	4.39%	*0.00%*
25-49.9	266	*665*	6	*15*	2.26%	*2.26%*	32	*91*	2	*1*	6.25%	*1.10%*
50-74.9	85	*462*	2	*5*	2.35%	*1.08%*	163	*368*	1	*1*	0.61%	*0.27%*
75-100	45	*444*	0	*1*	0.00%	*0.22%*	0	*86*	0	*0*	0.00%	*0.00%*
Total	725	*1,752*	25	*26*	3.45%	*1.48%*	309	*545*	8	*2*	2.59%	*0.37%*
Index of Ethnic Fractionalization (1950-99)												
0-0.060	123	*704*	1	*1*	0.81%	*0.14%*	0	*107*	0	*0*	0.00%	*0.00%*
0.0601-0.270	283	*349*	5	*2*	1.77%	*0.57%*	37	*49*	4	*0*	10.81%	*0.00%*
0.271-0.676	192	*241*	10	*7*	5.21%	*2.90%*	128	*49*	2	*0*	1.56%	*0.00%*
0.677-1	48	*88*	3	*10*	6.25%	*11.36%*	10	*56*	2	*0*	20.00%	*0.00%*
Total	646	*1,382*	19	*20*	2.94%	*1.44%*	175	*261*	8	*0*	4.57%	*0.00%*

[a] Ratio of observed failures to annual observations.

Table 4. A Survival Analysis of Democracies as a Function of Constitutional Structures and Per Capita Income, 1820-1999

	MODEL 1		MODEL 2		MODEL 3	
					Rules Employed to Elect Legislature: Majoritarian	Proportional Representation
	DATA α	DATA β	DATA α	DATA β	DATA β	DATA β
Per Capita Income (in thousand $)	-0.445*** (0.149)	-0.389*** (0.139)	-0.555*** (0.163)	-0.528*** (0.127)	-0.559*** (0.209)	-0.580*** (0.211)
Proportional Representation [a]	-1.034** (0.416)	-0.824 (0.603)				
Proportional Representation * Per Capita Income	0.000 (0.000)	0.128 (0.163)				
Presidentialism [b]			-0.612 (0.643)	-0.676 (0.504)	-0.040 (0.671)	-1.530* (0.879)
Presidentialism * Per Capita Income			0.398** (0.182)	0.379** (0.149)	-0.428* (0.235)	0.462** (0.236)
Log-Likelihood	-149.76	-231.63	-180.64	-257.24	-98.36	-86.50
Prob>Chi2	0.0000	0.0002	0.0150	0.000	0.0095	0.0333
Wald (Chi2)	20.06	19.43	15.41	20.79	11.45	8.72
Number of observations	2877	3351	3121	3643	1431	1912
Number of subjects	110	129	132	148	58	80
Number of failures	40	57	46	62	31	26

a Dummy variable. Proportional Representation=1. b Dummy variable. Presidentialism=1.
Estimation: Cox Proportional Hazard Model. Standard errors in parenthesis. *** p<0.01; ** p<0.05 ; * p<0.10.

Table 4. A Survival Analysis of Democracies as a Function of Constitutional Structures and Per Capita Income, 1820-1999 (Cont.)

	MODEL 4		MODEL 5	
	DATA α	DATA β	DATA α	DATA β
Per Capita Income	-0.466***	-0.471***	-0.635***	-0.523***
(in thousand $)	(0.125)	(0.104)	(0.195)	(0.140)
Proportional Representation [a]			-1.113***	-0.395
			(0.400)	(0.566)
Proportional Representation *			0.000	-0.025
Per Capita Income			(0.000)	(0.159)
Presidentialism [b]			0.026	-0.162
			(0.688)	(0.558)
Presidentialism *			0.264	0.249*
Per Capita Income			(0.177)	(0.161)
Federalism [c]	-0.900	-1.348**	-1.193	-1.601**
	(0.824)	(0.684)	(0.844)	(0.718)
Federalism *	0.312*	0.388***	0.281	0.374**
Per Capita Income	(0.168)	(0.139)	(0.173)	(0.152)
Log-Likelihood	-172.99	-258.20	-145.24	-225.32
Prob>Chi2	0.0017	0.0001	0.0016	0.0012
Wald (Chi2)	15.18	21.96	23.20	23.83
Number of observations	3112	3644	2877	3343
Number of subjects	130	149	110	127
Number of failures	44	62	40	57

a Dummy variable. Proportional Representation=1. b Dummy variable. Presidentialism=1. c Dummy variable. Federalism=1.
Estimation: Cox Proportional Hazard Model. Standard errors in parenthesis. *** p<0.01; ** p<0.05 ; * p<0.10.

Table 5. A Survival Analysis of Democracies as a Function of Instrumented Constitutional Structures and Per Capita Income, 1850-1999.

	MODEL 1	MODEL 2	MODEL 3	MODEL 4
Per Capita Income	-0.802***	-0.635***	-0.425***	-1.025***
(in thousand $)	(0.248)	(0.155)	(0.107)	(0.236)
Proportional Representation [a]	-0.989			-1.133
	(0.763)			(0.797)
Proportional Representation *	0.619**			0.487
Per Capita Income	(0.296)			(0.305)
Presidentialism [b]		-0.992*		-0.730
		(0.616)		(0.692)
Presidentialism *		0.581***		0.429**
Per Capita Income		(0.194)		(0.204)
Federalism [c]			-1.605	-2.106*
			(1.096)	(1.095)
Federalism *			0.427	0.580*
Per Capita Income			(0.282)	(0.348)
Log-Likelihood	-243.13	-238.51	-244.55	-236.62
Prob>Chi2	0.0000	0.0002	0.0003	0.0001
Wald (Chi2)	22.56	19.27	18.68	29.18
Number of observations	3309	3309	3309	3309
Number of subjects	144	144	144	144
Number of failures	59	59	59	59

a Dummy variable. Proportional Representation=1. b Dummy variable. Presidentialism=1. c Dummy variable. Federalism=1.
Per capita income taken from 'beta' data set.
Estimation: Cox Proportional Hazard Model. Models 2 and 4 has been estimated without parametric frailty test.
Standard errors in parenthesis. *** p<0.01; ** p<0.05 ; * p<0.10.

Table 6. A Survival Analysis of Democracies as a Function of Constitutional Structures and Ethnic Fractionalization, 1950-99.

	MODEL 4	MODEL 5	MODEL 6
Per Capita Income (in thousand $)	-0.306** (0.141)	-0.321** (0.139)	-0.381*** (0.114)
Ethnic Fractionalization	1.639^^ (1.290)	3.550** (1.404)	
Proportional Representation [a]	-2.202^^ (1.493)		
Proportional Representation * Per Capita Income	0.176^^ (0.184)		
Proportional Representation * Ethnic Fractionalization	0.654^^ (2.006)		
Presidentialism [b]		1.370^^^ (0.289)	
Presidentialism * Per Capita Income		0.157^^^ (0.169)	
Presidentialism * Ethnic Fractionalization		-3.139* (1.707)	
Federalism [c]			-1.828^^ (2.053)
Federalism * Per Capita Income			0.363** (0.178)
Federalism * Ethnic Fractionalization			1.154 (2.823)
Log-Likelihood	-131.22	-158.16	-159.98
Prob>Chi2	0.0001	0.0001	0.0004
Wald (Chi2)	26.36	26.40	22.78
Number of observations	2058	2286	2287
Number of subjects	107	125	126
Number of failures	38	43	43

a Dummy variable. Proportional Representation=1. b Dummy variable. Presidentialism=1. c Dummy variable. Federalism=1. Estimation: Cox Proportional Hazard Model. Standard errors in parenthesis. *** p<0.01; ** p<0.05 ; * p<0.10. ^^^ p<0.01 in joint test with variables of interactive term; ^^ p<0.05 in joint test with variables of interactive term.

Table 7. Annual Probability of a Democratic Breakdown as a Function of Constitutional Structures, 1850-97

	MODEL 1	MODEL 2	MODEL 3
Percentage of Family Farms [a]	-0.033***	-0.029**	-0.029***
	(0.011)	(0.012)	(0.009)
Index of Occupational Diversification [b]	-0.046***	-0.057***	-0.053***
	(0.015)	(0.012)	(0.010)
Proportional Representation [c]	-1.256^^^		
	(0.913)		
Proportional Representation *	0.014^^^		
Percentage of Family Farms	(0.015)		
Proportional Representation*	0.010^^^		
Index of Occupational Diversification	(0.019)		
Presidentialism [d]		-0.970^^^	
		(0.840)	
Presidentialism *		0.006^^	
Percentage of Family Farms		(0.016)	
Presidentialism *		0.028*	
Index of Occupational Diversification		(0.016)	
Federalism [e]			-1.812^^^
			(1.136)
Federalism *			0.002^^^
Percentage of Family Farms			(0.017)
Federalism *			0.044**
Index of Occupational Diversification			(0.019)
Log-Likelihood	-222.43	-259.71	-258.83
Prob>Chi2	0.0000	0.0000	0.0000
LR(Chi2)	31.97	33.48	35.52
Number of observations	3077	3348	3349
Number of subjects	128	148	149
Number of failures	57	64	64

a Area of family farms as a percentage of the total area of holdings. Source: Vanhanen (1997).
b Arithmetic mean of percentage of non-agricultural population and percentage of urban population. Urban population is defined as population living in cities of 20,000 or more inhabitants. Source: Vanhanen (1997).
c Dummy variable. Proportional Representation=1. d Dummy variable. Presidentialism=1. e Dummy variable. Federalism=1.
Estimation: Cox Proportional Hazards Model. Standard errors in parenthesis. *** p<0.01; ** p<0.05 ; * p<0.10. ^^^ p<0.01 in joint test with variables of interactive term; ^^ p<0.05 in joint test with variables of interactive term.

Figure 1
Estimated Survival for Different Electoral Systems and Levels of Per Capita Income

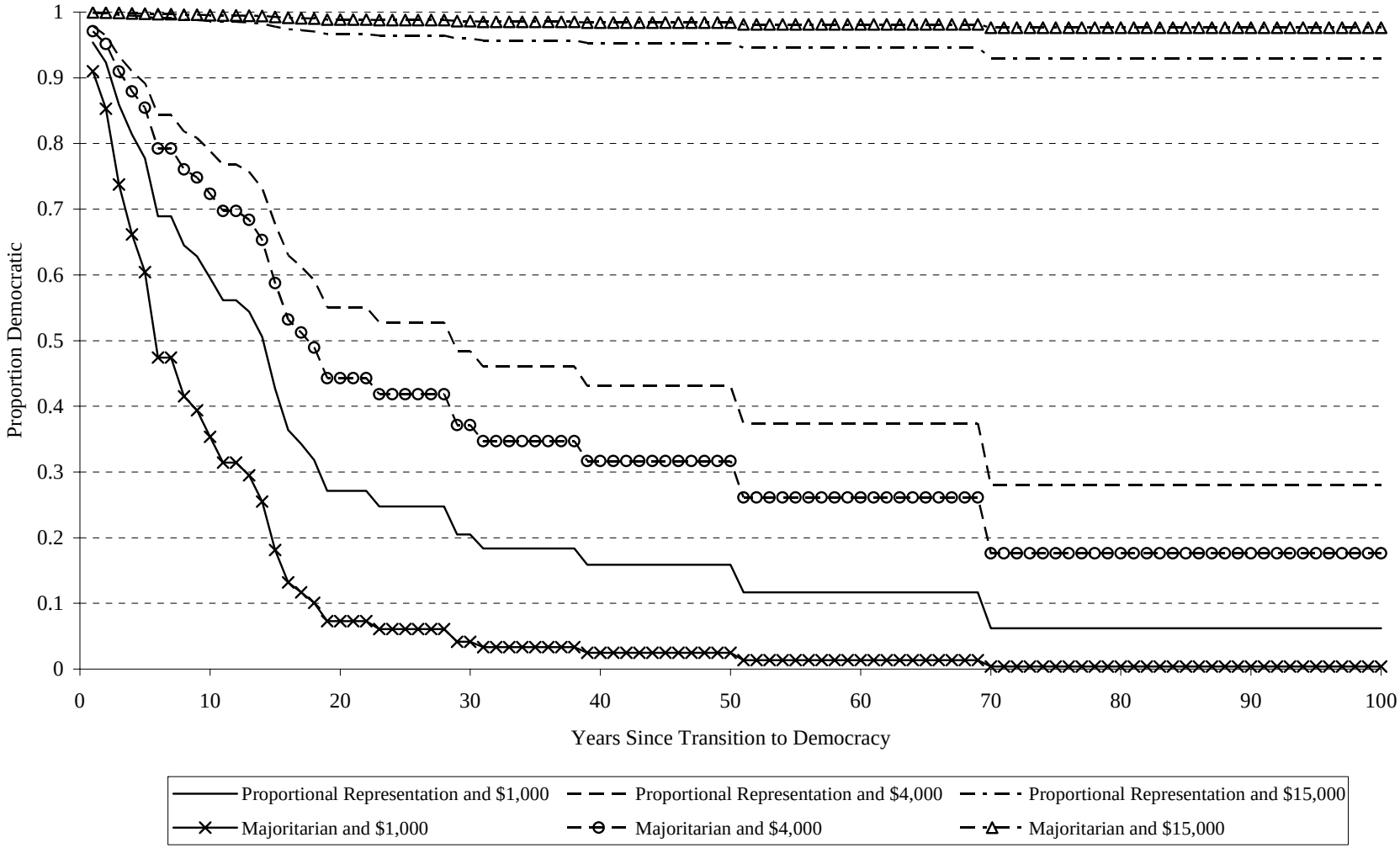

Figure 2
Estimated Survival for Different Executive-Legislative Regimes and Levels of Per Capita Income

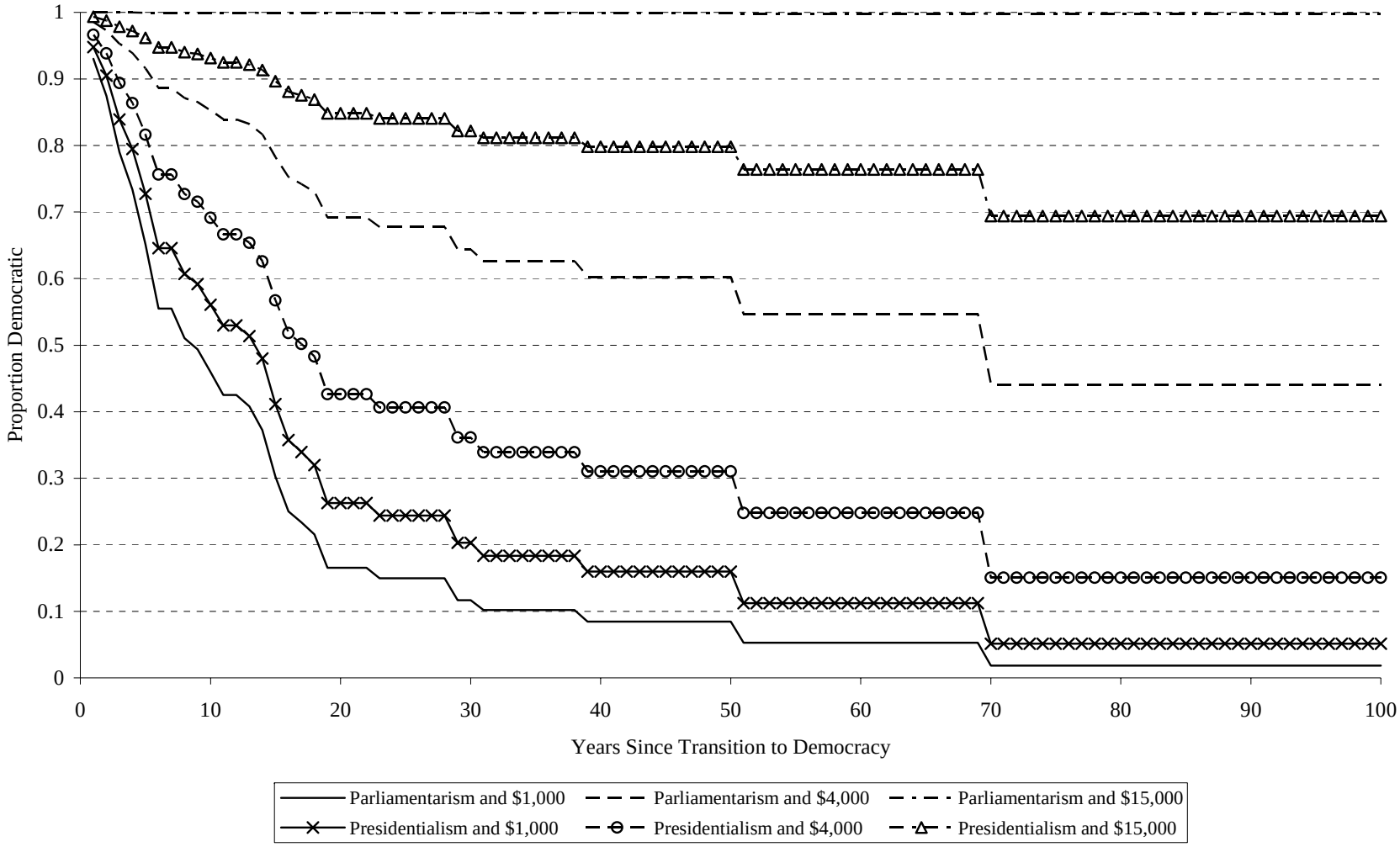

Figure 3
Estimated Survival for Presidential Regimes with Different Electoral Rules and Levels of Per Capita Income

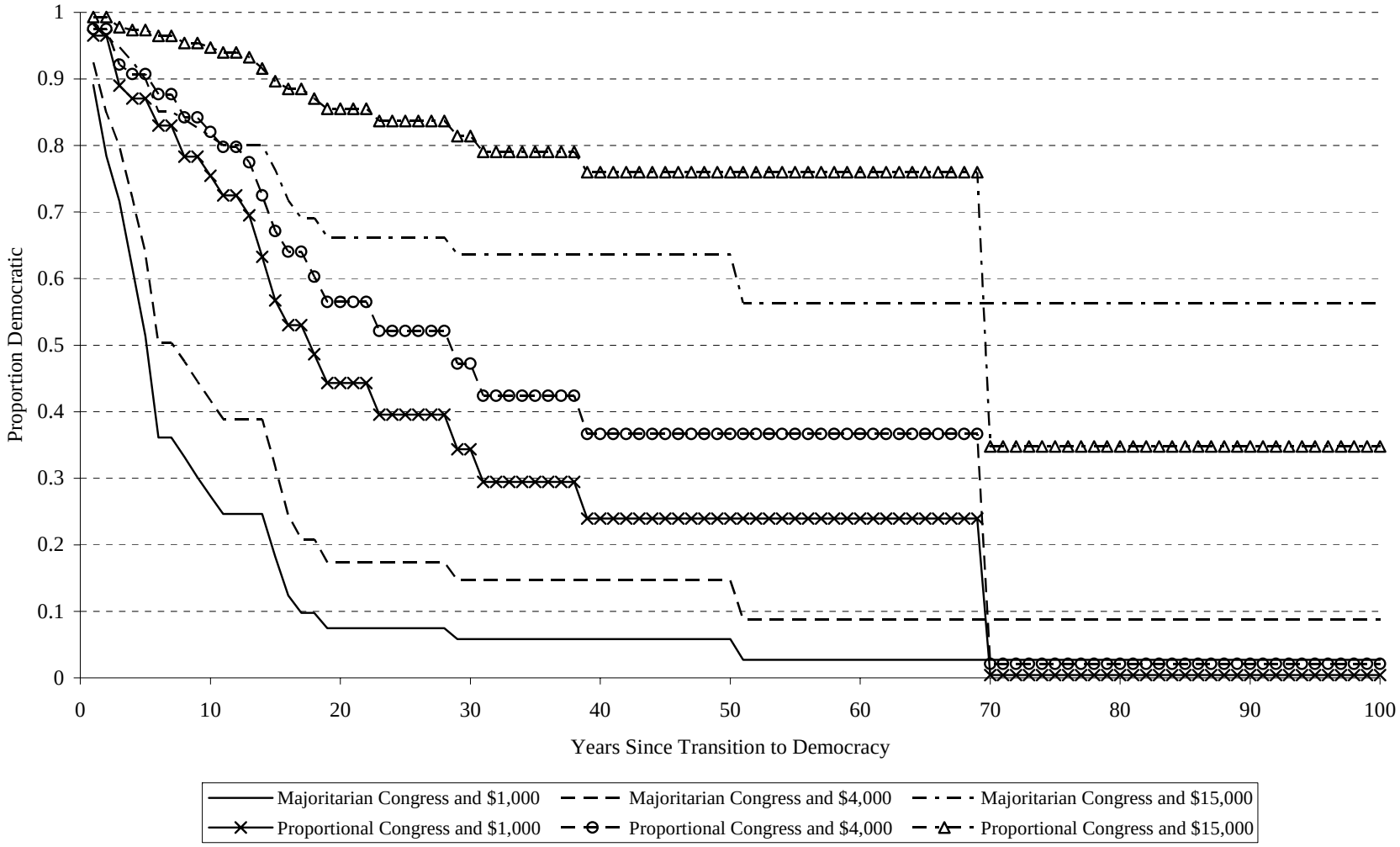

Figure 4
Estimated Survival for Different Territorial Structures and Levels of Per Capita Income

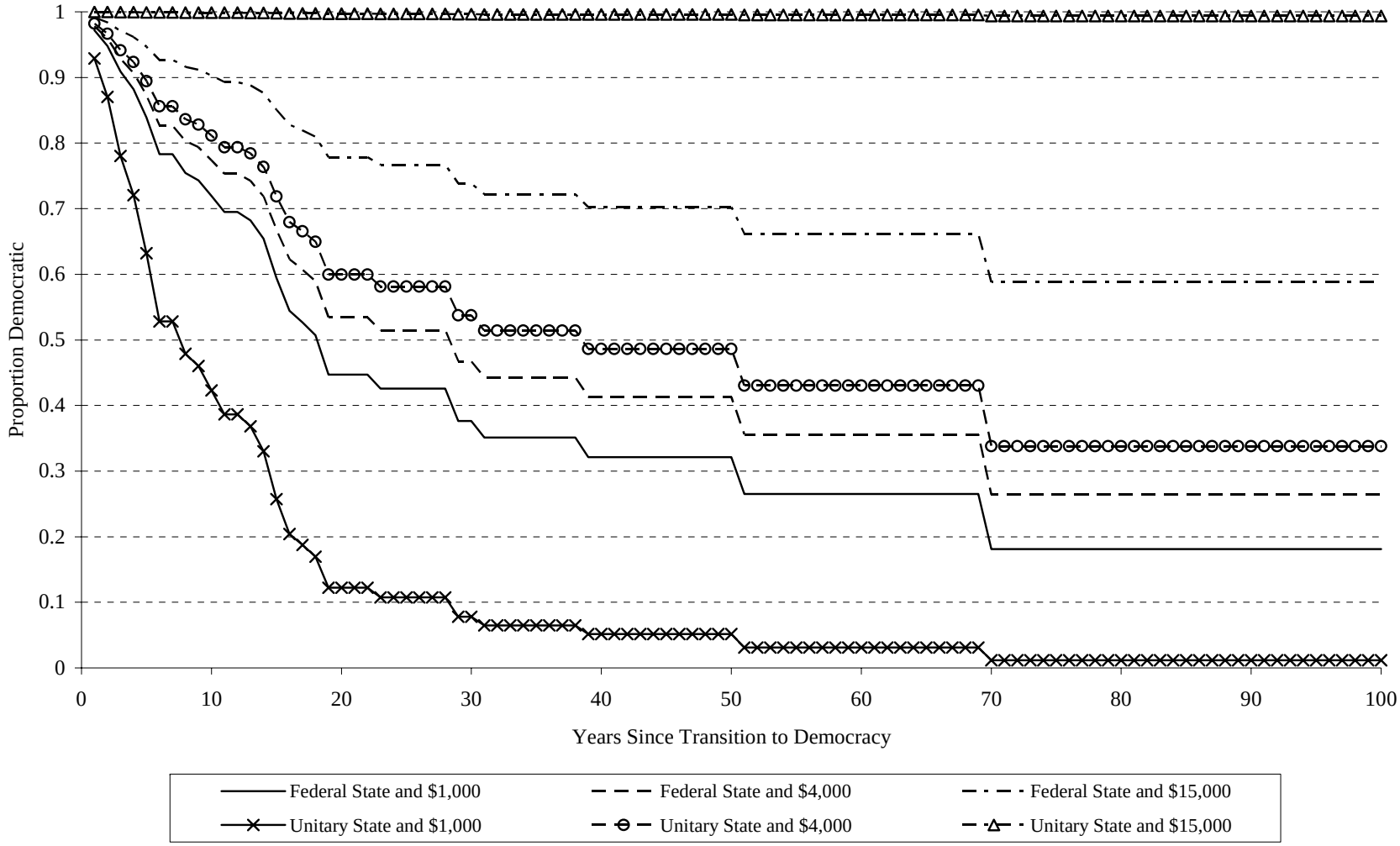

Figure 5
Estimated Survival for Different Electoral Systems and Levels of Industrialization

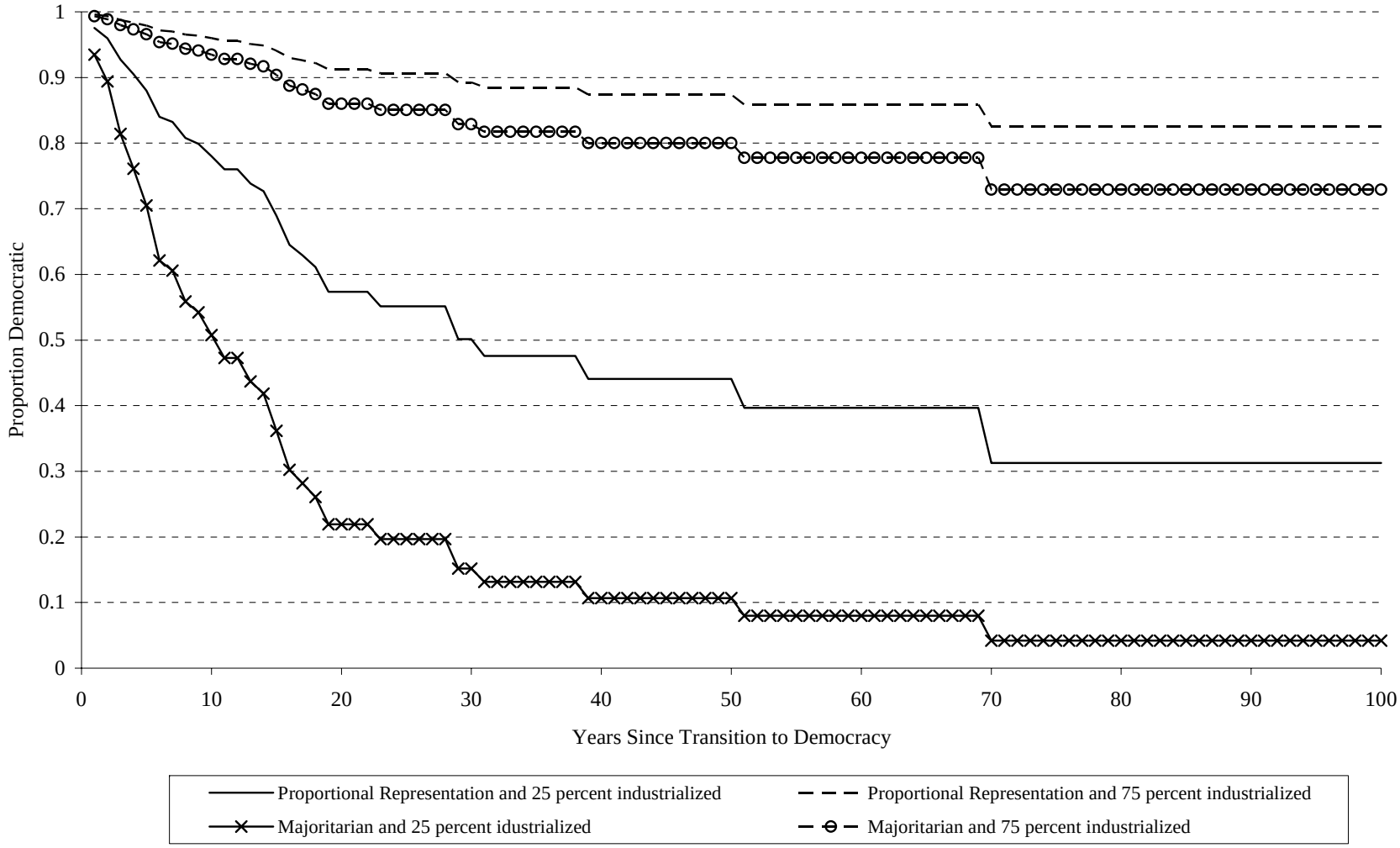

Figure 6
Estimated Survival for Different Executive-Legislative Regimes and Levels of Industrialization

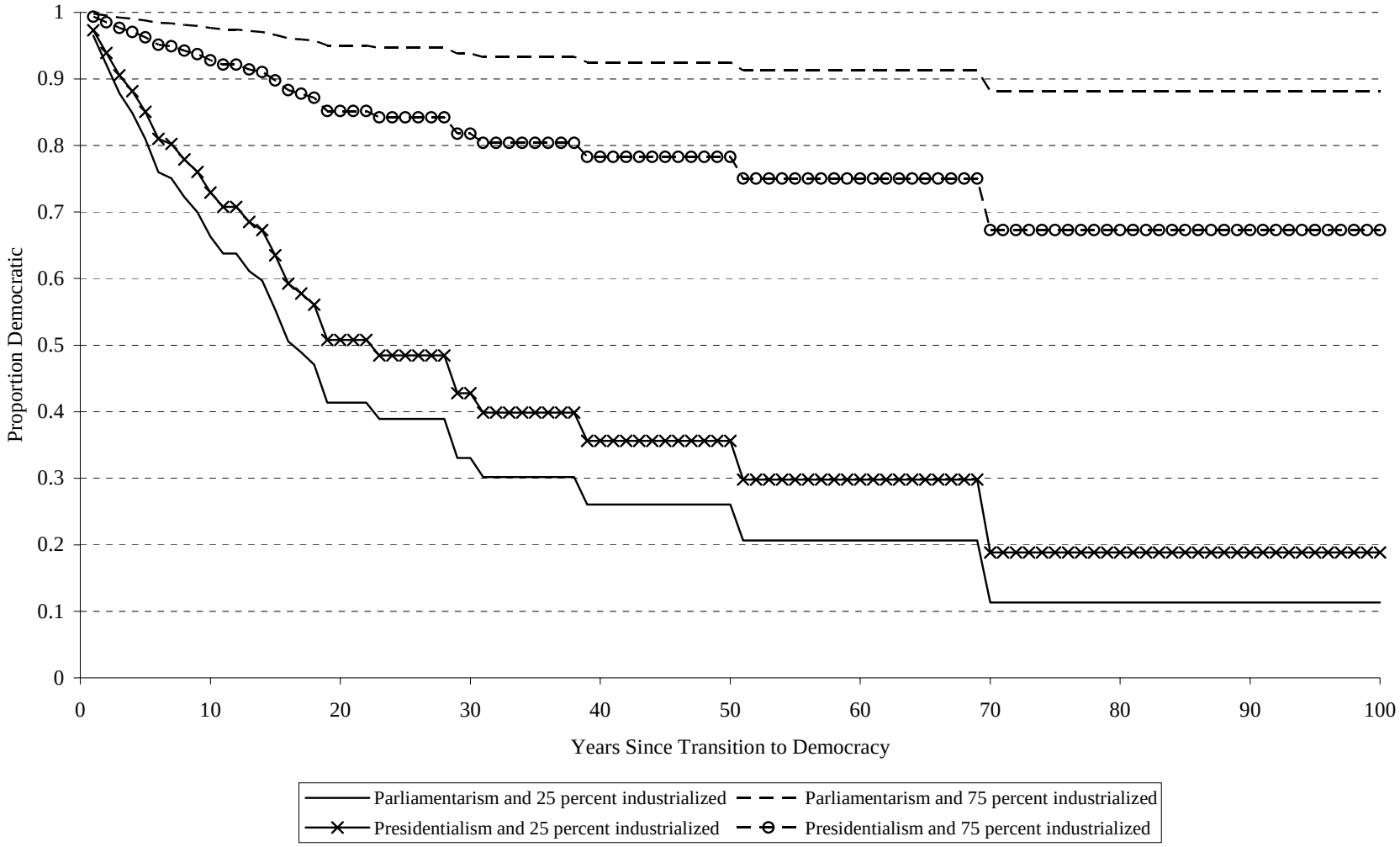

Figure 7
Estimated Survival for Different Territorial Structures and Levels of Industrialization