

 Open access • Journal Article • DOI:10.2139/SSRN.159213

## **Setting the Rules of the Game: The Choice of Electoral Systems in Advanced Democracies** — [Source link](#)

Carles Boix

**Institutions:** Princeton University

**Published on:** 20 Mar 2000 - Social Science Research Network

**Topics:** Majoritarian representation, Redistribution (election) and Proportional representation

Related papers:

- [The Logic of Multiparty Systems](#)
- [The 'Law of Conservation of Disproportionality' and Electoral Prospects of Small Parties](#)
- [A Drawback of Electoral Competition](#)
- [The choice of electoral systems in new democracies: a case study of South Korea in 1988](#)
- [Electoral Competition and Endogenous Political Institutions: Quasi-Experimental Evidence from Germany](#)

Share this paper:    

View more about this paper here: <https://typeset.io/papers/setting-the-rules-of-the-game-the-choice-of-electoral-4jkizpi84o>

**SETTING THE RULES OF THE GAME:  
THE CHOICE OF ELECTORAL SYSTEMS IN ADVANCED DEMOCRACIES**

Carles Boix \*

Last Version. 26<sup>th</sup> January 1999

---

\* Assistant Professor at the Departments of Political Science and Economics, The Ohio State University.  
E-mail: boix@polisci.sbs.ohio-state.edu. The author acknowledges financial support from the Center per a la Recerca en Economia Internacional, CREI.

## **Abstract**

The origins of electoral systems have received scant attention in the literature. Looking at the history of electoral rules in the advanced world in the last century, this paper shows that the existing wide variation in electoral rules across nations can be traced to the strategic decisions that the current ruling parties, anticipating the coordinating consequences of different electoral regimes, make to maximize their representation according to the following conditions. On the one hand, as long as the electoral arena does not change substantially and the current electoral regime serves the ruling parties well, the latter have no incentives to modify the electoral regime. On the other hand, as soon as the electoral arena changes (due to the entry of new voters or a change in their preferences), the ruling parties will entertain changing the electoral system, depending on two main conditions: the emergence of new parties and the coordinating capacities of the old ruling parties. Accordingly, if the new parties are strong, the old parties shift from plurality/majority rules to proportional representation (PR) only if the latter are locked into a 'non-Duvergerian' equilibrium; i.e. if no old party enjoys a dominant position (the case of most small European states) -- conversely, they do not if a Duvergerian equilibrium exists (the case of Great Britain). Similarly, whenever the new entrants are weak, a non-PR system is maintained, regardless of the structure of the old party system (the case of the USA). The paper discusses as well the role of trade and ethnic and religious heterogeneity in the adoption of PR rules.

JEL: D71

Keywords: Electoral Systems, Political Parties, Institutions

The literature on the interaction between electoral rules and the performance of the political system has been traditionally imbalanced. Political scientists have spent almost all their energies on determining the effects of electoral laws both on political stability (Hermens 1941, Lijphart 1994) and on voting behavior and party systems (Duverger 1954, Rae 1971, Taagapera and Shugart 1989). By contrast, little effort has been devoted to explain what causes the high degree of cross-national variation in electoral laws -- with the exception of two seminal (yet still theoretically underdeveloped) contributions by Rokkan (1970) and Rogowski (1987).<sup>1</sup> This paper attempts to fill this gap. Consequently, it maps out the conditions under which the ruling parties, anticipating the effects of different electoral regimes on voters and candidates, choose different sets of electoral rules to maximize their chances of securing parliamentary representation as well as cabinet posts.

Electoral rules should be mainly seen as formal institutions that encourage the strategic behavior of both elites and voters and hence force their coordination around a set of viable candidates. To avoid wasting their ballots on hopeless candidates, voters are likely to vote for politicians that are ranked second or lower in their preference ordering. Similarly, elites tend to pay attention to and concentrate resources on candidates that are expected to win. The extent of strategic behavior among voters and elites varies with the constraining effects of electoral rules. Generally speaking, the higher the electoral law sets the entry barrier (or electoral threshold), the more extended strategic behavior will be.

Anticipating the coordinating consequences of electoral rules, any current government (provided it has the monopoly over electoral rule-making) shapes the electoral rules to its advantage. Two results follow. As long as the electoral situation does not change substantially and the current rules serve the ruling parties well, the government has no incentives to modify the electoral regime. However, as soon as the electoral arena changes, the government considers altering the electoral system. If it calculates that the strategic behavior of voters will not upset its dominant position, it will maintain (or introduce) high entry barriers (that is, a plurality rule). On the contrary, if it foresees that, by inducing any strategic behavior

---

<sup>1</sup> For a review of previous attempts to determine the causal mechanisms of the origins of electoral rules, see Lijphart (1985, 1992) and, to some extent, Cox (1997: 15-16).

(among voters and elites), the current rules will erode its parliamentary power substantially, it will change them (lowering thresholds or entry barriers) to increase the degree of proportionality.

As shown in the paper, these sets of calculations explain the historical development of electoral systems in the advanced world since the turn of the century. The electoral system (structured around plurality or majority rules) remained unchanged under the era of limited suffrage. Yet, as soon as universal suffrage was adopted, leading to the massive entry of mostly potential left-wing voters and, therefore, to a radically new electoral arena, the ruling elites followed different solutions. In line with the model, the plurality/majority system survived under two circumstances. First, it remained in place in those countries in which the new entrant (a socialist party) was weak and, itself the victim of strategic voting, could not challenge any of the established parties. Second, it was maintained in those countries in which, although the new entrant became strong, one of the established or nonsocialist parties retained a dominant position in the nonsocialist camp: since it could easily attract the strategic vote of all nonsocialist voters (mostly worried about blocking the victory of social democracy), the dominant party acted rationally in maintaining a highly constraining electoral rule. By contrast, proportional representation was adopted in those countries in which the socialist party was strong and nonsocialist parties controlled roughly similar shares of the electorate. Not reducing the electoral threshold would have led to an overwhelming victory of the socialist party. Again, in line with the argument being presented, as soon as the electoral arena became stable and the party system froze along certain cleavages, policy-makers lost interest in modifying the electoral regime. Abrupt changes in electoral laws have been rare in the last eight decades, with the exception of those nations in which party systems have remained unsettled.

The paper is organized as follows. The first section develops the theoretical argument. Taking Rokkan's seminal contribution (Rokkan 1970) as a point of departure, the main part of section 1 develops an analytical model that unveils the rationale behind the choices made in the advanced world in the last century (subsections 1 and 2). The rest of the first section discusses those models that claim that states choose a proportional representation system to maximize the social welfare: either because it generates efficiency gains by preventing rent-seeking and securing free trade (subsection 3); or because, in securing

the representation of political minorities, it reduces the level of political conflict (subsection 4). The second section describes the sample employed, introduces the concept of effective electoral threshold (to measure the nature of electoral systems), and describes the latter's evolution in the advanced world in the last century. The third section successfully tests the model of section 1. It also shows that while the trade hypothesis is unconvincing, a higher ethnic or religious fragmentation encourages, given certain conditions, the adoption of proportional representation. The fourth section concludes.

## **A THEORY OF THE SELECTION OF ELECTORAL SYSTEMS.**

### **The Rokkan Hypothesis**

In his discussion of the adoption of proportional representation (PR) in European countries at the turn of the century, Rokkan offers a first interpretation of the causal forces that determine the selection of different electoral regimes. PR rules were introduced “through a convergence of pressures from below and from above. The rising working class wanted to gain access to the legislatures, and the most threatened of the old-established parties demanded PR to protect their position against the new waves of mobilized voters created by universal suffrage.” (Rokkan 1970: 157)<sup>2</sup>

Although Rokkan's analysis rightly points to the key role that the calculations that political elites make about their future electoral strength play in the design of electoral rules, his argument is underspecified. Other than stating that political elites will adopt PR to protect their political stakes, it does not indicate the conditions under which policy-makers will feel ‘threatened’ enough to change the current electoral system. As a result, Rokkan's hypothesis runs into several problems. First, if PR was adopted to lessen the chances that an increasingly stronger socialist party could win an absolute parliamentary majority, why did Great Britain (as well as Australia and New Zealand) embrace universal suffrage without shifting to PR (as Sweden or Denmark did)?<sup>3</sup> Second, if electoral rules were changed as a result

---

<sup>2</sup> In Lijphart's recent words, the extension of universal suffrage forced both the ruling elites and their challengers to introduce PR “to protect their [respective] interests”: the former tried to minimize their (predictable) losses; the latter wished to “guarantee that they would gain at least a substantial share of representation and political power.”(Lijphart 1992: 208-209).

<sup>3</sup> A similar point is made in Lijphart (1992: 209).

of the extension of universal suffrage at the end of the 19th century and the beginning of the 20th century, why have certain countries (France, Greece and, to some extent, Spain) shifted back and forth between plurality (or majority) rule and PR systems over the last century?<sup>4</sup> More generally, Rokkan's explanation is too historically-bounded. The rise of socialism and the corresponding calculations of conservative elites did affect the form that electoral rules took under fully democratic regimes. Still, we are in need of a more encompassing theory to explain the selection of electoral rules in Eastern Europe, Latin America and the newly democratizing countries today.<sup>5</sup>

### **An Analytical Generalization of the Rokkan Hypothesis**

To understand why the ruling parties shifted (or not) to PR at the turn of the century in the advanced world, I proceed to develop an argument organized around three sequential steps.

#### *1. The consequences of electoral rules*

Electoral rules are constraining devices that, by encouraging strategic behavior among voters and elites, force the coordination of resources and ballots on a reduced set of candidates. Instrumentally-rational voters eschew voting for candidates they expect to do poorly in the next election, even if this means supporting second-ranked candidates in their preference orderings. Similarly, political elites avoid wasting their time and resources on hopeless candidates. As a result of these two processes, and as long as everybody agrees on the probabilities every candidate has to win, votes and resources flow to 'stronger' candidates. In equilibrium, through either the instantaneous coordination of all political actors or the

---

<sup>4</sup> Or, more recently in time, why have Italy and New Zealand changed their electoral regimes (in opposite directions)?

<sup>5</sup> To explain the constitutional choices (primarily regarding the electoral system) made in Czechoslovakia, Hungary and Poland, Lijphart (1992) refines Rokkan's hypothesis by adding three factors: (i) the degree to which "the 'old-established parties' [are] retaining sufficient power and legitimacy to negotiate a relatively favorable compromise" (p.213); (ii) the expectations that ruling parties have about their electoral chances in the future; and (iii) the extent to which voters distrust party lists (a typical result in PR systems) and would rather vote for candidates. It is unclear how Lijphart's first and third conditions can apply to the adoption of PR in either Europe at the beginning of this century or non-European nations in general. The second condition comes closer to the discussion in subsection 1.2 below -- still, it does not specify what structured the politicians' expectations and in which ways those expectations led the selection of different electoral systems.

winnowing out of ‘weak’ candidates over repeated elections, only a certain number of viable candidates compete at the ballot box.

The extent of strategic behavior, and the number of candidates willing and able to stand in elections, varies with the electoral rule in place. In single-member plurality systems voters coordinate, given a set of conditions I discuss in detail below (when I define the mechanisms that lead to the choice of the electoral law), around two candidates (Cox 1997: 69-79; Duverger 1954: 217). Strategic voting declines, however, as the proportionality of the electoral system increases. Since seats can be gained with only a fraction of the total vote, voters have fewer incentives to abandon their most preferred candidates. Accordingly, the number of viable candidates increases with PR.<sup>6</sup>

## *2. The stability of the electoral arena and the calculations of rulers*

Since electoral laws are determined by policy-makers, we should expect that the ruling political parties, anticipating the (varying) effects of different electoral regimes, choose those that maximize their chances of staying in power.<sup>7</sup> Two points follow. As long as the electoral arena does not change substantially and the electoral rules serve them well, the governing parties have no incentives to change the electoral system.<sup>8</sup> But, as soon as change takes place and the previous structure of partisan competition starts to unravel, the ruling parties consider modifying the electoral system to maintain their political advantage.

Electoral systems were relatively stable throughout the 19<sup>th</sup> century. With the introduction of universal suffrage at the turn of the century, the conditions under which political competition had

---

<sup>6</sup> For empirical evidence showing that strategic voting diminishes substantially in large (four or more seats) districts (Cox 1997: 103-121).

<sup>7</sup> Throughout the paper I assume that the parties in government (i.e. those with a majority of seats in parliament) have the monopoly over electoral norms. As should become apparent from the discussion below, if changing electoral norms requires a supra-majority, the incentives to adopt a PR system are likely to increase.

<sup>8</sup> If there are two main parties contending for government, they will be satisfied with the current electoral arrangements as long as their chances of getting in power are even. The longer one of the parties stays out of office (that is, that its probability of getting in power declines below 0.5), the higher the likelihood that it will press for an electoral reform. This would explain the growing favor PR started to have within British Labor by the late 1980s and early 1990s.



developed changed dramatically in the advanced world. In a short span of time, the size of the electorate increased several times. In countries like Belgium, Sweden or Italy, it went up from about a tenth of the male population at the end of the 19<sup>th</sup> century to universal male suffrage after WWI. Even in those cases in which universal or near-universal suffrage had been introduced earlier, such as Denmark, France or Norway, urbanization and industrialization led to a substantial political realignment—from a rural-urban conflict to a deepening capital-labor cleavage. The massive entry of new voters, as well as the transformation of the ideological preferences of already enfranchised citizens, threatened to erode the electoral strength of the old parties substantially. Accordingly, the old parties' elites had a strong incentive to reshape the electoral rules of the game.<sup>9</sup>

### *3. The reform of the electoral system as a function of the viability of the old party system*

Shifting to PR does not automatically derive from confronting changed electoral conditions. The extent to which the ruling parties embrace PR depends on the interaction of two main conditions, which determines the electoral viability of the ruling parties in the future. First, the introduction of PR hinges on the strength of the new entering parties (the socialist party at the turn of the century). Second, it depends on the coordinating capacities of the ruling parties, that is, whether they are tied in votes (and therefore unable to coordinate) or there is a dominant party (that becomes the focal point around which nonsocialist voters gradually coordinated). As summarized in a simple matrix in Table 1 (and discussed in detail below), in those cases in which there are no new parties and/or one of the old parties leads in the nonsocialist camp, a non-PR system survives any changes in the electoral market (such as the introduction of universal suffrage). Yet, as soon as a new party draws substantial support and the ruling parties are tied in votes, the incentives to embrace PR become irresistible.

[Table 1 here]

---

<sup>9</sup> Notice that the introduction of universal suffrage is taken as given in this article. However, the ruling parties could also decide to block any change in the electoral arena. Whether they decided to block democracy or not (a decision not modeled in this article) depended on how feasible it was to maintain the status quo. Whenever the ruling policy-makers calculated that an authoritarian strategy was not rational (that is, that, by leading to a bloody uprising or even to civil war, it could generate losses greater than full participation), their only solution lay in reshaping the rules of the game (including the electoral system) to maintain a certain political or institutional advantage.

A. The single-member plurality system as the point of departure. Before the adoption of universal suffrage at the turn of the century, all elections were conducted under non-PR rules, mainly in the form of single-member plurality systems but also in the form of single-member dual-ballot systems.<sup>10</sup> I examine first, as the benchmark case, how the conditions specified above shaped the decisions of the governing party (parties) at the beginning of the 20<sup>th</sup> century under the single-member plurality system.

Let us start by considering the situation in which the old parties face a strong new party. Two alternative scenarios may arise. In the first scenario, the old parties coexist in what the literature calls a non-Duvergerian equilibrium: either their electoral strength is balanced and voters are hence unable to determine around which one of them they should coordinate to defeat the socialist party; or voters have such intense preferences that they deliberately eschew strategic voting.<sup>11</sup> Figures 1A and 1B represent this situation. The electorate is uniformly distributed on a single policy dimension, from left (0) to right (1). Before the introduction of universal suffrage only half of the population has the right to vote – those voters with preferences from 0.5 to 1. There are two parties, Liberals ( $L_I$ ) and Conservatives ( $C_I$ ), symmetrically positioned around the old median voter ( $m^o = 0.75$ ) at, say, 0.65 and 0.85 respectively, and thus win 50 per cent of the vote each (figure 1A). After universal suffrage is introduced, the median voter is  $m^n = 0.5$ . The Socialist party ( $S$ ) enters the electoral process announcing a position 0.35+, (figure 1B). Under a single-member plurality system, this should be enough to snatch the district from conservative hands – since voters, unable to determine what nonsocialist party has more chances to defeat  $S$ , cannot coordinate on either  $L_I$  or  $C_I$ . Anticipating a crushing victory of  $S$ , the old ruling parties shift away from plurality rule to PR.<sup>12</sup> This case matches the decision of the Danish and Swedish old parties to adopt a PR

---

<sup>10</sup> The single-member plurality system was in place in Australia, Canada, Denmark, Iceland, Ireland (before independence), Japan, New Zealand, Spain, Sweden, the United Kingdom and the United States. Austria (1907-19), France, Germany, Italy, the Netherlands (in part), Norway (since 1905) and Switzerland had a single-member system with two rounds (three rounds in Switzerland until 1900). Belgium, Luxembourg and the urban districts of the Netherlands operated under multi-member districts and two rounds.

<sup>11</sup> See Cox (1997: 76-80, 96-98) for the full set of (rather strict) assumptions under which a single-member plurality system leads to only two viable candidates. I focus on those conditions that shed light on the calculations the ruling parties make about which electoral rule should be adopted.

system.<sup>13</sup>

[Figures 1A, 1B and 1C here]

Even if the Socialist party is strong, the incentives to change the electoral system may remain low. In this second scenario, represented in figure 1C, one of the old ruling parties has a dominant position in the electoral arena. Whereas the Conservative party ( $C_2$ ) is still in 0.85, the Liberal party ( $L_2$ ) defends a slightly different policy platform than in figures 1A and 1B – 0.75, that is, old median voter ( $m^o$ ). As a result,  $L_2$  has a dominant position in the old system, polling about 55 per cent of the votes. Even if, after the whole electorate is enfranchised, the Socialist party ( $S$ ) emerges and adopts a position equal to 0.35, which should lead to an easy victory under plurality rule, the incentives of the Liberal party to shift to PR remain low. Since single-member plurality systems encourage strategic behavior, the Liberal elite rationally expects that all former Conservative voters, realizing that  $L_2$  has more chances to defeat  $S$ , will eventually vote for  $L_2$ . Once the Conservative party has disappeared, the Liberal party will be able to move to new median voter ( $m^n$ ) to regain control of the parliament. Although in the reverse way, with the Tory party playing as the dominant force, this is essentially what happened in Britain: after Liberals split during World War I, the Conservative party had no incentives to shift to PR to minimize the chances of a Labour victory. (By the 1930s, whereas the Tories were receiving close to 50 per cent of the vote, Liberals were only polling slightly more than 6 per cent of the vote.)<sup>14</sup>

Consider finally the case in which the new electors do not vote for new parties and, in the case of the advanced world at the turn of the century, socialist parties are weak. The ruling old parties have no incentives to shed the current plurality system, regardless of whether they are locked or not in a non-

---

<sup>12</sup> Moreover, since by shifting to PR they make easier the entry of any party to the left of  $S$ , they force  $S$  to slow down any movement toward the median voter.

<sup>13</sup> This situation also fits the case of several nations, like Belgium and the Netherlands, where nonsocialist coordination could not happen (even if there was a dominant party, like the Belgian Catholic Party) in the face of intensely committed voters.

<sup>14</sup> Similar calculations characterized the Labour Party once it became a dominant party in the left side of the policy space. Until 1921 a majority of Labour MPs favored PR. By 1923-24, once the Labour Party had solidified its lead over the Liberal Party in the polls, an overwhelming majority of Labour parliamentarians were against PR (Butler 1963).

Duvergerian equilibrium. In figure 2A,  $L_1$  and  $C_1$  have a roughly similar number of votes. In figure 2B,  $C_2$  enjoys a dominant position. Yet, in neither case will voters desert any of the two parties to stop  $S$ . In fact, it is  $S$  that is most damaged by strategic voting. This pattern fits the cases of Canada and the USA.<sup>15</sup>

[Figures 2A and 2B]

B. The single-member dual-ballot system as the point of departure. In a two-rounds system, where the coordination around two candidates gets postponed to the second ballot, the incentives to shift (or not) to PR can be shown to be rather similar to those under the single-member plurality system.

If the new party is weak, the ruling elite will not shift to PR. Regardless of whether all the candidates competing in the first round or only a limited number of them may go into the runoff election, the emergence of a small Socialist party does not alter the old party system. In the second-round election, the first-round socialist voters will be very likely to vote for their second-ranked candidate.

If the Socialist party is strong and there is one dominant nonsocialist party, the latter has no incentives to abandon the dual-ballot arrangement. As a matter of fact, the incentives to shift to PR are even lower than under a pure plurality system. The first electoral round serves to eliminate the contending nonsocialist party without political costs. Either because only the two top parties are legally entitled to go into the runoff election or because voters now know with absolute certainty for which nonsocialist party they should rationally vote, the dominant nonsocialist force can become the only nonsocialist party in parliament without having to lose any election. Instead, in a single-member plurality system, unless all the nonsocialist voters shift automatically to the party with higher electoral chances, the nonsocialist dominant party may have to endure one electoral defeat before getting all the right-wing votes to beat the Socialist party.

Finally, if the Socialist party is strong and the parties of the Right are similar in strength, they

---

<sup>15</sup> The pace at which universal suffrage was extended could have also affected the selection of electoral rules. In those countries in which suffrage was extended incrementally over the 19th century, the old parties were likely to control most of the electoral arena by the time universal suffrage was introduced, and their incentive to shift to PR must have been therefore low. By contrast, in countries where the electorate increased sharply in a short period of time, the old parties had to compensate their rapidly weakened position with the introduction of a very low threshold. Still, this explanation does not fare well for Germany and Switzerland (where PR came much later than universal male suffrage).

have strong incentives to shift to PR. Take again the example described in figure 1B. In the first round, both  $L_I$  and  $C_I$  will get 25 percent of the vote each and  $S$  will get 50 percent (that is, one vote short of the absolute majority). Although  $S$  may still be beaten in the second round, one of the old parties (either  $L_I$  or  $C_I$ ) will lose all parliamentary representation. This outcome will take place either because legally only the two top candidates can make it into the runoff or because all the nonsocialist voters coalesce around one party.<sup>16</sup> This case can be stated more precisely. Under a dual-ballot system and fully balanced nonsocialist forces, the odds that the old governing party will disappear are exactly one half.<sup>17</sup> Under these conditions, it is easy to see that it takes only a very slightly risk-averse party to shift to PR.

[Figure 3 here]

The decision to shift to PR is even stronger if the nonsocialist camp is more fragmented. Figure 3 describes a case in which three nonsocialist parties split the old electorate among themselves – historically a rather realistic situation.<sup>18</sup>  $M$ , the Monarchist party, is positioned in 0.95. The Conservative party,  $C$ , is positioned in 0.8, and the Liberals,  $L$ , have now a policy platform equal to 0.6. As a result, before the extension of the suffrage to all the population,  $M$  polls 25 per cent of the votes,  $C$  gets 35 per cent and  $L$  the remaining 40 per cent. The full enfranchisement of the electorate halves each old party's share of the vote. More importantly, the introduction of universal suffrage threatens to obliterate both  $M$  and  $C$  since  $L$  automatically becomes the only credible alternative to the nonsocialist party in the second

---

<sup>16</sup> Notice that if the law imposes a limit on the number of candidates that go into the second round, it is much easier to stop the Socialist party. The legal constraint eases the coordination process of all nonsocialist voters around a single candidate. If there is no legal limit, neither the Liberal nor the Conservative candidates have any incentive to leave the race and voters will keep having a difficult time knowing what party they have to choose. In other words, with no legal limits, the second round approaches the characteristics of a non-Duvergerian equilibrium played under a single-member plurality system.

<sup>17</sup> To put it more generally, the probability that each party has of getting into the second round and into parliament equals the proportion of votes that nonsocialist party has in the nonsocialist camp.

<sup>18</sup> At the turn of the century, the average number of nonsocialist parties in dual-ballot systems was slightly above 3. Cox (1997, chapter 6) formally shows that, in equilibrium, the number of viable parties in the single-member dual-ballot system is  $M+1$ , where  $M$  is the number of parties that are allowed to go into the runoff election. Most European dual-ballot systems only allowed the two top candidates to compete in the second round.

round. Given that either *C* or *M* or both of them are in government (in coalition with the Liberal party or forming a Conservative-Monarchist cabinet), any deal to introduce universal suffrage will be linked to a shift to PR.

### **Trade and Proportional Representation**

Taking a rather different approach, Rogowski (1987) concludes that “the more an economically advanced state relies on external trade, the more it will be drawn to the use of PR, a parliamentary system, and large districts.” (204) The adoption of a PR system by a “trade-dependent economy” is desirable for two separate reasons. On the one hand, by inducing the formation of a strong party system that ‘integrates’ and restrains particular interests, PR insulates the state from protectionist interests and enhances its autonomy before rent-seeking groups. On the other hand, in interaction with “the surrounding envelope of societal forces,” PR induces more political and policy stability. As a result, political elites in open economies “will be drawn” into embracing PR, either by their own conscious choice (since PR is a priori seen as advantageous) or by the imperative of trade-dependent states (since those that have not adopted PR will collapse or perish in the long run).

Rogowski’s theoretical claims seem, however, tenuous. Even though PR systems are well correlated to strong party-group linkages (Powell 1982: 82 ff.), the former did not lead to the latter. On the contrary, the adoption of PR followed the formation of fragmented but cohesive political parties (derived from previous social cleavages) (Rokkan 1970, Sartori 1966) – a fact in line with our previous discussion. Moreover, PR encourages higher levels of party fragmentation (Taagapera and Shugart 1989, Ordeshook and Shvestova 1994, Neto and Cox 1997). If, according to collective action theory, the multiplication of (non-encompassing) groups eventually leads to suboptimal results, such as higher transactions costs, distributional coalitions and lower social welfare (Olson 1982), PR cannot be said to reduce rent-seeking behavior. Finally, even if PR leads to a political system structured around parties rather than interest groups, its low entry barriers may precisely favor the institutionalization of those

interest groups into powerful party machines.<sup>19</sup>

### **Electoral Rules as Generators of Political Stability**

In response to a first stream of works that insisted on the beneficial effects that the plurality rule had for governmental responsiveness and political stability (Hermens 1941; partly Downs 1957), a more recent literature has emphasized that PR constitutes the most adequate system to govern (and will be therefore adopted by) any society with high degrees of political segmentation (Lijphart 1977). In allowing for the fair participation of all the country's political sectors, PR becomes a necessary pre-condition for both civil peace and consociational practices to occur. As noted by Rokkan, "it was no accident that the earliest moves toward proportional representation came in the ethnically most heterogeneous European countries [...] In linguistically and religiously divided societies majority elections could clearly threaten the continued existence of the political system. The introduction of some element of minority representation came to be seen as an essential step in a strategy of territorial consolidation." (1970: 157) In homogeneous polities, by contrast, plurality rule can remain in place safely. Since its coordinating effects do not entail the suppression of minority representation, it does not jeopardize the basis of the political order. Although this explanation carries some weight, I show later that the presence of minorities leads to PR conditional on both their geographical distribution and the use of alternative mechanisms of representation (such as federalism).

## **THE MEASUREMENT OF ELECTORAL SYSTEMS**

### **The Dependent Variable: The Effective Electoral Threshold**

Electoral systems are the composite of different rules regulating the access of citizens to suffrage, the number and use of votes by voters, the number and size of electoral districts, the introduction of thresholds and bonuses, and the allocation mechanisms employed to transform votes into seats. This complexity makes it particularly difficult to gauge the extent to which each electoral system encourages

---

<sup>19</sup> For a full discussion of Rogowski's theory and its empirical test, see the author (1992).

strategic behavior among voters and elites. Nonetheless, the literature on electoral systems has recently developed the variable of ‘effective threshold’ to calculate the number of votes each party needs to secure representation under each electoral law and, more generally, to determine the extent to which the electoral law distorts the proportional representation of voters’ preferences (Taagapera and Shugart 1989, Lijphart 1994).<sup>20</sup>

As is readily apparent, the percentage of votes a party needs to gain representation is not a specific number but a range of possibilities, which, for each electoral system, are a function of the strength and fragmentation of the remaining parties. This range goes from the threshold of inclusion, that is, the minimum percentage of the vote that gives a party a seat under the most favorable circumstances (that the rest of the parties are extremely fragmented), to the threshold of exclusion, that is, the maximum percentage of the vote that, under the most unfavorable conditions (having an opposition party gathering all the remaining vote), is still insufficient for a party to obtain representation. A single-member plurality system provides a straightforward illustration of these different thresholds. With 4 candidates competing for the seat, the threshold of inclusion is 25 per cent – any candidate that gets a bit more than this percentage gets the seat if the other three candidates split the other votes in equal parts. The threshold of exclusion, however, will be 50 per cent – a consequence of having the rest of the vote concentrated on a single alternative candidate. The literature calculates the inclusion and exclusion thresholds on the basis of the (average) district magnitude (which includes the possibility of having compensatory seats in secondary districts) and the presence of a legal threshold.<sup>21</sup> The threshold of inclusion (*Tincl*), which depends on the average number of parties that are assumed to run in each district, is equal to the highest of one of the following figures: (1) the legal threshold (that is, the legally stipulated minimum

---

<sup>20</sup> Taagapera and Shugart (1989), Ordeshook and Shvetsova (1994) and Amorim Neto and Cox (1997) employ instead the measure of ‘effective magnitude’. Since the effective threshold is the reverse of the effective magnitude, both measures should be seen as “two sides of the same coin.” (Lijphart 1994: 12)

<sup>21</sup> More specifically, in any electoral system, the threshold of exclusion (*Texcl*) is calculated as  $Texcl = 100 / M + 1$ , that is, the total percentage of votes divided by the number of seats (*M*) in the district plus one (where one stands for the fact that there is only one single party running against the candidate in the district).



percentage parties have to get to be entitled to get seats); (2)  $Tinclusion = 100 / 2M$  (Lijphart 1994: 26 ff.). (In a different approximation, Taagapera and Shugart (1989: 274-277) calculate it as  $Tinclusion = 100 / Mp$ , where  $p$  is parties and  $p$  is assumed to be  $M+1$ . Using this latter formula to calculate the dependent variable does not alter the econometric results of this article.)

The ‘effective threshold,’ that the literature calculates as an average of the inclusion and exclusion thresholds (Lijphart 1994; Taagapera and Shugart 1989), can be thus defined as the level of support that, for each electoral system, secures parliamentary representation to any party, with a probability of at least 50 per cent. The effective threshold of single-member plurality and dual-ballot districts is 35 per cent.<sup>22</sup> In a system with four-seat districts and no legal threshold (the average case in Ireland), the effective threshold is 17 per cent. In a 100-seats district, the effective threshold becomes a mere 0.75 per cent. Appendix A lists the cases under study as well as the set of variables employed in the article.<sup>23</sup>

### **The Historical Evolution of Electoral Regimes**

Based on yearly estimations of the effective threshold in all countries of the sample,<sup>24</sup> I plot the average effective threshold for the advanced world from 1875 to 1990 in figure 4.<sup>25</sup> Either the plurality system or the dual-ballot rule were the only systems in use in the advanced world in the last quarter of the 19th century,<sup>26</sup> regardless of whether (male) suffrage was universal (France) or limited. By the turn of the

---

<sup>22</sup> This is the value estimated by Lijphart (1994). Taagapera and Shugart (1989), however, put the effective threshold of a single-member district at 50 per cent. See a discussion in Lijphart (1994: 28).

<sup>23</sup> The full year-by-year data set is available from the author.

<sup>24</sup> For the period after 1945, the values of the effective thresholds have been taken from Lijphart (1994). For the period before WWII the effective thresholds are the result of my own estimations based on Nohlen (1981), Mackie and Rose (1991), Taagapera and Shugart (1989).

<sup>25</sup> The average effective threshold is the unweighted (for either population, geographical size or GDP) mean of all threshold across the countries in the sample for any given year.

<sup>26</sup> The same threshold is attributed to both the plurality and the dual-ballot systems by Taagapera and Shugart (1989) as well as Lijphart (1994).

century, and as soon as suffrage was extended and modern mass parties were founded, electoral rules were modified. PR was introduced in Belgium in 1899, in Finland in 1906 and partly in Sweden in 1907. The turning point took place, however, immediately after WWI. By 1919 all the small European states as well as Germany and Italy had embraced PR. The average effective threshold fell to around 18 per cent by 1919. It has remained at that level, slightly moving downward to around 14 per cent since then.

[Figure 4 here]

As the plurality/majority rule started to be abandoned in the late 1910s, variation in electoral regimes became substantial across nations. Figures 5 through 8 present four sets of cases, grouped according to the evolution of their electoral regimes and their overall regime stability.

[Figures 5 and 6 here]

Figure 5 plots stable democracies with stable non-PR systems (defined as those cases with an effective threshold higher than 10 per cent). Despite the introduction of universal suffrage, Australia, Canada, New Zealand, the United Kingdom and the USA did not shift to PR. From its inception, Ireland governed herself through a semi-PR system. Figure 6 depicts three examples of stable democracies that, once universal suffrage had been introduced, shifted permanently to PR. Similar cases (that are not represented in figure 6) are Denmark, Iceland (since WWII), Finland, Luxembourg, Norway and Sweden.

[Figures 7 and 8 here]

Figures 7 and 8 graph the evolution of the effective threshold in unstable political systems. Figure 7 shows those countries that, once they moved to universal suffrage, hardly changed their electoral system. In spite of suffering an episode of democratic breakdown in the interwar period, that some authors have associated with extreme PR rules, Italy and Germany have always maintained low thresholds. After WWII, Germany raised it moderately; Italy followed the reverse path. Yet in both cases the effective threshold has never exceeded the figure of 7.5 per cent. With the exception of the relatively proportional system imposed by the Allies in the 1946 elections, Japan has always employed a semi-PR system (with an effective threshold slightly above 16 per cent before and after WWII).

Figure 8 represents those (very few) cases where both the political regime and the electoral regime have been unstable. From 1875 to 1990 the French effective electoral threshold has changed seven

times – electoral rules have been modified many more times. Since 1926, Greece has changed its electoral threshold eleven times. Spain has moved from a relatively high threshold during the 1930s to a moderate PR system since 1977.

## EMPIRICAL ANALYSIS

### Sample

The evolution of the effective electoral threshold over time can be summarized as follows. After a period of plurality/majority rule, the transformation of the electoral arena pushed many (but not all) countries to embrace PR rules. Once the ‘shock’ of universal suffrage was absorbed, electoral thresholds have hardly changed. As a matter of fact, they have not been modified at all in stable democratic regimes.<sup>27</sup> Even most unstable democracies have resorted to similar electoral thresholds in their different episodes of democratic governance. France and particularly Greece stand as clear exceptions.

This general historical pattern suggests the following procedure to test the theories developed in section 1. Since what we are primarily interested in explaining is variation in the selection of electoral rules, I build two samples:

1. The first sample includes the average effective threshold for all those countries that enjoyed a period of democratic government in the interwar period. This leads to a total number of 22 observations: Australia 1919-39, Austria 1919-34, Belgium 1919-39, Canada 1919-39, Denmark 1919-39, Finland 1919-39, France 1919-39, Germany 1919-33, Greece 1923-36, Iceland 1934-39, Ireland 1922-39, Italy 1919-23, Japan 1925-40, Luxembourg 1919-39, Netherlands 1919-39, New Zealand 1919-39, Norway 1919-39, Spain 1931-36, Sweden 1919-39, Switzerland 1919-39, the United Kingdom 1919-39 and the USA 1919-39.

2. A second sample adds, to the cases in the first sample, those countries where democracy was restored after 1945: Austria 1949-90, France 1945-90, Germany 1949-90, Greece 1946-67, Greece 1975-

---

<sup>27</sup> Again, this results fits the general prediction that the ruling parties have very low incentives to change the rules of any game played under conditions of relative certainty.

90, Italy 1946-90, Japan 1946-90, Portugal 1975-90 and Spain 1977-90. This sample has 31 observations.

## Explanatory Variables

I specify the different explanatory theories discussed in section 1 as follows:

(1) To test the impact of the ruling parties' calculations on the electoral structure, I develop the following variables:

(a) the proportion of socialist votes, that ranges from 1 per cent in Japan to 44 per cent in Sweden and 53 per cent in Portugal;

(b) the fragmentation of the old nonsocialist parties, estimated as  $N$  or the effective number of parties;<sup>28</sup>  $N$  ranges in the sample from around 2 in Italy (1913) and the USA to 6 in Germany (1913);

(c) 'threat', the interactive term of the two previous variables;

(d) the year in which male universal suffrage was introduced, in the expectation that the earlier it was introduced, the more capable the old parties would be to control the electoral arena and the less likely they would be to shift to PR.

Notice that, if the discussion in section 1 is correct, the higher the variable 'threat', the more likely any country will be to shift to PR. As summarized in table 1 above, the following two conditions could also explain on their own why PR was eventually introduced by the old parties in power: (i) the presence of very high levels of socialist vote, since even if conservatives had been able to merge into a single party, the winner-take-all nature of the plurality system could still deliver a socialist absolute majority in parliament; (ii) an extraordinary degree of fractionalization within the nonsocialist camp, which, again, under non-PR rules, could lead an essentially weak socialist party to gather a parliamentary majority. Still, these two extreme conditions were exceptional: at the beginning of the interwar period, the average level of socialist vote was 22.5 per cent and the average effective number of non-socialist parties hovered around 3. Thus, it is reasonable to expect that the transformation of electoral rules was mainly

---

<sup>28</sup>  $N = 1/3 \sum p_i^2$ , where  $p_i$  is the fractional share of every nonsocialist party  $i$ . For a definition and discussion of  $N$ , see Taagapera and Shugart (1989), pages 79-80.

driven by the joint effect of socialist strength and conservative fragmentation.<sup>29</sup>

The percentage of socialist votes and the number of effective nonsocialist parties for the interwar sample are calculated based on the results:

- in the first elections celebrated under male universal suffrage (in the 20th century) in those countries that did not change to PR;<sup>30</sup>
- in the last elections held under plurality/majority rule in those countries that shifted to PR, provided they were contested under male universal suffrage;<sup>31</sup>
- if male universal suffrage was jointly introduced with PR, in those elections.<sup>32</sup>

Socialist strength and the number of nonsocialist effective parties for the new postwar democracies are estimated for the country's first democratic election.

(2) To test the theories discussed at the end of the first section, I consider:

(a) The impact of openness, measured by the log value of the sum of exports and imports as a proportion of GDP during the first years of the interwar period and at the time the new democratic regimes were established after 1945.<sup>33</sup>

---

<sup>29</sup> I have also operationalized the effective number of parties as  $N$  for systems that had plurality rule and  $N-1$  for countries with runoff elections since the fractionalization of the nonsocialist camp may have to be higher in the dual-ballot system than under plurality rule to secure the victory of a socialist party and therefore to push the old parties to shift to PR. This alternative operationalization of fractionalization (not reported in tables 2 and 3) leads to very similar results to the use of  $N$ .

<sup>30</sup> Australia 1902, Canada 1921, Ireland 1922, Japan 1928, New Zealand 1919, Spain 1931, United Kingdom 1918 and USA 1904. For France the elections are 1914 since an electoral reform in 1919 lowered the threshold from 35 to 29 per cent.

<sup>31</sup> Austria 1911 (returns in German-speaking provinces), Belgium 1894, Germany 1912, Italy 1913 and Switzerland 1917.

<sup>32</sup> Denmark 1918, Finland 1907, Luxembourg 1919, Netherlands 1919, Norway 1918 and Sweden 1921. Employing the results of the prior election in each country does not change the results (Finland is not used in this case because its elections before 1906 encompassed only 4 per cent of the adult population). In Iceland the first elections with complete universal suffrage (that is, after the exclusion of people under public assistance was abolished) were held in 1934. A semi-PR system had been already introduced in 1920 (leading to an effective threshold of 11.3 per cent) and more proportional measures were enacted in 1942. Employing the results of 1942 does not change the results in tables 2 and 3.

<sup>33</sup> The measure is taken from Mitchell (1975, 1982, 1983).

(b) The size of the country, measured as (1) the log value of the population, and (2) the log value of the geographical area (in thousands of km<sup>2</sup>).

(c) The presence of minorities, measured through the average of two indexes: (i) the Russell index of ethnic and religious fractionalization, reported in Taylor and Hudson (1972: 271-274), which ranges from 0.02 in Japan to 0.70 in Belgium and 0.78 in Canada; and (ii) the index of religious fractionalization, which I have estimated following the data reported in Taylor and Hudson (1972: 275-278), which ranges from 0 in Spain and Sweden to 0.68 in Canada.<sup>34</sup>

## **Empirical Results**

Tables 2 and 3 display the results for the sample of interwar countries and the whole sample respectively. Results are very similar. I will primarily discuss the results of table 2.<sup>35</sup>

[Tables 2 and 3 here]

Column 1 reports the results of the central regressors: 'threat', (log of) geographical area, (log of) trade openness, (log of) population, and ethnic and linguistic fragmentation.<sup>36</sup> The level of variance explained is 61 per cent (in table 2). Both threat (the interaction of socialist vote and conservative fragmentation) and geographical area are statistically significant. Population and trade are not statistically significant.<sup>37</sup> Although the index of ethnic and religious diversity has no statistical significance either, its

---

<sup>34</sup> Both indices measure the likelihood that two randomly selected members of a given country will belong to different ethnic or linguistic (or religious in the second index) groups and are calculated using the Rae index of fractionalization.

<sup>35</sup> The same models have been tested using a dichotomous variable (that takes the value of 1 if the country decided to shift to PR and 0 otherwise) as a dependent variable. The results confirm the model tested in tables 2 and 3.

<sup>36</sup> The year in which universal suffrage was introduced has no statistical significance and a coefficient opposite in sign to our theoretical expectations. This result may be in line with Przeworski (1975), who shows that most voters had well defined political identities before their actual electoral mobilization took place -- this would have reduced the impact that the timing of universal suffrage may have had on electoral rule-making and would explain why there is no apparent relationship between male universal suffrage and the likelihood of adopting PR. This variable has not been included in the results.

<sup>37</sup> Given that trade and geographical area are correlated, a joint F-test is in order. It shows that openness is not statistically significant.

coefficient has the right sign: the more ethnically and religiously fragmented a country, the lower the electoral threshold.<sup>38</sup> When we drop trade, population and fragmentation, threat and geographical size alone still explain 61 per cent of the variance -- the corrected  $r^2$  is 0.58 (these results are not reported in any table).

### *The Impact of Threat*

As predicted, the higher the threat faced by the old ruling parties, the lower the new electoral threshold. Based on the results in table 2, column 1, table 4 simulates the level of the effective threshold once universal suffrage is introduced for different levels of socialist strength and conservative fragmentation.<sup>39</sup> The effective threshold stays close to 30 per cent (a value equivalent to having single-member districts) when there are two main conservative parties and the socialist alternative is weak (the American case). For low levels of socialist vote, growing nonsocialist fragmentation leads to a mild reduction in effective thresholds: from around 29 per cent to 24 per cent (the equivalent of an average district magnitude of 2.5 seats). In turn, holding constant the effective number of conservative parties, socialist vote drives the threshold down from 29 per cent to around 22 per cent. Although socialism is a threat, the ruling parties are still unified enough to take advantage of a relatively disproportional system. Above all, the simulation shows the powerful interactive effect of both variables. With a socialist party just balloting 20 per cent of the vote and 4 nonsocialist parties, the threshold falls by 10 points from 31.5 (the level with no socialist party) to 22 per cent. With very high levels of fragmentation and a strong socialist party, the ruling parties move decisively to pure-PR systems. Germany fits quite well this case. In 1913 the SPD polled 34 per cent of the vote and the effective number of conservative parties was 6. The 1919 German effective threshold was 1.84 per cent.

---

<sup>38</sup> An important strand of the literature, dating back to Almond (1956), distinguishes between homogeneous and heterogeneous political cultures. To test its effects, I have built a dummy variable that, following Lijphart's work (Lijphart 1977), takes the value of 1 for Anglo-American and Scandinavian countries as well as West Germany. It is not statistically significant.

<sup>39</sup> For the simulation, the log of geographical area has been set to 3 (around 600,000 km<sup>2</sup>) and trade openness, population and ethnic and religious fragmentation have been set at their mean values.

[Table 4 here]

Column 2 (in both tables 2 and 3) turns to explore the robustness of the variable ‘threat’. It drops trade, population and ethnic fragmentation (which were not statistically significant in column 1) and adds, as separate variables, the two interactive terms of threat. The variable threat is still highly significant. Its coefficient goes up; this should be expected since the interactive term is well correlated with both of its components.<sup>40</sup> Notice that, against our theoretical expectations, the coefficients of socialism and conservative fragmentation are positive. A joint F-test shows that neither left nor fractionalization are statistically significant. Thus, the overall results of column 2 and particularly the statistical strength of interactive term show that, in line with the thrust of the argument in section 1, it is the size of threat that operates as the fundamental factor in determining the choice of the electoral threshold.

#### *Size, Trade and Internal Fragmentation*

Geographical area explains part of the variation in electoral thresholds as well.<sup>41</sup> The bigger the country, the higher the electoral threshold. We cannot exclude the possibility that size itself determines the choice of the electoral regime. Size has been previously advanced as an explanatory variable in politics (Dahl and Tufte 1973). The coordinating consequences of plurality rule may be particularly valuable for large, fragmented countries. It is more likely, however, that size proxies other explanatory variables.

Size may be capturing the impact of openness. Geographical area is highly correlated with trade: the Pearson’s coefficient is -0.85 for the interwar sample and -0.68 for the whole sample. Still, the claim is dubious given the poor statistical performance of trade once we enter size (see results in column 1).

Size is, above all, a proxy for the way in which ethnic and linguistic fragmentation affects each country and the means elites devise to deal with it. Consider figure 9, which displays the relationship between ethnic and religious fragmentation and geographical size. The graph shows a concave

---

<sup>40</sup> The correlation coefficient between threat and left is 0.67 and between threat and right fractionalization is 0.65.

<sup>41</sup> The same result is obtained by Blais and Massicotte (1997).



relationship (particularly if we exclude Luxembourg). Medium-sized nations such as Sweden and the United Kingdom have low fractionalization scores. Fragmentation turns out to be especially high in either very small (Switzerland, Belgium and the Netherlands) or very large countries (Australia, Canada and the USA).

[Figure 9 here]

The institutional response to fragmentation varied, however, across the sample of fragmented nations. In small countries, political elites have introduced PR rules to accommodate ethnic and religious minorities. By contrast, in extremely large countries, such as Australia, Canada and the USA, PR has not been adopted. Why did not fragmentation lead to PR in very large countries?

Arguing that there was no pressure to embrace PR to secure minority representation because ethnic and linguistic fragmentation in America and Australasia (a by-product of the large-scale migrations of the 19th century) did not crystallize, unlike Europe, in specific political cleavages is unconvincing. Although this explanation may be valid for Australia and even the USA, it does not fit the Canadian case.

A more satisfactory explanation (that accepts, in a qualified manner, the importance of minority representation) must consider, instead, both the geographical distribution of minorities and the adoption of alternative mechanisms to represent them. In many small European nations, where religious (and, sometimes, linguistic) cleavages tend to be distributed uniformly across the country, the maintenance of a single-member single-ballot system clearly would have benefitted the strongest minority over the other minorities. Accordingly, either for the sake of civil peace or mere survival, the old ruling parties avoided a system (plurality rule) that would have suppressed minority representation. By contrast, in very large countries, where ethnic and religious minorities tend to be concentrated in specific regions or provinces, PR is not necessary to secure the political participation of any significant ethnic or linguistic group. Canada is a case in point. In spite of having a plurality system, the Québécois interests are represented in Ottawa.<sup>42</sup> Even if a country is extremely heterogeneous at the national level, whenever its regions and

---

<sup>42</sup> The evolution of the electoral law in Switzerland fits this model nicely. The introduction of PR rules at the national level took place only late (when the emergence of the Socialist party threatened the hegemony of Radicals), mostly because the majority rule did not harm any minorities significantly. Since they were relatively concentrated geographically, they could attain a fair share of seats in the federal

local districts are rather homogeneous, a different set of mechanisms—such as federalism and a strict separation of powers—can successfully secure the representation of political minorities and hence make PR superfluous.<sup>43</sup> In short, under certain conditions, federalism operates as a (quasi-perfect) substitute for PR and minimizes any potential pressures to abandon a plurality/majority system.<sup>44</sup>

To measure the impact of fragmentation controlling for size I develop the variable ‘Fragmentation \* Area Dummy’ where ‘Area Dummy’ is 0 for countries bigger than 450,000 km<sup>2</sup>, 1 otherwise. Column 3 (in tables 2 and 3) reports a regression including ‘threat’ and this new interactive term. Both variables are statistically significant. For small and medium-sized countries, fragmentation increases the chances of adopting a PR system. Other things being equal, a highly fragmented country (such as Switzerland) should have a threshold 17 points lower than a homogeneous country (such as Japan).

## CONCLUSION

Three historical periods can be distinguished in the evolution of electoral regimes in the advanced world over the last century. During the era of limited suffrage of the 19th century, plurality/majority rule was consistently used across all nations. At the turn of the century, the old consensus around the single-member system broke down. While Anglo-Saxon countries preserved the plurality rule, most nations in continental Europe embraced PR. Finally, the 1920s ushered a new era of remarkable stability in the structure of electoral regimes. In the last eight decades, major changes in electoral rules have been limited

---

parliament. By contrast, within some cantons, such as Geneva and Ticino, where different social groups were more likely to overlap, political clashes over the electoral system already emerged in the mid-19th century (Carstairs 1980: 135-46).

<sup>43</sup> The creation of personal constituencies (the step taken by New Zealand with the establishment of several Maori-only constituencies) or gerrymandering can also be seen as ways to secure the representation of certain minorities without shifting to PR.

<sup>44</sup> From this discussion, it follows that the index of ethnic and religious fragmentation employed here is partly flawed for our purposes. Since it only captures fragmentation at the systemic or state level, it cannot serve to measure properly the degree to which plurality systems thwart the representation of minorities and hence generate instability in the medium run. It will be only possible to examine the effects of plurality systems if we develop measures of ethnic and linguistic fragmentation at the district level.

to France, Greece and (to some extent) Spain.<sup>45</sup>

The selection (and preservation) of different electoral rules can be traced to the strategic decisions that the current ruling parties, foreseeing the coordinating consequences of different electoral systems, make to maximize their representation in parliament. As long as both the electoral arena in which they compete hardly changes and the electoral system serves them well, the ruling parties have no incentives to modify any electoral norm. Nonetheless, the sudden transformation of the electoral market and a corresponding increase in the degree of uncertainty are likely to trigger a change in the electoral regime. Four different phenomena may lead to the transformation of the political arena: the extension of universal suffrage (Western Europe in the 1910s or new democratic nations in the postwar period); the introduction of competitive elections (Eastern Europe and several African nations in the 1990s); a massive political realignment among voters (the rise of socialism in the advanced world or today's rise of protectionist parties--which would partly explain why France temporarily shifted to PR in 1986-88); and a high turnaround in party organizations (France and Greece in this century).<sup>46</sup>

The degree to which the ruling parties decide to modify the current electoral rules depends then on the extent to which the latter undermine the former's political viability in the new electoral arena. This is, in turn, a function of two main conditions: the strength of the new parties and the capacity the old ruling parties have to coordinate among themselves to block the growth of new parties. On the one hand, if the new entrants are strong, the old parties shift to PR whenever they are locked into a 'non-Duvergerian equilibrium'. This situation takes place when the old parties are either tied in votes or are supported by strongly committed voters. Since elite or voter coordination around one of the old parties is

---

<sup>45</sup> Italy and New Zealand have also introduced changes very recently.

<sup>46</sup> The instability of the electoral systems is strongly related in those cases to the characteristics of the party system. Between 1945 and 1970, the instability of voter support for French parties was two and a half times greater than the average in other advanced democracies (Rose and Urwin 1970). More generally, the Pearson's coefficient of correlation between total volatility in vote shares and the standard variation of the effective threshold in the sample of OECD nations in 1900-1980 is 0.74. Total volatility is computed  $[3^n \sum_{i=1}^n (|p_{it} - p_{it+1}| / 2)]$ , where  $n$  is the number of the parties in the system and  $p_i$  is the electoral support in percentage for party  $i$  at time  $t$  and  $t+1$ . See Bartolini and Mair (1990) for a detailed discussion of this measure.

extremely unlikely to happen, the current government abandons plurality/majority rule to avoid the extraordinary costs it imposes on weak candidates. This matches the decision to embrace PR in most European small countries. On the other hand, even if the new parties command high levels of support, there are no incentives to shift to PR if one of the old parties enjoys a dominant position among the old electorate. Under this circumstance, which fits the British case, the dominant party rationally expects to become the focal point around which all the old voters will cluster to block the victory of the new party. Finally, when the new entrants are too weak, non-PR rule will remain in place, regardless of the structure of the old party system.

The analysis of the origins of different (electoral) institutional equilibria in democratic countries opens up at least two broad research questions. In the first place, given that the selection of different electoral rules hinged on the political conditions under which the ruling parties operated, or, in other words, given that electoral rules were ultimately endogenous to the political system, we are pushed again to examine what shaped those conditions: what determined the number of nonsocialist parties in the 1910s and 1920s across countries? Why was the coordinating capacity of elites different across countries? And, finally, why did it take so long to establish stable party systems and electoral rules in countries like France or Greece? Responding to these questions (as well as examining the bargaining rounds among elites that led to different institutional solutions) requires a historical analysis that lies beyond the scope of this article. The model presented here, however, should be taken as providing the theoretical foundations to complete such work.

In the second place, this paper has examined the choice of electoral rules in advanced democracies, that is, in countries where, first, the government could predict with some certainty the future structure of electoral competition; second, parties had, in most cases, become national; and, finally, parliamentary and semipresidential systems were (excluding the USA) the norm. Since the choice of an electoral system in a developing country that embraces democracy for the first time or after a very long period of authoritarianism may not meet these conditions, our predictions ought to change correspondingly. First, under conditions of very high uncertainty about the structure of the electoral arena, the ruling elite will select the electoral system mostly to minimize risks -- and therefore it will lean toward

a mixed or pure PR system. Second, if parties are collections of local notables, there might be an incentive to embrace single-member districts or multi-member districts where voters have as many votes as seats since these structures strengthen local ties and patronage politics.<sup>47</sup> Third, the choice of electoral systems is likely to be affected by the type of transition to democracy. PR (and a weak presidency) will be more likely in those countries where democracy has been imposed from below. By contrast, in those places where the old elite has liberalized the regime while controlling significant resources, a high electoral threshold will be more common.<sup>48</sup> Finally, given that newly democratizing countries vote a new constitution *ex nihilo*, the electoral law will be particularly shaped by the broad constitutional framework – the powers of executive and assembly as well as the level of decentralization – finally chosen. As shown in examining the impact of ethnic and religious diversity, the degree of proportionality of the electoral system will be in part conditional on the use of alternative mechanisms, such as federalism, to manage conflict and fulfill the goal of fair political representation.

---

<sup>47</sup> Being a former British colony has been found to be a strong predictor of a country having a single-member plurality system (Blais and Massicotte 1997). Accordingly, the adoption of electoral rules in developing countries has been mostly presented as a validating example of the role of ideas and the diffusion of cultural models on political and constitutional choices. (For recent works on the role of ideas, see Goldstein and Keohane (1993) and Hall (1989).) However, the strategic model proposed in this paper questions this traditional model in the following way. Assume that Britain shaped, through both the political institutions it established and the way negotiations toward independence were carried, a rather stable set of ruling parties or elites in its colonies. As long as these parties (perhaps a coalition of local patrons) were viable under the first-past-the-post system, no changes should be expected after the declaration of independence (i.e. India and the dominant position of the Congress party).

<sup>48</sup> The introduction of a constraining electoral system could take two forms: a parliamentary regime and plurality rule; or a presidential system with strong powers in the hands of the president and concurrent presidential and parliamentary elections. See Shugart and Carey (1992) for evidence suggesting that this latter system depresses the number of parties significantly.

## REFERENCES

- Amorim Neto, Octavio and Gary W. Cox. 1997. "Electoral Institutions, Cleavage Structures, and the Number of Parties," *American Journal of Political Science* 41: 149-174.
- Author. 1992. "Trade, Politics and Proportional Representation. A Reinvestigation of Rogowski's 'Trade and the Variety of Democratic Institutions'." Department of Government, Harvard University, unpublished manuscript.
- Bartolini, Stefano and Peter Mair. 1990. *Identity, Competition, and Electoral Availability. The Stabilisation of European Electorates 1885-1985*. Cambridge: Cambridge University Press.
- Blais, André and Louis Massicotte. 1997. "Electoral Formulas: A Macroscopic Perspective," *European Journal of Political Research*, 32: 107-129.
- Butler, D. E. 1963. *The Electoral System in Britain since 1918*. Oxford: Clarendon Press. Second edition.
- Carstairs, Andrew McLaren. 1980. *A Short History of Electoral Systems in Western Europe*. London: George Allen & Unwin.
- Cox, Gary W. 1997. *Making Votes Count: Strategic Coordination in the World's Electoral Systems*. New York: Cambridge University Press.
- Dahl, Robert A. and Edward R. Tufte. 1973. *Size and Democracy*. Stanford: Stanford University Press.
- Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper and Row.
- Duverger, Maurice. 1954. *Political Parties*. New York: Wiley.
- Goldstein, Judith and Robert O. Keohane, eds. 1993. *Ideas and Foreign Policy. Beliefs, Institutions and Political Change*. Ithaca: Cornell University Press.
- Hall, Peter A., ed. 1989. *The Political Power of Economic Ideas: Keynesianism across Nations*. Princeton: Princeton University Press.
- Hermens, Ferdinand A. 1941. *Democracy or Anarchy? A Study of Proportional Representation*. Notre Dame: University of Notre Dame.
- Lijphart, Arend. 1977. *Democracy in Plural Societies*. New Haven: Yale University Press.
- Lijphart, Arend. 1985. "The Field of Electoral Systems Research: A Critical Survey," *Electoral Studies* 4: 3-14.

- Lijphart, Arend. 1992. "Democratization and Constitutional Choices in Czecho-slovakia, Hungary and Poland, 1989-1991," *Journal of Theoretical Politics* 4: 207-223.
- Lijphart, Arend. 1994. *Electoral Systems and Party Systems. A Study of Twenty-Seven Democracies 1945-1990*. New York: Oxford University Press.
- Mackie, Thomas T. and Richard Rose. 1991. *The International Almanac of Electoral History*. Washington, D.C.: Congressional Quarterly. Third edition.
- Mitchell, Brian R. 1975. *European Historical Statistics 1750-1970*. New York: Columbia University Press.
- Mitchell, Brian R. 1982. *International Historical Statistics: Africa and Asia*. New York: New York University Press.
- Mitchell, Brian R. 1983. *International Historical Statistics: the Americas and Australasia*. London: MacMillan.
- Nohlen, Dieter. 1981. *Sistemas electorales del mundo*. Madrid: Centro de Estudios Constitucionales.
- Olson, Mancur. 1982. *The Rise and Decline of Nations*. New Haven: Yale University Press.
- Ordeshook, Peter and Olga Shvetsova. 1994. "Ethnic Heterogeneity, District Magnitude, and the Number of Parties," *American Journal of Political Science* 38: 100-123.
- Palfrey, Thomas. 1989. "A Mathematical Proof of Duverger's Law," in Peter C. Ordeshook, ed., *Models of Strategic Choice in Politics*. Ann Arbor: University of Michigan Press.
- Powell, Bingham G. "Constitutional Design and Citizen Electoral Control," *Journal of Theoretical Politics* 1: 107-130.
- Przeworski, Adam. 1975. "Institutionalization of Voting Patterns, or is Mobilization the Source of Decay," *American Political Science Review* 69: 49-67.
- Rae, Douglas W. 1971. *The Political Consequences of Electoral Laws*. New Haven: Yale University Press.
- Rogowski, Ronald. 1987. "Trade and the Variety of Democratic Institutions," *International Organization* 41: 203-224.
- Rokkan, Stein. 1970. *Citizens, Elections, Parties: Approaches to the Comparative Study of the Process of*

- Development*. Oslo: Universitetsforlaget.
- Rose, Richard and Derek Urwin. 1970. "Persistence and Change in Western Party Systems since 1945." *Political Studies* 18: 287-319.
- Sartori, Giovanni. 1966. "European Political Parties: The Case of Polarized Pluralism," in Joseph LaPalombara and Myron Weiner, eds., *Political Parties and Political Development*. Princeton: Princeton University Press, pp. 137-176.
- Shugart, Matthew S. and John Carey. 1992. *Presidents and Assemblies. Constitutional Design and Electoral Dynamics*. New York: Cambridge University Press.
- Taagapera, Rein and Matthew S. Shugart. 1989. *Seats and Votes: The Effects and Determinants of Electoral Systems*. New Haven: Yale University Press.
- Taylor, Charles L. and Michael C. Hudson. 1972. *World Handbook of Political and Social Indicators*. New Haven: Yale University Press. Second edition.



**TABLE 1**

**The Selection of Electoral Regimes**

		Strength of new parties	
		Low	High
Structure of the old party system	Presence of a dominant party (Duvergerian equilibrium)	Maintenance of non-PR system	
	Old parties tied in votes (Non-Duvergerian equilibrium)		Shift to PR system

**TABLE 2****Explaining the Selection of Electoral Rules in the Interwar Period.**

INDEPENDENT VARIABLES	AVERAGE EFFECTIVE THRESHOLD IN 1919-39		
	MODEL 1	MODEL 2	MODEL 3
Constant	-2.48 (43.12)	-22.74 (17.14)	31.21* (4.70)
Threat <sup>a</sup>	-11.58* (4.39)	-40.17* (18.92)	-13.55* (4.94)
Strength of Socialism <sup>b</sup>		78.96 (58.71)	
Effective Number (N) of Old Parties <sup>c</sup>		8.92^ (5.18)	
Geographical Area (log '000 km <sup>2</sup> )	10.19* (5.24)	9.67* (2.17)	
Trade Openness (log) <sup>d</sup>	1.15 (8.36)		
Population (log)	0.04 (1.54)		
Ethnic and Religious Fragmentation <sup>e</sup>	-4.32 (13.34)		
Fragmentation * Area Dummy <sup>f</sup>			-32.14* (14.61)
R <sup>2</sup>	0.61	0.67	0.39
Corrected R <sup>2</sup>	0.49	0.59	0.33
SEE	9.22	8.24	10.56
Number of observations	22	22	22

<sup>a</sup> Threat. Interactive term of 'strength of socialism' and 'effective number of old parties'.

<sup>b</sup> Strength of socialism. Proportion of votes (from 0 to 1) for socialist and communist parties in first elections contested under universal male suffrage. Source: Mackie and Rose (1991).

<sup>c</sup> Effective number of old parties. Estimated as  $N$  or the effective number of non-socialist parties in first elections contested under universal male suffrage.  $N$  is calculated as  $N = 1/\sum p_i^2$ , where  $p_i$  is the fractional share of every nonsocialist party  $i$ . For a definition and discussion of  $N$ , see Taagapera and Shugart (1989), pages 79-80. Own estimations based on data from Mackie and Rose (1991).

<sup>d</sup>Trade openness. Sum of exports and imports as a percentage of GDP in 1920-25. Source: Mitchell (1978, 1982, 1983)

<sup>e</sup>Ethnic and religious fragmentation. Average of Muller index of ethnic and linguistic fractionalization and index of religious fragmentation. Source: Taylor and Hudson (1972: 271-277).

<sup>f</sup>Fragmentation \* Area Dummy. Interactive term of index of ethnic and religious fragmentation and 'Area Dummy'. 'Area Dummy' is 0 for countries bigger than 450,000 km<sup>2</sup>, 1 otherwise.

Estimation: Ordinary Least Squares estimation

Standard errors in parenthesis.

\* Statistically significant at 0.05 or less.

^ The coefficient is within the 90% confidence interval.

**TABLE 3****Explaining the Selection of Electoral Rules in the Interwar Period and New Democracies after 1945.**

INDEPENDENT VARIABLES	AVERAGE EFFECTIVE THRESHOLD		
	MODEL 1	MODEL 2	MODEL 3
Constant	-13.03 (22.51)	-18.13 (14.40)	30.02* (4.70)
Threat <sup>a</sup>	-11.27* (3.39)	-34.07* (15.82)	-13.24* (3.89)
Strength of Socialism <sup>b</sup>		57.70 (45.86)	
Effective Number (N) of Old Parties <sup>c</sup>		7.31 (4.50)	
Geographical Area (log '000 km <sup>2</sup> )	11.33* (3.45)	9.89* (1.99)	
Trade Openness (log) <sup>d</sup>	2.96 (4.43)		
Population (log)	0.08 (1.32)		
Ethnic and Religious Fragmentation <sup>e</sup>	-2.26 (11.18)		
Fragmentation * Dummy Area <sup>f</sup>			-31.45* (12.50)
R <sup>2</sup>	0.60	0.42	0.37
Corrected R <sup>2</sup>	0.52	0.34	0.33
SEE	8.27	7.76	9.71
Number of observations	31	31	31

<sup>a</sup> Threat. Interactive term of 'strength of socialism' and 'fragmentation of old parties'.

<sup>b</sup> Strength of socialism. Proportion of votes (from 0 to 1) for socialist and communist parties in first elections contested under universal male suffrage for interwar period and in first elections after 1945 for other cases. Source: Mackie and Rose (1991).

<sup>c</sup> Fragmentation of old parties. Estimated as N or the effective number of non-socialist parties in first elections contested under universal male suffrage for interwar period and in first elections after 1945 for other cases. See

Taagapera and Shugart (1989: 79-80) for a definition of N. Own estimations based on data from Mackie and Rose (1991).

<sup>d</sup> Trade openness. Sum of exports and imports as a percentage of GDP in 1920-25 for interwar period and in 1950 for other cases (for Portugal and Spain in 1970). Source: Mitchell (1975, 1982, 1983)

<sup>e</sup> Ethnic and religious fragmentation. Average of Muller index of ethnic and linguistic fractionalization and index of religious fragmentation. Source: Taylor and Hudson (1972: 271-277).

<sup>f</sup> Fragmentation \* Area Dummy. Interactive term of index of ethnic and religious fragmentation and 'Area Dummy'. 'Area Dummy' is 0 for countries bigger than 450,000 km<sup>2</sup>, 1 otherwise.

Estimation: Ordinary Least Squares estimation  
Standard errors in parenthesis.

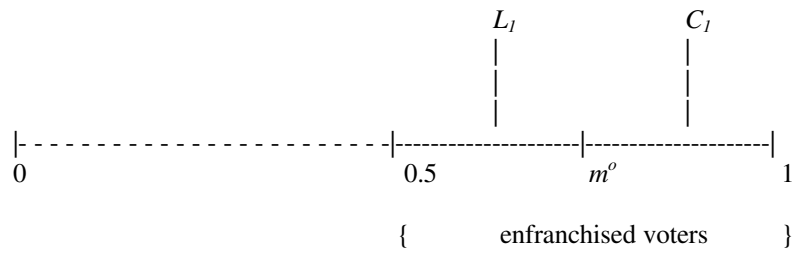
\* Statistically significant at 0.05 or less.

**TABLE 4****The Interactive Effects of Socialist Strength and Conservative Fragmentation on the Selection of Electoral Thresholds**

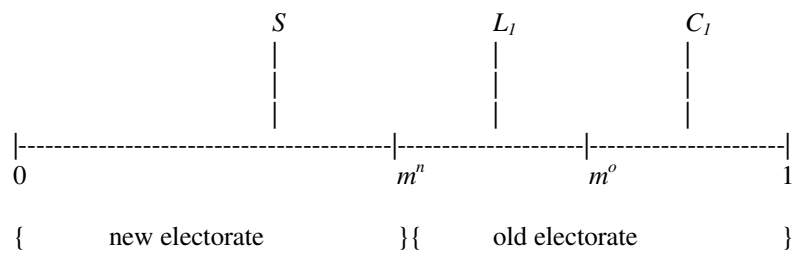
		EFFECTIVE ELECTORAL THRESHOLD			
		Percentage of socialist votes			
		10	20	30	40
Effective number of conservative parties	2	29.2 (3.7)	26.9 (3.3)	24.6 (3.2)	22.3 (3.2)
	4	26.9 (3.3)	22.3 (3.2)	17.6 (4.0)	13.0 (5.3)
	6	24.6 (3.2)	17.6 (4.0)	10.7 (6.0)	3.8 (8.3)

Results are derived from results in table 2, column 1. The log of geographical area has been set to 3 and trade openness, population and ethnic fragmentation have been set at their mean values. In parenthesis, the standard error of estimates.

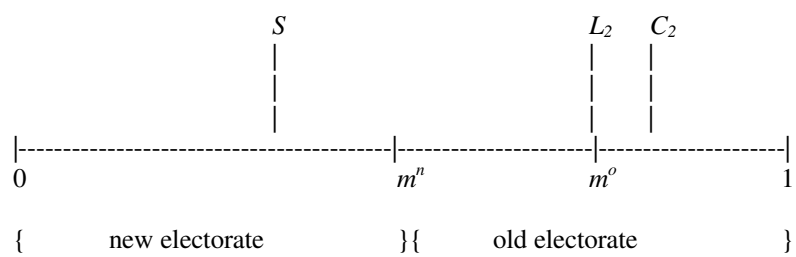
**Figure 1A**



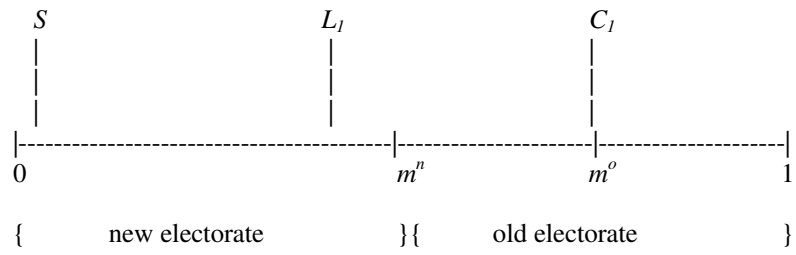
**Figure 1B**



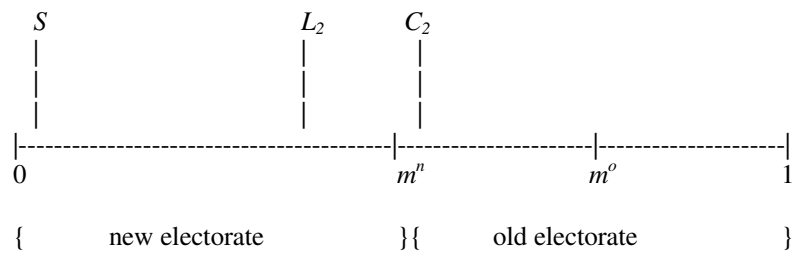
**Figure 1C**



**Figure 2A**



**Figure 2B**





**Figure 3**

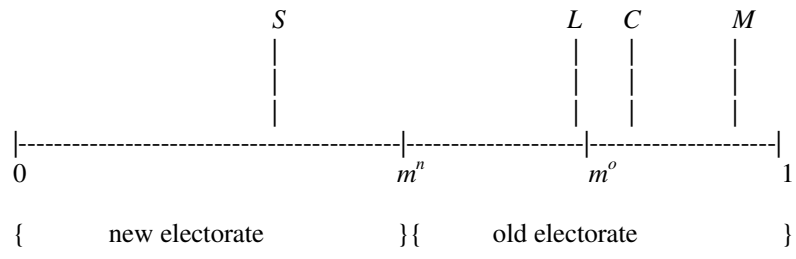


Figure 4  
Evolution of the Average Effective Threshold in the Advanced World

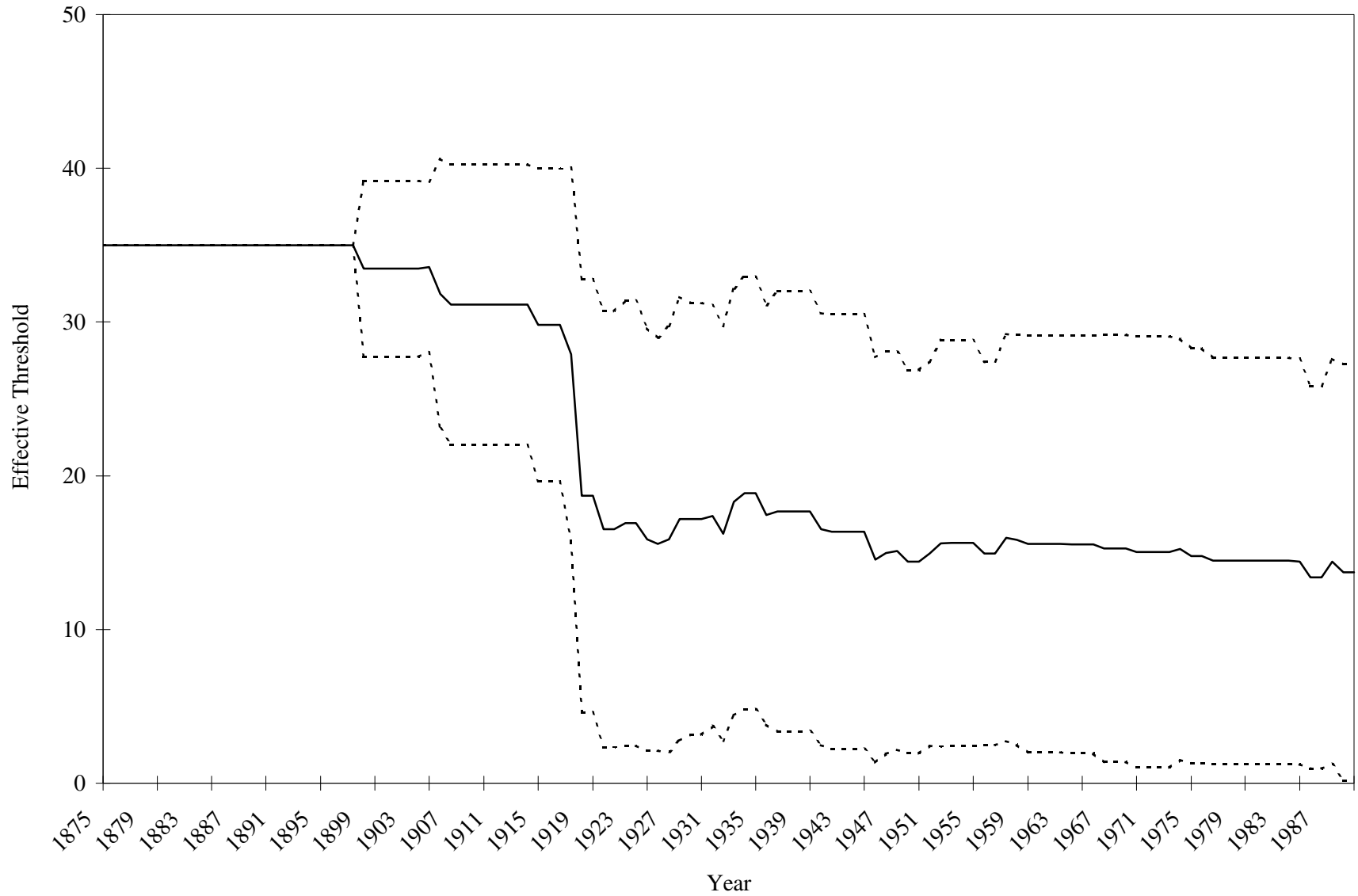
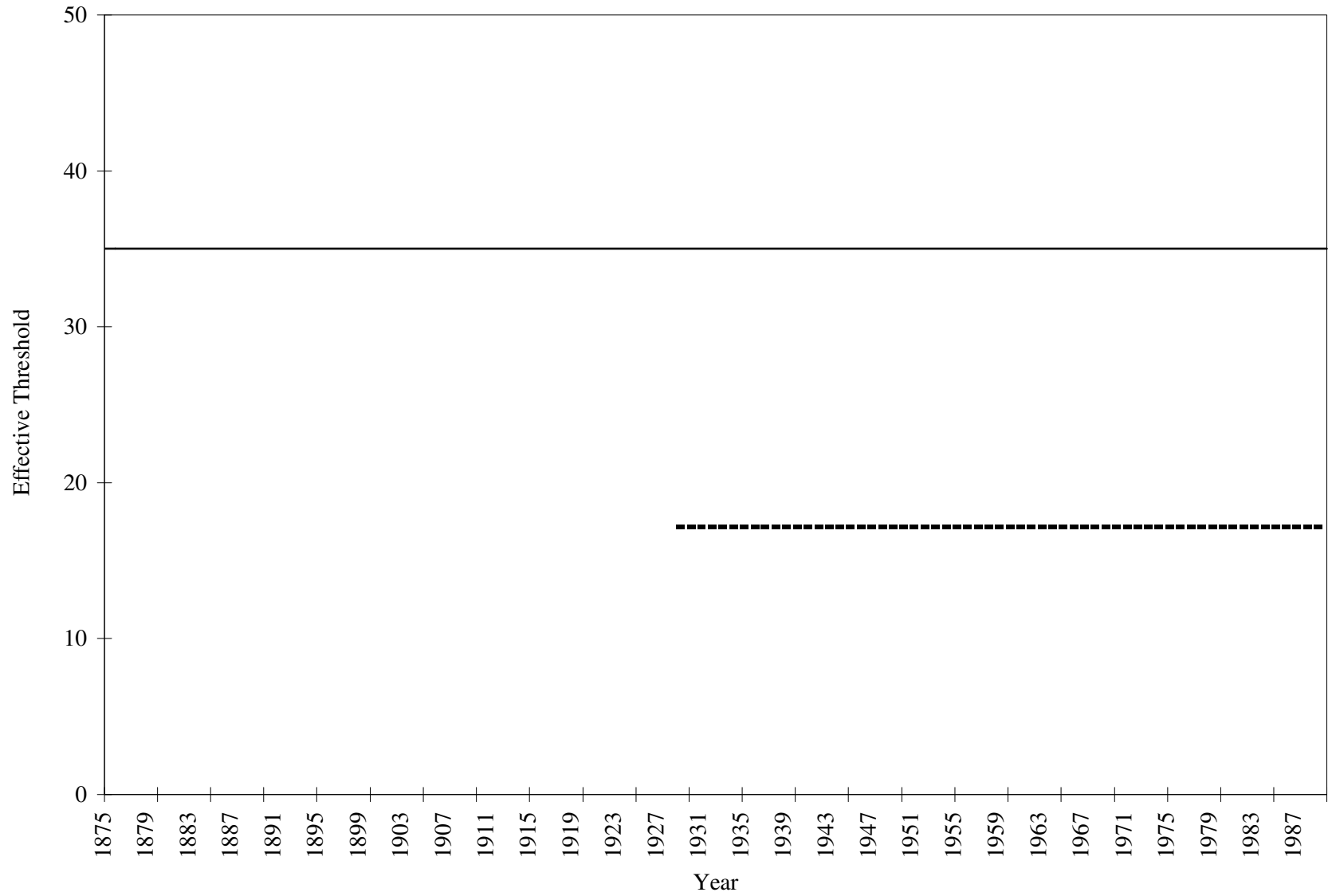


Figure 5  
Countries with Both Stable Democracies and Stable Plurality Systems



— United Kingdom, USA, Australia, Canada, N Zealand      - - - Ireland

Figure 6  
Countries with Both Stable Democracies and Stable PR Systems

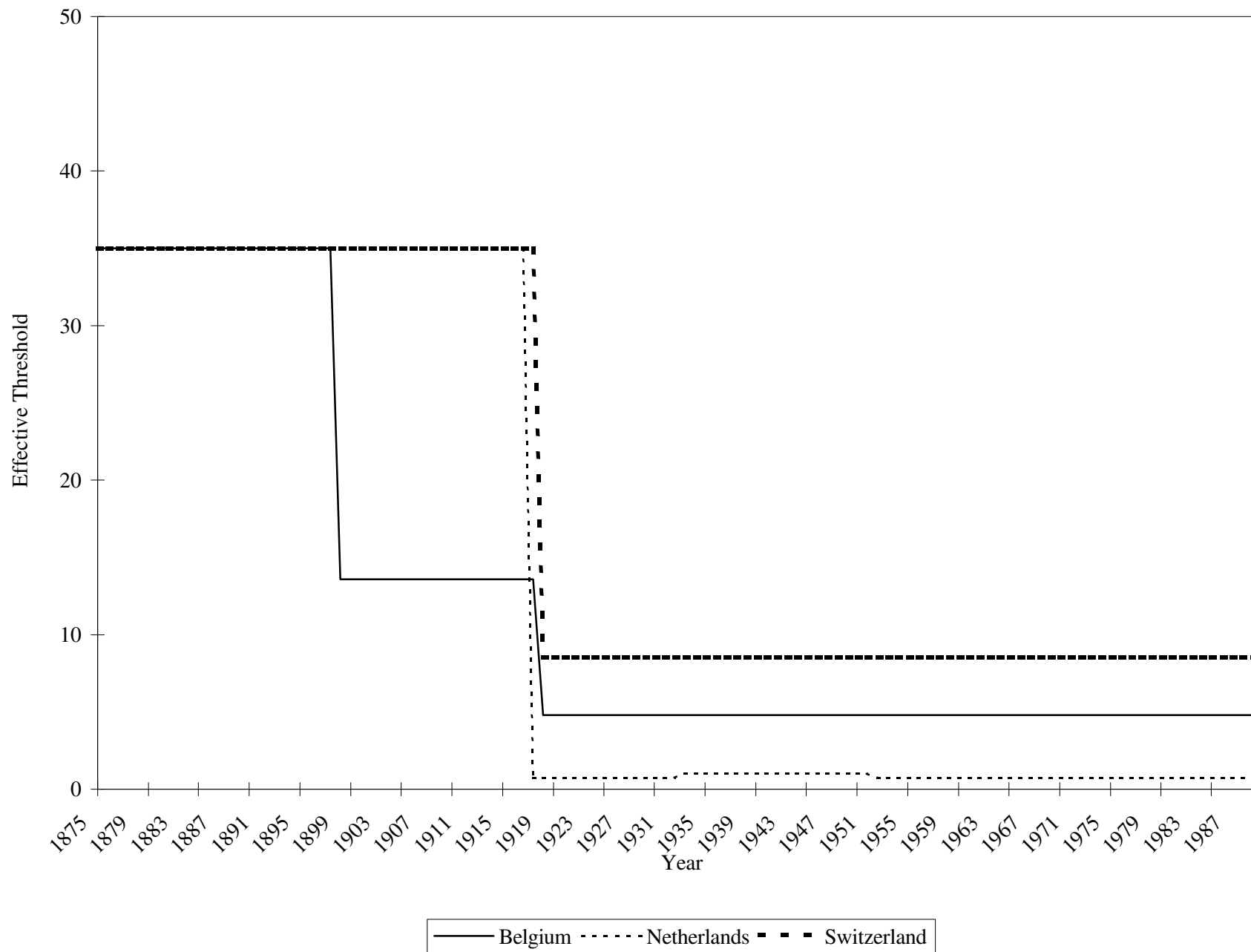


Figure 7  
Unstable Democracies with Stable Electoral Systems

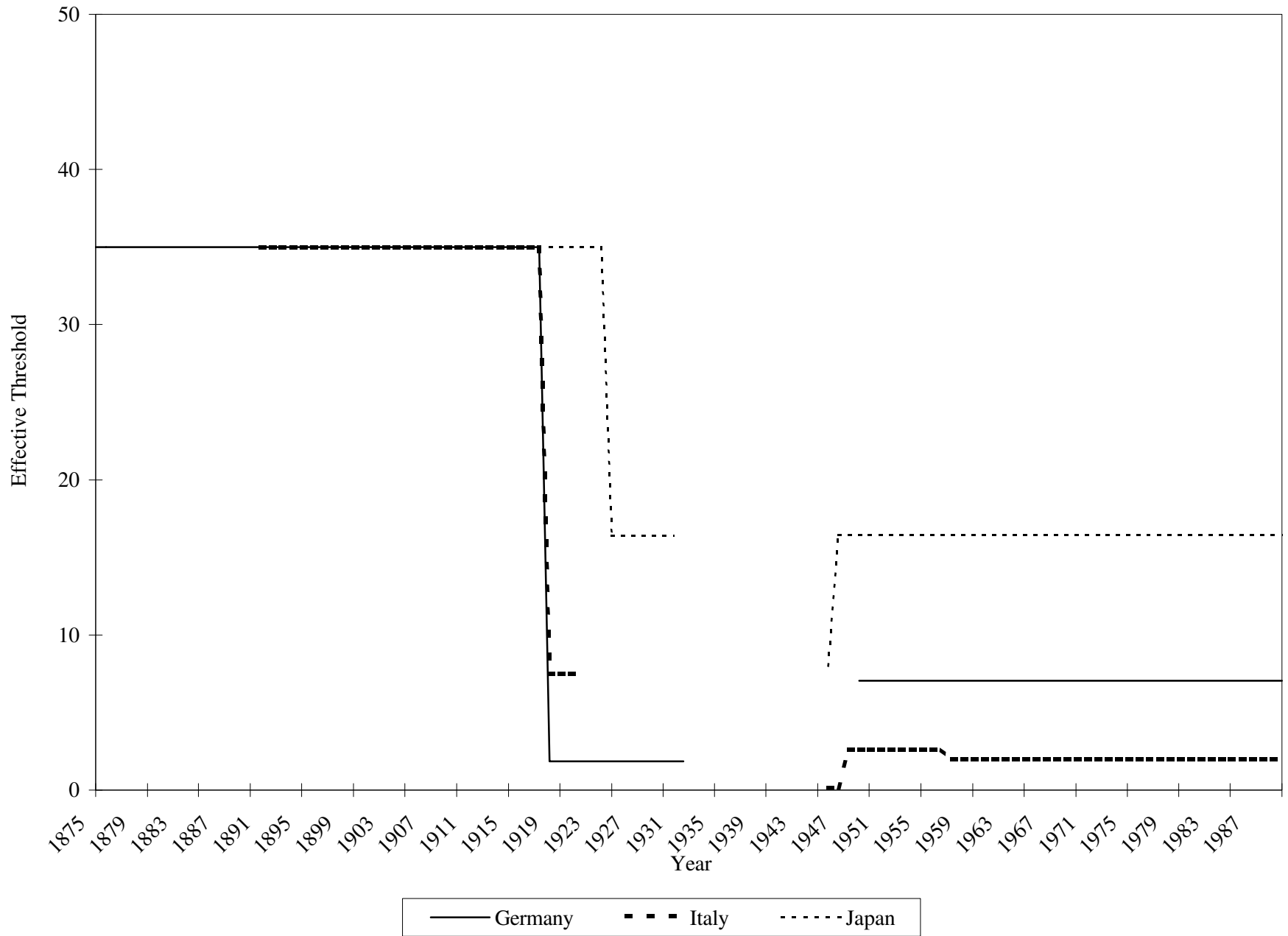
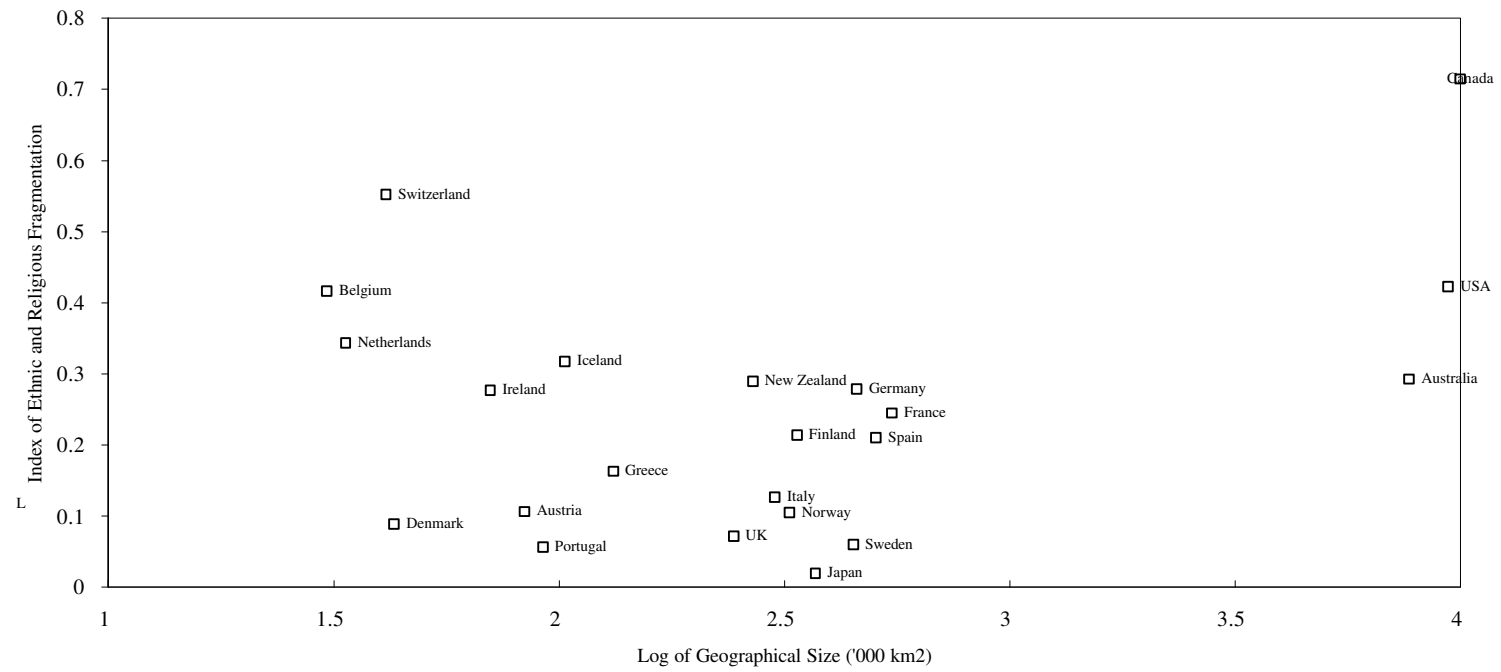


Figure 8  
 Countries with Both Unstable Democracies and Unstable Electoral Rules



Figure 9  
Internal Fragmentation and Geographical Size



## APPENDIX A

Country	Threshold	% Left	Right-wing fragmentation	Size (in '000 km <sup>2</sup> )	Index of ethnic and linguistic fragmentation
Interwar Period					
AUSTRALIA	35.0	31.0	2.29	7686.8	0.293
AUSTRIA	8.9	25.4	2.57	83.8	0.106
BELGIUM	4.8	14.9	2.75	30.5	0.416
CANADA	35.0	2.3	3.12	9976.2	0.715
DENMARK	2.9	28.7	3.12	43	0.089
FINLAND	5.7	37.0	3.50	337	0.214
FRANCE	32.9	20.7	4.79	547	0.245
GERMANY	1.8	34.8	6.02	456.8	0.279
GREECE	25.8	10.9	4.42	131.9	0.163
ICELAND	11.3	27.7	2.26	103	0.318
IRELAND	17.2	21.3	2.91	70.3	0.277
ITALY	7.5	17.6	2.03	301.2	0.127
JAPAN	24.1	1.2	2.65	369.7	0.020
LUXEMB	5.2	15.6	2.31	2.6	0.117
NETHERLANDS	0.8	24.3	4.97	33.6	0.344
NEW ZEALAND	35.0	23.8	2.38	268.7	0.289
NORWAY	9.2	31.6	2.66	324.2	0.105
SPAIN	21.5	21.7	3.65	504.7	0.210
SWEDEN	8.8	44.0	2.75	449.8	0.060
SWITZERLAND	8.5	30.8	2.42	41.3	0.552
UK	35.0	22.5	2.46	244	0.072
USA	35.0	3.6	2.10	9363.4	0.423
Postwar period					
AUSTRIA	4.1	38.7	2.03	83.8	0.106
FRANCE	28.0	41.1	2.73	547	0.245
WEST GERMANY	7.1	29.2	4.70	248.5	0.283
GREECE - 1946-67	20.9	19.3	1.97	131.9	0.163
GREECE - 1975	14.7	23.1	1.75	131.9	0.161
ITALY	2.0	39.6	2.70	301	0.127
JAPAN	16.2	21.8	3.09	369.7	0.020
PORTUGAL	5.8	53.5	2.35	92	0.057
SPAIN	10.2	34.8	4.26	504.7	0.210