IT'S PARTIES THAT CHOOSE ELECTORAL SYSTEMS
(or Duverger's Laws Upside Down)

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Abstract

This article presents, discusses and tests the hypothesis that it is the number of parties what can explain the choice of electoral systems, rather than the other way round. Already existing political parties tend to choose electoral systems that, rather than generate new party systems by themselves, will crystallize, consolidate or reinforce previously existing party configurations. A general model develops the argument and presents the concept of 'behavioral-institutional equilibrium' to account for the relation between electoral systems and party systems. The most comprehensive dataset and test of these notions to date, encompassing 219 elections in 87 countries since the 19th century, are presented. The analysis gives strong support to the hypotheses that political party configurations dominated by a few parties tend to establish majority rule electoral systems, while multiparty systems already existed before the introduction of proportional representation. It also offers the new theoretical proposition that strategic party choice of electoral systems leads to a general trend toward proportional representation over time.

This article presents, discusses and tests a hypothesis that may look as Duverger's 'laws' (or hypotheses) upside down: it is the number of parties that can explain the choice of electoral systems, rather than the other way round. The emphasis on this line of causality does not deny, of course, that existing electoral systems offer different positive and negative incentives for the creation and endurance of political parties, but, precisely because electoral systems may have important consequences on shaping the party system, it can be supposed that they are chosen by already existing political actors in their own interest. Accordingly, it can be expected that, in general, electoral systems will crystallize, consolidate or reinforce previously existing political party configurations, rather than generate new party systems by themselves.

This is not a completely new hypothesis, although, to my knowledge, it had not been largely elaborated nor submitted to systematic empirical tests.[1] This paper, thus, presents, first, a logical model and discussion of the choice of electoral systems in settings with different numbers of previously existing political parties. Second, it offers the most comprehensive dataset and test of these notions to date, encompassing 219 elections in 87 countries since the 19th century, that is, not focused on developed countries during the most recent periods, but on all world regions and historical periods. In contrast to usual exercises to illustrate the political consequences of different electoral systems, the basic comparisons are not only among different countries using different rules, but also for every single country before and after the introduction of new electoral rules. In particular, the paper presents an important new theoretical proposition: that strategic party choice of electoral systems leads to a general trend toward proportional representation over time.

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[1] Sketches along this line include from Maurice Duverger himself, who briefly noted that "the first effect of proportionality is to maintain an already existing multiplicity" (Duverger 1950, 1951, p. 344), to, among others, John G. Grumm, holding that "the generally-held conclusions regarding the causal relationships between electoral systems and party systems might well be revised…. it may be more accurate to conclude that P.R. is a result rather than a cause of the party system in a given country" (Grumm 1958, p. 375), Leslie Lipson, who developed some historical narrative from the premise that "chronologically, as well as logically, the party system is prior to the electoral system" (Lipson 1964, p. 343), and Rein Taagepera, recently suggesting a "causality following in the reverse direction, from the number of parties towards electoral rules" (Taagepera 2003, p. 5).

1. Choosing the Electoral System

Let us start the reasoning with two rather standard assumptions: first, voters and leaders are motivated to participate in elections in order to win (whether this is a final or an instrumental aim); second, political actors participating in the choice of an electoral system are not risk-prone, thus preferring a secure partial victory to the bet for a relatively low probable total victory also able to produce a total defeat. We can infer logically that, under conditions of high uncertainty or serious threat, self-interested actors will prefer and tend to choose electoral rules creating low opportunities for them to become absolute losers.

We know that electoral systems based on the majority principle, which tend to produce a single, absolute winner and the subsequent absolute losers, are more risky for non-dominant actors than those using rules of proportional representation, a principle which was forged to create multiple partial winners and much fewer total losers than majority rules. In the following analysis we will focus on this distinction between electoral systems based on the majority principle (including both simple plurality and absolute majority rules with different voting and counting procedures) and those using rules of proportional representation or PR (including mixed systems permitting multiple parties to obtain representation). Other elements here not considered in detail, including in particular assembly size and district magnitude, which, together with other elements, can produce a very high number of institutional combinations, may also have an influence on the number of parties than can prove durable.

In general it can be postulated that <u>the large will prefer the small and the small will prefer the large</u>. A few large parties will prefer small assemblies, small district magnitudes (the smallest being one) and small quotas of votes for allocating seats (the smallest being simple plurality, which does not require any specific threshold), in order to exclude others from competition. Likewise, multiple small parties will prefer large assemblies, large district magnitudes and large quotas (like those of proportional representation) able to include them within. [2]

The change of electoral rules can be a rational strategy for likely losers or threatened winners if the expected advantages of alternative rules surpass those of playing by the existing

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[2] The accumulative body of knowledge on the political consequences of electoral systems, which William Riker (1982a) praised as one of the few with such long-term intellectual progress in political science, includes, as is well known, Duverger 1950, 1951, Rae 1967, Grofman and Lijphart 1986, Taagepera and Shugart 1989, Lijphart 1994, Cox 1997, Katz 1997, Massicotte and Blais 1999, Shugart and Wattemberg 2001, Taagepera 2001, among others.

rules minus the costs of change. In particular, the change of the electoral system can be more successfully promoted by those parties with higher decision, negotiation or pressure power under the existing institutional framework. This makes incumbent rulers submitted to credible threats by new or growing opposition parties likely candidates to undertake processes of institutional change.

It can, thus, be expected that only in situations in which a single party is institutionally dominant and expects to obtain or maintain voters' large support, restrictive rules based on majority requirements will be chosen or maintained. Since this type of electoral rules tends to produce a single absolute winner, they can give the largest party more opportunities to remain as winner and retain control –as can happen, in particular, in slow processes of broadening suffrage rights and democratization giving the incumbent rulers significant opportunities to define the rules of the game. In contrast, if no single group of voters and leaders, including the incumbent ruling party, is sufficiently sure about its support and the corresponding electoral prospects in future contests; in other words, when there is high uncertainty regarding the different groups' relative strength or clearly electoral support is going to be widely distributed among several small parties, change in favor of less risky, more inclusive electoral rules, such as mixed and proportional representation electoral systems, are more likely to be promoted and established by the actors in their own interest. This tends to be the development preferred by new or newly growing parties in opposition to traditional rulers, including in particular multi-party opposition movements against an authoritarian regime, but it can also be favored by threatened incumbent rulers in order to minimize their possible loss.[3]

This model, thus, postulates that self-interested parties can develop two strategies at the same time: behavioral and institutional, and not only the former as has been assumed in general in most of the electoral system literature. In the behavior field, the basic decision is to create or not a political party (understood here simply as an electoral candidacy). More specifically, 'to create' a political party mat imply either a new effort of collective action or to split from a previously

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[3] This general discussion can be compatible with the more specific assumptions adopted by Carles Boix (1999) in his more focused analysis on countries of Western Europe in early 20th century. He basically discussed three situations in which there were either a single dominant conservative party, or two large and relative balanced conservative and liberal parties alternating in government, or three conservative, liberal and socialist parties with similar strength. The assumptions in the present paper, in contrast, do not imply any particular party configuration on an ideological spectrum and can be valid for any world region or period, including, for instance, situations in which the incumbent party is neither conservative nor liberal, as in Eastern Europe in the early 1990s, or there is no significant socialist party, as in most countries of Latin America and some in other parts of the world.

existing party, while 'not to create' a political party may mean to enter a previously existing party, form an electoral coalition, or merge with it. In the institutional field, the decision is to promote or not a change in the electoral system, the two basic polar alternatives being placed, as mentioned, around majoritarian and proportional representation rules.

As the well-established body of literature previously referred to has remarked, given the electoral system, the actors' relevant strategy lies mainly in the behavior field. In particular, if there is a majoritarian electoral system, the rational strategy for self-interested actors is 'not to create a party', that is, to coordinate efforts with other would-be leaders and groups to form only a few large parties or coalitions in the system –typically two–, each of them able to compete for offices with reasonable expectation of success. In contrast, if the existing electoral system is based upon the principle of proportional representation, and to the extent that it is inclusive and permits representation of small parties, the rational actor may choose either coordination or running on its own candidacy, in the expectation that in both cases it will obtain the corresponding office rewards (this is, of course, the kind of problems addressed by Cox 1997).

However, coordination may fail and, especially under majoritarian systems, lack of coordination may produce defeats and no representation for candidates, groups and parties with some significant, real or potential, support among voters. In these cases, the alternative strategic field –the choice of electoral system-- becomes relevant. Parties unable to coordinate themselves into a small number of large candidacies will tend to prefer electoral systems able to reduce the risks of competing by giving all participants higher opportunities to obtain or share power. It is, thus, not only that majoritarian electoral systems tend to restrict effective competition to two large parties, while proportional representation permits multiple parties to succeed, but also that two-party configurations are likely to establish or maintain majoritarian electoral systems, while multiple-party configurations will tend to choose systems with on proportional representation rules.

This analysis takes benefit from both 'institutional theories', which include those about the political consequences of electoral systems, and 'theories of institutions', in this case regarding the choice and change of electoral systems. Seminal concepts for this development were those of 'structurally-induced equilibrium', referring to institutional conditions for an equilibrium in behavior (Shepsle 1979, 1986), and of 'disequilibrium institutions', which referred to behavioral conditions for a (dis)equilibrium in institutions (Riker 1980, 1982b) (recent discussion include Colomer 2001, Diermeier and Krehbiel 2003). The present approach configures a 'behavioral-institutional equilibrium', which can be produced by actors with the ability to choose both behavioral strategies,

such as party, candidacy or coalition formation, electoral platforms or policy positions, and institutions regulating and rewarding those behaviors.

In our present problem, we are not addressing only electoral system-induced behavioral equilibria, defined, for instance, as the number of organized parties which can be more effective for competing in a particular setting. We do not focus only on the choice of equilibrium electoral systems which would not be changed by the existing actors in their own interest. According to our previous discussion presented in the above paragraphs, we postulate a combination of both behavioral and institutional choices. In the long term, two polar behavioral-institutional equilibria can be conceived. In one, political actors coordinate into two electoral parties or candidacies under majoritarian electoral rules. In another, multiple parties compete separately under proportional representation electoral rules (with other intermediate pairs of consistent behavioral and institutional alternatives, including imperfect two-party systems, mixed electoral systems and alike, also being possible).

The presumed line of causality is, in this approach, double: majoritarian rules induce the formation of two large parties, but two-party configurations also maintain or choose majoritarian rules; proportional representation permits the development of multiple parties, but multi-party systems also tend to establish or confirm proportional representation rules. A crucial point, however, is that coordination failures can be relatively more frequent under majoritarian electoral systems, especially for the costs of information transmission, bargaining, and implementation of agreements among previously separate organizations, as well as the induction of strategic votes in favor of the larger candidacies. With coordination failures, people will waste significant amounts of votes, voters' dissatisfaction with the real working of the electoral system may increase, and large numbers of losing politicians are also likely to use voters' dissatisfaction and their own exclusion, defeat or under-representation to develop political pressures in favor of changing to more proportional electoral rules.

In contrast, coordination failures should not exist, properly speaking, under conditions of perfect proportional representation. Even if the number of candidacies increases, each of them can expect to obtain about the same proportion of seats that would have obtained by forming part of more encompassing candidacies. In reality, coordination failures are relevant under PR systems to the extent that they are not properly 'proportional', particularly when small assembly sizes and small district magnitudes are used (as illustrated, for example, with a few extreme cases by Cox 1997, chapter 5).

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An implication of this reasoning is that, in the long term, we should expect that most electoral system changes should move away from majoritarian formulas and in favor of systems using rules of proportional representation. Reverse changes, from PR toward more majoritarian rules, may be the bet of some potentially dominant, growing or daring party, but can imply high risks for a partial winner to be transformed into a total loser if its optimistic electoral expectations are not confirmed. This occurrence should be more frequent if, against the assumption in the model, actors were risk prone. In a historical perspective, and to the extent that the assumptions and implications of the model are sufficiently realistic, we should find increasing numbers and proportions of electoral systems using PR formulas rather than majoritarian rules.

2. Thresholds of Choice

In order to make this model operational and testable, let us try to identify the conditions of change from different electoral rules more precisely. Although it is not a common rule nowadays in national political institutions, let us first discuss the conditions in which unanimity rule can either produce satisfactory results and remain stable or be changed towards majority rules. This discussion will enlighten, by analogy, the discussion on the conditions of change from majority rule, which is more empirically relevant in domestic political systems in the present world, but it can also suggest further reflections on current international organizations working by rules close to unanimity –which is an underestimated subject in the electoral system literature.

In very abstract terms, it can be assumed that the members of a community, organization or institution are likely to choose unanimity rule as the way to elect delegates or representatives or make collectively enforceable decisions when, given their high levels of homogeneity of interests, values or tastes, it can be reasonably expected that it will be relatively easy to identify a common will. Consistently with this assumption, in the real world unanimity is a common decision rule in relatively simple, homogeneous, small-number gatherings, such as families, friends' groups, urban gangs, neighbors' meetings, corporation partners, and club members. If a general agreement among the members of such a group is not attained or cease to exist, the enforcement of unanimity rule can make election- and decision-making unfeasible; in other words, the rule will 'fail'. Actually, the group itself can be in risk, since the voting can reveal that its members do not share the previously

presumed basic agreement that founded its own existence, thus opening the door to divorce, split, secession, migration, stock sale, schism, withdrawal or other forms of 'exit'.

However, more specific historical surveys of larger-scale institutions having worked by unanimity rule, such as ancient and medieval local assemblies and kingdoms and the early Christian Church, shows that they used a variety of procedures to create unanimity where it did not exist, thus making the enforcement of unanimity rule compatible with effective election- and decision-making even if not every member of the group agreed upon the candidate to be elected or the decision to be made. These procedures include silent acquiescence; shouts of commendation or acclamation; murmurs in favor or cries against the proposer; explicit acceptation of the elected by the dissidents; preliminary voting followed by formal, public expression of the decision by all the community members; acceptance of elections or decisions made by a qualified part of voters to whom the others submit, etcetera. Just to mention a few remote, extreme cases able to illustrate the general point, it can be remembered, for instance, that in certain ancient Middle-East assemblies, those having revealed their dissident opinion during deliberation were required to kneel down in front of the assembly as a form of assent; in the medieval German communes, after the masters of households in the commune voted, usually an oath of membership and obedience was taken; in Nordic law, the dissident minority was threatened to be punished with fines, as in Denmark, or exile, as in Iceland; in Russian law, even physical constraints were implemented. (For information and sources, Ruffini 1925, Perrineau and Reynie 2001, Colomer 2003).

In more formal terms, these observations can be translated as follows: when there is a single 'party' (again in a very loose sense of the word, meaning only a group of candidates and voters with a common purpose that coordinate their behavior in order to win) or a large dominant party able to gain the acquiescence or beat the resistance of the minority, unanimity rule can be chosen as an effective rule of decision-making. However, when the dissident members or the minority group are sufficiently large or determined and effective to resist the imposition of the dominant group's will, unanimous decisions may become impossible to be made, thus making unanimity rule to fail. Such a situation, in which the effective number of parties increases beyond one, initially approaching two, will be prone to the adoption of less-than-unanimity, typically majority rule.

This was indeed the process by which, in late medieval and early modern times, majority rule emerged and was gradually and widely adopted by old local and new large-scale assemblies and parliaments. Still as late as during the early 19th century, for instance, most decisions in the British House of Commons were made by acclamation, that is, by loudly shouting 'yeah' or 'nay',

without counting votes, in order to maintain the fiction of unanimity and dissuade potential dissenters from resisting the decision. But the formation of modern political parties –basically two-- led to the adoption of more formal voting procedures requiring numerical precisions and the achievement of a majority threshold.

Of course, even when general agreements among the members of an organization having presumed coincidence in their interest vanish, unanimity rule may subsist officially –as happens in certain international organizations initially created under the presumption of a general common interest when new divisive issues emerge. But then the organization in question is likely to become highly ineffective and unable of satisfactory decision-making. In general, in a two-party or multi-party setting, unanimity rule is not effective and is vulnerable to be replaced with less demanding electoral and decision rules.

This discussion of institutional change from unanimity rule to majority rule may help us to understand analogous developments of change from majority rule toward more inclusive rules without the need to repeat the basic argument or bring about many historical examples. With more than one party (that is, in the absence of unanimous agreement) but a low number of them, majority rule can be an effective rule of election- and decision-making, since, in contrast to the paralysis provoked by unanimity rule, under this rule a single party can easily gather sufficient support to be declared the winner. However, parties will be interested in replacing majoritarian rules with more inclusive systems, typically including proportional representation rules, if none of them can be sure of winning by majority.

In other words, electoral system change from majority rule to a more inclusive electoral system permitting representation of minorities can be a rational choice if no party has 50 per cent of popular votes, which is the threshold guaranteeing representation under the former system. More formally, the exclusion threshold T, that is, the maximum proportion of votes which may fail to obtain representation, is, in general, $T = 100/M+1$, being M the magnitude of number of seats per district. In the typical single-member district system in which majority rules are used, $T = 100/2 = 50$. Admittedly, under certain rules and procedures based on the majority principle, such as simple plurality rule, a party can obtain representation with less than 50 per cent of votes if more than two parties compete (for instance, the single, absolute winner in parliamentary elections in the United Kingdom since 1945 obtained around 43 per cent of votes in average). But only if a party obtains more than 50 per cent of votes can be sure of obtaining representation and win, while less than 50 per cent of votes can produce a total defeat.

Let us also assume that the rules and procedures constraining institutional change also require an absolute majority in favor of a new alternative. This can correspond to parliamentary requirements for approving a new electoral system, although the previously existing institutions may give the incumbent rulers some power to block major institutional changes even if they do not have the support of a majority of voters. But let us assume that, in general, parties gathering more than 50 per cent of electoral support can have sufficient decision, negotiation or pressure strength to make such change feasible.

Then, the crucial strategic (behavioral and institutional) condition for establishing or maintaining a majority rule electoral system can be identified as the existence of a party with more than 50 per cent of votes. We can derive from this condition different values of the effective number of parties (ENP). As is well-known and widely used, the effective number of parties captures the number of parties weighed by their size –measured in our application with proportions of votes--, according to the formula $ENP = 1/\Sigma\ p_i^2$, where p_i is the proportion of votes for each party i (Laakso and Taagepera 1979).

The corresponding limit values are the following. On one extreme, a party can have more than 50 per cent of votes if there is no other party, that is, if one party has 100 per cent of votes, thus making $ENP = 1$. On the other extreme, a party can have more than 50 per cent of votes and the other parties have only one vote each; in this case the limit value of ENP is 4 (for instance, for fifty parties with one having 51 per cent of votes and the others 1 per cent of votes each, then ENP = 3.77, thus approaching 4) (similar calculations, for a different purpose, have been presented in Taagepera 2002). Thus, configurations in which a party has more than 50 per cent of votes have values of effective number of parties between 1 and 4, with an expected average at 2.5.

Similarly, the strategic condition for an electoral system change from majority rule to proportional representation rules can be identified with the absence of a party with more than 50 per cent of votes. The corresponding lower limit value is $ENP > 2$ (for instance, if two parties have 49 per cent of votes each and another party the remaining 2 per cent, then ENP = 2.08). The upper limit equals the number of votes, although it can be expected that only parties obtaining seats can survive and concentrate votes in further elections, thus equaling the number of seats in the assembly (S).

It can be presumed that the higher the effective number of parties, the weaker the expectation for any single party to become the sure winner, and, thus, the more likely its preference for an inclusive electoral system permitting multipartism to develop. This, however, will also

depend on subjective electoral expectations and the party leaders' degree of risk aversion. On the basis of the simple assumptions and calculations just presented, we can presume that, in general, majority rule electoral systems will be established and maintained from values of effective number of parties between 1 and 4.

The intuition of this finding is that, above 4 ENPs, establishing or maintaining a majority rule electoral system would be highly risky for the incumbent largest party, and possibly not feasible either due to pressures for an alternative change supported by a majority of votes. This approach focuses, thus on parties' electoral support and voters' satisfaction with the results of the existing electoral system. If voters' support for the incumbent winning rulers decreases and the number of wasted votes and of losing candidates with broad popular support increase, it can be expected that under-represented parties in the assembly will launch demands and threats in favor of changing the electoral system and may find support in the public opinion and in extra-institutional pressures and actions. This also leads us to use 'electoral' ENPs, that is, a measure in votes and not in seats, as a proxy for the threat suffered by the incumbent parties and the support for electoral system change

By similar arguments, we can expect that changes in favor of proportional representation will not take place from values of the effective number of parties below 2, for lack of actors with an interest in such a change. On the other side, the maximum limit for the value of ENP in situations in which parties are expect to support PR is only restricted by the sizes of the electorate and the assembly, as mentioned. Within this interval, parties can choose PR in the expectation that each will receive a fair proportion of seats and will participate according to its strength in the further stage of parliamentary coalition-building at any rate of party support. The next section tests this model.

----------------------- Table 1 about here

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3. Multipartism Precedes Proportional Representation

Data have been collected and are presented in Table 1 for the effective number of parties (ENP) in votes in processes of electoral system change in 87 countries since the 19th century. Countries have been selected for having more than one million inhabitants and some democratic experience –for the last thirty years, the latter criterion being operationalized as having appeared as 'free', or with scores 3 or lower out of 7, in Freedom House thirty annual reports (1972-2002) during a period encompassing at least two successive elections. For each country we have chosen the earliest initial experience –excluding only some cases in the 19th century with no available data. Certain countries have experienced multiple electoral system changes or a series of authoritarian interruptions and democratic re-establishments in relatively short periods (the most unstable in this sense having been France and Greece). But, for each country, we have chosen only the initial moment which can make sense of the relation between party system and electoral system; if, for instance, a period of multipartism and PR has been followed by another period with elections by majority rules or a brief authoritarian interruption, we have not included a further re-introduction of competitive elections by PR because it can be expected that the parties competing were about the same as in the preceding experience and their number should not be linked to the new electoral system. Results are summarized and positively compared with the expected values from the model in Table 2.

-------------------------------- Table 2 about here

We count, first, 37 changes from majoritarian rule systems (to be distinguished between simple plurality and absolute majority rules) to mixed systems and to proportional representation (as shown in the second column of Table 1). As can be seen, the average ENP in votes in the election held by majoritarian rules previous to the change of the electoral system is 3.9. Remarkably, the average values are very close for the thirteen countries using simple plurality rule, 3.7, and for the twenty-four countries using majority rule with second round runoff, 4.1. Almost 90 percent of the cases enter within the expected range. This finding denies that plurality rule tends to maintain the number of parties around two (which would be the strong sense of Duverger's first law). It also shows that <u>multi-party systems are previous and not only subsequent to the adoption of</u>

proportional representation rules, which is the main point in this paper (and somehow also reduces the relevance of Duverger's second law or hypothesis).

In order to calculate the probability that a majority electoral system existing in period t changes to a pr oportional representation system in period t+1 (that is, for the following election), I have run a probit analysis, whose results are presented in Table 3. The independent variable is the effective number of parties in votes (ENP) in period t, that is, in elections under majoritarian rules. The dependent variable is either majoritarian electoral system stability (Y=0) or electoral system change to PR rules (Y=1). Cases included are all those available from Table 1, according to the previously specified criteria; specifically, 33 cases of elections by majority rule in periods of electoral system stability and 37 cases of elections by majority rule immediately previous to the adoption of proportional representation, as collected in columns one and two, respectively, of Table 1. The results of the analysis in Table 3 indicates that:

$$\text{Prob(Y=1)} = \Phi\ (\text{- }0.9021484 + 0.2979069) = \Phi\ (-0.6042415) = 1 - 0.7272 = 0.2728$$

This can be read as a positive relation between the number of parties and the probability of an electoral system change from majority to proportional representation rules. From a basic value of about 27 percent, only with 4 effective parties the probability of electoral system change attains a value higher than 50 percent. This result is consistent with the deductive model previously presented, where I hypothesized that majoritarian electoral systems were more likely to be maintained when the effective number of parties is below 4.

----------------------------------- Table 3 about here

This model should make sense of real stories of electoral system changes. As shown in Table 1, the first wave of PR electoral systems started with Belgium in 1899. With this change, the country replaced a previous majority rule system with multi-member districts. The move was supported by the liberals, mostly localized in French-speaking Wallonia, who had alternated or shared power with the Christians, stronger in Dutch-speaking Flanders, when they felt submitted to serious challenge by the rising socialists, with almost 4 effective parties in votes in the previous election.

In Switzerland, the several-decade electoral dominance of the radicals under a majoritarian electoral system with multi-member districts began to be challenged by the emergence of new Christian and socialist parties in late 19th and early 20th century. With more than 3 effective

parties under majority rules, the adoption of proportional representation in 1918 did not replace the dominance of the radicals with an alternative single-party dominance, which would also have distorted voters' representation, but with multi-party coalition politics encompassing broad majorities of voter's support. Among the other countries that adopted PR around the First World War, Denmark and Norway had had about 4 effective parties, and Germany and the Netherlands, about 6 effective parties, in the previous elections by plurality or majority rules. Of course, multiparty systems had also already been in place or had more recently developed when, at the end of the Second World War, these and other West European countries re-established or for first time introduced, respectively, PR electoral rules.

In Latin America, early experiences of democratization with PR electoral rules, such as those in Argentina, Bolivia, and Chile, were preceded by the development of multiparty systems, with more than 3 and up to more than 6 effective parties, in the three cases mentioned under plurality rule. In Asia, cases having developed multiparty systems under plurality rule before moving to proportional representation rules include New Zealand, Philippines and Taiwan in the 1990s, with more than 3 and up to 5 effective parties. In Eastern Europe, the last elections held under the Soviet system in single-member districts already produced multiparty systems with 3 or 4 effective parties, especially when the elections were relatively open and semi-competitive, like in Poland and Russia, thus leading immediately to the establishment of PR or mixed systems able to accommodate the already existing wide political pluralism.

As a complement of cases in which proportional representation rules were adopted, the approach here develop can also make sense of failed attempts to reform the electoral system, as well as of reversal changes from PR systems to majority rules –which, nevertheless, are, as expected, very few in reality. For this purpose, the effective number of parties measuring the degree of pluralism of the party system has also been calculated for elections immediately previous to those alternative experiences. Specifically, the introduction of proportional representation or a mixed system in the United Kingdom failed both in 1918 and 1998 in the environment of low degrees of multipartism, which can be estimated in 2.4 and 3.1 effective parties in votes, respectively, both closely around the average in first majoritarian elections and very well within the corresponding expected range. In particular, on the latest occasion, the Labour party program for introducing proportional rules could have been enc ouraged by the relatively high degrees of multipartism in votes in the two previous elections, in 1987 and 1993, as a consequence of higher dispersion of votes between conservatives, labour and the liberal-socialdemocratic alliance. The

Labour victories in 1997 and 2001, however, somehow dismissed this trend and reestablished a single party domination.

Reversal changes from proportional representation to majoritarian systems have also been attempted on a few interesting occasions in countries of Western Europe. In Germany it was formally promoted in 1967 by the would-be dominant christian-democrats, which could find encouragement in the relatively reduced and decreasing numbers of effective parties in the two previous elections –3.5 in 1961 and 3.1 in 1965. But the degree of pluralism was still sufficiently high to provoke rejection of a move towards a more exclusive electoral system not only from the smaller parties but also from the second-in-size but wary social-democrats. In the Netherlands the social-democrats promoted a similar change in 1977, but, in front of a very high level of multipartism –measurable by the 6.9 effective parties in the previous election--, they blatantly failed in their purpose.

In other two West European countries similar moves have been more successful. In France, as is well known, the move from PR to majority-runoff (but not plurality rule) in 1958 was completed in spite of having a system with 6.1 effective parties in the previous election. It should be remembered that this electoral system replacement was implemented together with other major institutional regime changes, initially through a coup d'état. But also in this case, most of the previously existing parties with a PR system subsisted or transformed themselves into new organizations during the further period, thus maintaining a high level of multipartism in the French political system until the present day. In Italy, the first change from proportional to a mixed system was attempted in 1953, when the governing christian-democrats could be encouraged by a dramatic reduction of the degree of multipartism in the previous two elections, from 5.6 effective parties in 1946 to 2.9 in 1948. They, however, failed to obtain the 50 per cent of popular votes that they themselves had targeted as the condition for the majority rule component of the new system to be applied –precisely the assumption in our model--, and reestablished proportional representation. The second reform to a new mixed system with a strong majoritarian component was introduced in 1993 in the environment of a high degree of multi-partism, measurable at 6.6 effective parties, but under the illusion among some left circles that the ongoing dissolution of the christian-democratic party would open a new period of simplification of the party system and hegemony of the left. During the first three further elections in which the new system has been used the effective number of parties has decreased slightly but not dramatically, so still making the system vulnerable to further changes.

Also very interestingly is the comparison between the values of ENPs in first elections with majoritarian rules and those with proportional representation, as presented in Table 1. 'First elections' refer to first competitive elections with broad suffrage rights (usually either male or male and female universal suffrage rights, depending on the period and country), typically at the beginning of a new democratic experience. For these cases it would not make much sense to search a 'previous' election to the new electoral system because either it did not exist or it was non-democratic or had taken place during a period previous to some enduring authoritarian regime with parties and party systems that subsequently disappeared. Without an immediately previous reference, it can be assumed that the choice of an electoral system is guided by expectations about the relative strength of rulers and opposition parties. Admittedly, the electoral results of such 'first elections' could have been the result, rather than the anticipated cause, of the corresponding electoral system. But the first interesting finding is that, for 33 first elections with a majoritarian rule electoral system, the average value of ENP in votes is 2.8, that is, significantly lower than for majoritarian rule elections immediately previous to the adoption or PR systems, as well as very close to the value expected by the model (2.5). The values remain low for both the twenty-five countries having started with simple plurality rule, 2.7, and for the eight countries early using majority rule with runoff, 3.1. Again, almost 88 percent of the cases enter within the expected range.

The second interesting finding is that 'first elections' by proportional representation rules have very close values of ENP to those of majority rule elections immediately previous to the adoption of PR, which was 3.9. Specifically, in the 37 countries for which we have values of the immediately previous majoritarian election, the average ENP after the introduction of PR moves to 4.3 (an increase of barely ten percent), while for the countries having started elections by PR after a long non-electoral period, the average ENP is 3.8 (for the whole set of 68 countries in the third column of Table 1 with first elections by PR, the average ENP is 4.1). This, again, can confirm that multiparty systems in votes already existed before the introduction of PR and were confirmed with the corresponding seats, rather than newly emerged, afterwards. In 100 percent accordance with the model, no case produced results below 2 effective parties. Cases include, for instance, the creation of Israel in 1949, with more than 5 effective parties at the first election, Portugal and Spain in the 1970s, after long dictatorships, with about 4 effective parties, or Czechoslovakia, Hungary and Slovenia in 1990, with around 6, 7 or 9 effective parties, respectively, at the first election after Communism.

The ENP has also been calculated for the latest election before the end of 2002 with each type of rules for 82 countries (all those in the Table except a few not having an electoral democracy or, in one case, not existing any more, on that date). 'Latest elections' with majoritarian rules in 16 countries have higher average and higher dispersion of ENP values than could be expected. First, the average ENP is 3.6, higher than 'first elections' with the same type of rules and very close to the values of both previous elections to the adoption of PR and first elections by PR. Interestingly, it is even slightly higher for the eleven countries using plurality rule, 3.7, than for the five countries using majority runoff, 3.5. Second, the standard error is higher than half the value of the average. Also, 25 percent of the cases fall outside the expected range, including multiparty systems in Canada, India, Lebanon and Nepal. All this may suggest that some of the countries presently using majority rule electoral systems can be vulnerable to pressures and calculating strategies in favor of more inclusive electoral systems in some near future.

'Latest elections' by PR rules in the remaining 66 countries have a higher average ENP than elections previous to PR and first elections by PR, with an average of 4.6. As expected, 100 percent of the cases are above 2 effective parties. This seems to confirm that in most of these countries reversal changes towards more restrictive electoral rules would face strong resistance from already existing multiple parties.

Finally, a testable implication of the analysis presented in this paper is that, in the long term, we should find increasing numbers and proportions of electoral systems using proportional representation rules, while the appeal of majoritarian rules should decrease. This hypothesis is, in fact, consistent with empirical findings in other studies, such as those by Arend Lijphart (1994), who, for electoral system changes in 16 democratic countries from 1945 to 1999, observed that more than two thirds had been in favor of greater proportionality (Lijphart 1994, pp. 52-56), and by André Blais and Louis Massicotte, who analyzed electoral systems existing in 166 democratic and non-democratic countries around 1995, finding, among other correlations, that the more democratic a country the more likely it is to adopt proportional representation and the less likely it is to have a majority system (Blais and Massicotte 1997).

------------------------ Table 4 about here

As a confirmation of these trends in a long-term historical perspective, and in consistency with the analysis presented in the previous pages, Table 3 offers a summary of the evolution of

electoral systems in the democratic countries with more than one million inhabitants previously selected. After the initial moment in 1874, the dates chosen –1922, 1960 and 2002-- correspond to peaks in successive waves of democratization, so that the number of cases in each date is higher than in immediately previous and following years (except, perhaps, for the further period after 2002). The number of cases increases over time until comprehending all 82 countries with more than one million inhabitants that could be considered democratic in 2002. The results are consistent with our assumption that inclusive rules of proportional representation tend to endure more and create more solid behavioral-institutional equilibria. More than fourth fifths of the present democracies in countries with more than one million inhabitants use electoral systems with proportional representation rules (80.5 percent), while less than one fifth use majoritarian rule systems (19.5 percent).

4. Conclusions

The observations here collected allow us to give support to the following hypotheses:

* First, <u>the establishment of majority rule electoral systems for first competitive or democratic elections corresponds to previously existing political configurations dominated by a few parties</u>. This can be explained by the fact that, when the number of effective parties lies around moderate values, one or two larger parties can expect to become absolute winners under majoritarian rules and, consequently, they will tend to establish this type of rules.

* Second, <u>multiparty systems already existed before the introduction of PR, having, thus,</u> been a cause more than a consequence of the adoption of such inclusive electoral rules. The rationale for this is that, under majority rules, if the effective number of parties increases, any party can risk becoming an absolute loser, so they can prefer to move to systems using rules of proportional representation able to secure them a fair portion of seats.

* Third, <u>the elections held immediately after the adoption of PR rules tend to confirm, rather than increase, the previously existing multiparty configuration</u>. The new rules,

however, transform now the share of each party in votes into fairer party seat shares, so making, in the mid or long term, more attractive for voters to give their support to new or emerging political parties.

* Finally, <u>the effective number of parties tends to increase in the long term, under whatever electoral systems, thus creating further pressures in favor of introducing or maintaining PR.</u> The increase in the degree of political party pluralism can be due, especially, to coordination failures under majoritarian rules to form just a few candidacies, as well as to the initiative of would be leaders giving new political saliency to different issues and promoting the corresponding new political alternatives before the electorate. The corollary of these developments is a <u>general trend toward</u> increasing numbers and proportions of electoral systems using rules of <u>proportional representation</u>.

Table 1. Electoral System Change and Effective Number of Parties

Country	Majority rule First election Year	ENP	From Majority to PR Law year	Previous election Year	ENP	Proportional R. First election Year	ENP	Latest election Year Rule ENP
Albania			1992	1991	2.4	1992	2.2	2001 Mix 3.1
Argentina	1912	1.7	1963	1962	6.7	1963	5.6	2001 PR 4.9
Armenia			1995	1990	2.5	1995	4.0	2001 Mix 4.7
Australia	1903	3.0						2001 Maj 3.4
Austria						1919	3.0	2002 PR 3.0
Bangladesh	1973	1.8						2001 Maj 2.5
Belgium			1899	1898	3.7	1900	2.9	1999 PR 10.2
Benin						1991	8.7	2001 PR 10.2
Bolivia			1952	1951	3.3	1956	1.4	2002 PR 4.9
Bosnia-H.						1996	4.3	2002 PR 5.4
Botswana	1965	1.5						1999 Maj 2.7
Brazil			1945	1945	3.7	1945	3.7	2002 PR 8.5
Bulgaria			1991	1990	2.7	1991	4.2	2001 PR 3.3
Canada	1874	2.0						2000 Maj 3.7
Cape Verde						1995	2.1	2001 PR 2.6
Chile			1925	1921	5.6	1925	4.1	2001 PR 2.3
Colombia			1931	1929	2.0	1931	2.0	2001 PR 8.5
Costa Rica			1913	1913	2.9	1919	2.1	2002 PR 4.5
Croatia			2000	1995	2.6	2000	4.0	2000 PR 4.0
Cuba			1940	1940	7.5			non-democratic
Czechoslovakia						1990	5.6	non-existing
Czech Rep.						1992	6.2	2002 PR 4.8
Denmark			1915	1913	3.9	1918	4.1	2002 PR 4.6
Dominican R.						1978	2.9	2002 PR 3.1
Ecuador			1978	1978	4.8	1979	6.1	2002 PR 6.8
El Salvador						1961	2.3	2000 PR 3.6
Estonia						1990	2.9-s	1999 PR 6.8
Finland						1907	4.0	1999 PR 5.9
France	1848	2.7-s	1945	1945	4.6	1946	4.5	2002 Maj 5.3
Germany	1871	5.9	1918	1912	5.9	1919	4.2	2002 PR 3.8
Ghana	1956	2.6						2000 Maj 2.6
Greece			1932	1928	3.4	1932	4.1	2000 PR 2.6
Guatemala			1985	1984	7.7	1985	4.7	1999 PR 2.3
Honduras						1981	2.1	2001 PR 2.5
Hungary						1990	6.7	2002 Mix 2.8
India	1952	3.6						1999 Maj 6.5
Indonesia						1955	6.3	1999 PR 4.3
Ireland			1922	1918	1.7	1922	3.9	2002 PR 3.9
Israel						1949	5.3	1999 PR 10.1
Italy			1919	1913	2.7	1919	3.8	2001 Mix 3.1
Jamaica	1962	2.0						2002 Maj 2.0
Japan	1946	5.6	1994	1993	4.9	1996	3.9	2000 Mix 5.1

Country	Year	ENP	Year	Year	ENP	Year	ENP	Year System ENP
Korea South	1950	2.3				1963	5.2	2000 Mix 3.4
Latvia			1992	1990	1.9	1993	6.2	2002 PR 6.8
Lebanon	1943	2.0-s						2000 Maj 9.8
Lithuania			1992	1990	2.8	1992	3.8	2000 Mix 5.6
Madagascar						1993	6.3	2002 Mix 7.7
Malawi	1994	2.6-s						1999 Maj 2.8
Malaysia	1959	2.9						non-democratic
Mali	1992	3.5						2002 Maj 3.0
Mexico	1917	1.1	1977	1976	1.3	1979	1.8	2000 Mix 3.1
Moldova			1993	1990	1.3	1994	3.9	2001 PR 3.5
Mongolia	1990	2.2						2001 Maj 1.1
Mozambique						1994	2.1	1999 PR 2.5
Namibia						1994	2.4	1999 PR 1.6
Nepal	1959	4.7						1999 Maj 4.1
Netherlands			1918	1913	6.6	1918	5.7	2002 PR 4.9
New Zealand	1890	2.3	1993	1993	3.5	1996	4.4	2002 PR 4.1
Nicaragua						1990	2.1	2001 PR 2.1
Nigeria	1959	3.8						non-democratic
Norway	1906	2.9	1919	1918	3.6	1921	4.5	2001 PR 6.1
Pakistan	1988	3.5						non-democratic
Panama						1984	3.1	1999 Mix 2.2
Paraguay						1993	2.4	1998 PR 2.1
Peru			1979	1978	4.8	1980	4.2	2001 PR 6.6
Philippines	1946	3.3	1995	1995	5.2	1998	3.1	2001 Mix 4.1
Poland			1991	1989	3.6	1991	13.8	2001 PR 4.5
Portugal						1975	3.6	2002 PR 3.1
Romania						1990	2.2	2000 PR 5.2
Russia			1993	1990	3.7	1993	8.2	1999 Mix 6.7
Slovakia						1992	6.3	2002 PR 8.8
Slovenia						1990	8.9	2000 PR 5.1
South Africa						1994	2.2	1999 PR 2.1
Spain	1891	2.3-s				1977	4.3	2000 PR 2.9
Sri Lanka	1947	2.5				1989	2.7	2001 PR 2.6
Sweden			1909	1908	2.6	1911	2.9	2002 PR 4.5
Switzerland	1881	2.6	1918	1917	3.4	1919	4.8	1999 PR 5.8
Taiwan						1992	2.5	2001 Mix 3.5
Thailand	1979	5.4	1997	1996	4.8	2001	4.0	2001 Mix 4.0
Trinidad & T.	1966	2.5						2002 Maj 2.1
Turkey	1950	2.2	1961	1957	2.4	1961	3.4	2002 PR 5.4
Ukraine	1990	2.9-s	1993	1993	3.0	1994	2.2	2002 Mix 7.9
UK	1886	1.9						2001 Maj 3.3
USA	1879	2.3						2002 Maj 2.1
Uruguay						1919	2.1	1999 PR 3.4
Venezuela						1958	2.9	2000 PR 3.7
Yugoslavia						1992	4.6	1999 PR 3.2

ENP Average:		2.8			3.9		4.1	Maj:3.5 Mix-PR: 4.6
Standard error:		1.1			1.6		1.9	2.1 2.1

Note:

All elections are for the Assembly (in general, for the lower or single chamber, as well as for constituent assemblies in the cases of Cuba 1940, El Salvador 1961, France 1945, Guatemala 1948, Peru 1978, Ukraine 1993), except, for lack of data, a few presidential elections (Bolivia 1951, Costa Rica 1913, 1948, Ecuador 1978).

ENP: Effective Number of Parties, according to the formula $ENP = 1/\Sigma p_i^2$, where p is the proportion of votes of each party i, except for a few in which, for lack of data, p is the proportion of seats (Estonia 1989, France 1849, Malawi 1994, Spain 1891).

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Table 2. Effective Number of Parties and Electoral Systems

	Model	Empirics:	Previous election	First election	Latest election

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Majority rules		No. cases		33	16
Expected average ENP	2.5	Average ENP		2.8	3.6
		Standard error		1.1	2.1
Expected range	1-4	% within expected range		88.0	75.0

PR rules		No. cases	37	68	66
Expected average ENP	> 2	Average ENP	3.9	4.1	4.6
		Standard error	1.6	1.9	2.1
Expected range	2-S	% within exp. range	89.2	100.0	100.0

Source: Authors' calculations with data collected in Table 1.

Table 3. Probability of Change from Majority rule to Proportional Representation

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Log likelihood = -44.706168; Num. obs = 70; LRchi^2(1) = 7.40; Prob > chi^2 = 0.0065;

PseudoR^2 = 0.0764; Cases correctly classified: 67.51%

Variable	Coefficient	Standard Error	z	P>!z!	[95% Conf. Interval]	
ENP	0.2979069	0.1155131	2.58	0.010	0.715053	0.5243085
Constant	- 0.9021384	0.4012361	- 2.25	0.025	- 1.688547	- 0.1157301

(Outcome Y=1 is change to PR; outcome Y=0 is maintaining majority rule).

Table 4. Number of Assembly Electoral Systems Over Time

Electoral system:	Year:	1874	1922	1960	2002
Majority rules		20	13	16	16
PR rules		-	20	23	66
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Total countries:		20	33	39	82

Note: Countries with more than one million inhabitants and electoral democracy.

Source: Authors' calculations with data from sources given in Table 1.

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