



Models of electoral system change

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Abstract

Electoral systems are commonly treated as exogenous determinants of political party systems, yet our theoretical understanding remains limited as to how these institutions themselves are determined. Part of the problem lies with the subject matter itself: electoral system change is frequently idiosyncratic, often occurring during episodes of exceptional political change. Yet another aspect of the problem is that explanations of electoral system change frequently occur piecemeal in application to specific cases, without systematic or comparative development. Addressing both problems, I first survey the existing literature to develop a comprehensive typology of explanations of electoral system change and persistence. I then set forth a theory predicting the conditions under which electoral systems should change, linking motivations for institutional change to instrumentally rational political parties seeking to maximize their legislative seat shares. The theory predicts that electoral laws will change when a coalition of parties exists such that each party in the coalition expects to gain more seats under an alternative electoral institution, and that also has sufficient power to effect this alternative through fiat given the rules for changing electoral laws. To contrast this model to other explanations of electoral system change, I point to its observable implications and outline how it could be confirmed or disconfirmed in empirical research. The comparison also highlights limitations in other approaches to explaining electoral system change, and underscores the importance of institutions in inducing equilibriums in both electoral systems and party systems. © 2003 Elsevier Ltd. All rights reserved.

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1. The problem of endogenous electoral systems

Electoral systems, states Maurice Duverger, “are strange devices—simultaneously cameras and projectors. They register images which they have partly created them-

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selves” (Duverger, 1984, p. 34). Yet it was originally Duverger’s propositions describing how electoral rules shape a nation’s political party system (1951) that led to the current preoccupation with electoral systems’ *consequences* at the expense of the study of their political *origins*. According to this view, political party systems are shaped by electoral institutions which exert both “mechanical” and “psychological” pressures (Duverger, 1951) on voters and parties. The mechanical effect of electoral systems describes how electoral rules constrain the seats that can be awarded from distributions of votes, while the psychological effect deals with the shaping of party and voter strategies in anticipation of the electoral function’s mechanical constraints. Their study has formed the two pillars of a research agenda which according to Riker (1982) in many ways exemplifies the scientific study of politics.

Despite the progressive accomplishments in this field, far more emphasis has been paid to the adaptation of parties and candidates *to* electoral institutions than to the way that electoral institutions themselves are adapted *by* political parties. Political experience, however, demonstrates repeatedly that while actors do maximize their goals by adapting their strategies to institutions, they also adapt by changing the institutional setting that transforms their strategies into outcomes (Tsebelis, 1990). In this field, however, theory has lagged behind empirical analysis, tending to focus on informal examinations of multiple cases (Elster et al., 1998; Geddes, 1996; Lijphart, 1992) or inductively generating propositions drawn from single case studies (e.g. Benoit and Schiemann, 2001; Ishiyama, 1997; Remington and Smith, 1996; Bawn, 1993; Brady and Mo, 1992). What is lacking is a single theory that attempts to reconcile propositions about electoral systems as effects with studies of electoral systems as causes. At the least, such a theory should explore the implications of the endogeneity of electoral systems for the vast corpus of studies which treat them as exogenous determinants of political outcomes. Of course, such a theory ought also to go further and attempt to explain how parties adapt rules, and how rules in turn shape parties, until an equilibrium is reached where one or both become stable.

Perhaps the most important recent political event to lead scholars to question established propositions about electoral systems has been the transition to democracy in Eastern Europe. The idea that electoral systems are endogenous, of course, predates 1989. Numerous accounts and case studies attribute variation in electoral rules to political and party interests rather than the converse, including the frequently cited “Rokkan hypothesis” (Rokkan, 1970) explaining the adoption of proportional representation (PR) in Western Europe in the early 20th century.¹ Yet nowhere has the

¹ The “Rokkan hypothesis” (see also Lijphart, 1992) attributes the introduction of PR in continental Europe to the extension of the franchise and the desire by established groups to protect their position while simultaneously granting a measure of representation to previously excluded groups. Lipson (1964) likewise reexamined many of the cases studied by Duverger (1951) and concluded that party politics or political traditions drove the electoral arrangements and not vice versa (see also Grumm, 1958, p. 375). More recent evidence also challenges the conventional Duverger model (Shamir, 1985; Shugart, 1992). Finally, nearly all examinations of the adoption of electoral of Eastern European electoral systems during their transitions to democracy indicate that electoral system design was at least partially motivated by partisan interests (Elster et al., 1998; Geddes, 1996; Lijphart, 1992).

dynamic of change in electoral institutions and party systems been observed as rapidly or as frequently as in post-communist Eastern Europe (Elster et al., 1998, p. 130).

A full accounting of this process of change means we must critically reconsider conventional notions of electoral systems as institutions that “tend to be very stable and resist change” (Lijphart, 1994, p. 52; see also Boix, 1999; Dunleavy and Margetts, 1995). This means in part reconciling lessons from standard electoral studies with the lessons from the general literature on transitions to democracy. The latter explains that founding elections—the first election after the introduction of genuine competition—can have one of two distinct consequences. On one hand, they may have a “freezing effect upon subsequent political developments” (O’Donnell and Schmitter, 1986, Part IV, p. 62), establishing both the rules and players of the democratic game in a configuration that remains stable for subsequent repetitions of the democratic cycle. With the exceptions of France and Greece, for instance, the norm in post-war Europe has been for electoral systems not to change. On the other hand, founding elections may result in instability in both party systems and institutional rules, observed for many cycles (O’Donnell and Schmitter, 1986, p. 62); examples are the French Fourth Republic, Argentina in the 1950s and 1960s, and many of the post-communist states of Eastern Europe. How is this explained by the literature on electoral systems? According to Boix (1999, pp. 609–610):

As soon as the electoral arena became stable and the party system froze along certain cleavages, policymakers 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.

But this account begs several important questions: What causes parties to have or to lose interest in modifying electoral institutions? What causes party systems to consolidate or to remain unsettled? How are the two related? The answer requires a theory about institutional equilibrium, which requires a model incorporating the effects of electoral institutions on parties with the incentives and ability which parties have to reshape electoral institutions. Only a theory which accounts for the equilibrium of endogenous institutions as well as of strategically adaptive behavior can truly claim to treat elections as “systems of exchange subject to equilibrating mechanisms” (Cox, 1997, p. 6).

Neat formal theories about institutional equilibrium that also apply meaningfully to real-world events, however, are exceedingly difficult to come by. Actual events tend to involve ill-defined quantities and behaviors that are difficult to stylize according to the framework normally required in a model that can be formally proven. Unlike strategic adaptation to institutional incentives, changes to the institutions themselves are likely to be more creative and unusual affairs which are less prone to generalization (Tsebelis, 1990, pp. 95–96). This should come as a warning, however, and not as a prescription to abandon the attempt to apply theoretical models to electoral system change and persistence. Previous explanations of electoral system change seeking to be rigorous have either concerned very specific events, usually built around a single case (e.g. Bawn, 1993), or they have been broad empirical

generalizations that collapse a great variety of rich detail into a few overarching categories (e.g. Rokkan, Boix). Here, I offer an alternative: a theoretically firm model that can be applied empirically, with detailed prescriptions for testing the model at a relatively rich level of contextual detail. For application to cases, the methodology would share more with the technique of “analytical narratives” than with either comparative statistical analysis or with formal theory about institutionally derived behavior or equilibriums. For institutional change to be correctly understood, the analyst has no alternative but to attempt to reconstruct the actors’ “preferences, their beliefs, their evaluations of alternatives they possess, the expectations they form, the strategies they adopt, and the constraints that limit their actions” (Bates et al., 1998, p. 11). Outlining the various motivations for electoral system change, identifying their implications, and suggesting how these implications might be observed, is the subject of this paper.

I begin with a survey of previous explanations of electoral system change. Next, I present a model of electoral system change and persistence, both in cases of founding institutional choice and in subsequent electoral system reforms taking place under more “normal” political circumstances. It is important to note that the model presented here is intended to provide a concise and falsifiable theory of electoral system change—not to maximize variation explained in actual cases. While the model will indeed explain many episodes of institutional choice, the purpose here is to present the model as starkly as possible while outlining a research agenda for its further testing. Accordingly, I do not attempt here to apply it systematically to actual cases, although the discussion is replete with examples. Following a comprehensive survey of explanations of electoral system origins and change, I then outline a parsimonious theory of change and persistence in electoral institutions. The presentation of the model is followed by a discussion of its observable implications and an outline of an agenda for empirical research to support or invalidate the model. The final section discusses limitations of the model and possibilities for its extension.

2. Explanations of the origins of electoral systems

Electoral institutions constitute a very specific type of political institution: what Tsebelis (1990, p. 104) has termed “redistributive” institutions. Redistributive institutions have a zero-sum character which benefits one group in society at the expense of another, in contrast with “efficiency” institutions which may improve everyone’s welfare versus the status quo. This distinction is critical, since it means that most of the rational choice literature on the emergence and stability of cooperative and efficiency institutions has no direct application to the origins and change of electoral laws.² Electoral laws are quintessentially distributive institutions, improving the share

² This approach has been most commonly applied to the emergence of cooperative institutions that promote efficiency by reducing transaction costs, enhancing information flow, and offering general gains to cooperation versus the institution-free state. For a foothold on this voluminous literature, see Knight and Sened (1995), also Shepsle (1986) and Riker (1980). Bates (1988) and Knight (1992, p. 28–40; 1995) offer general critiques of the efficiency view.

of one group at the direct expense of another. Moreover, alternative methods for dividing seats prescribed by electoral laws will have vastly different distributive consequences, yet all are equally efficient. The appropriate focus when examining the origins and evolution of electoral systems is therefore not on cooperative gains from efficiency, but rather on the struggles for distributive shares which institutional alternatives provide and the influence which those affected have in effecting institutional change.³

Three issues can be identified when examining the origins of electoral institutions. First, does each party participating in the choice over institutional alternatives evaluate them based on each alternative's expected effect on its own partisan interests? Second, does each party participating in the choice over institutional alternatives evaluate them based on each alternative's expected effect on the general interest? Finally, do electoral institutions emerge from some process other than an evaluation of the consequences of systematically evaluated alternatives? The first two questions attempt to characterize a choice process according to its motivation: self- or general interest. The third question asks whether consequences and alternatives were considered at all, whether through a choice process or some completely different process. These three questions provide a heuristic for identifying three broad categories of specific theories all of which have been applied in explaining the origins of electoral systems.

2.1. *Self-interest derived preference explanations*

The notion of *derived preferences* in institutional choice is the idea that the choice of institutions occurs as the first stage of a two-stage game. In the first stage, parties hold or derive preferences for alternative institutions based on expectations about the payoffs these institutions will have for them at a second stage (Tsebelis, 1990). Here, I generalize this notion to include all consideration of electoral institutions as instrumental objectives.

2.1.1. *Policy-seeking*

In policy-seeking theories, the origins of electoral rules are attributed to the outcome of a struggle by parties with preferences for alternatives based on the expected policy outcomes associated with the alternatives. Electoral system choice is directly linked to distributive shares in legislative power (the first stage), and this legislative power will then determine who is empowered to enact policy (the second stage). Each party involved in institutional choice at stage one will rank the electoral alternatives according to its utility for the exogenously preferred policy outcomes it associates with the institutional alternatives. This is the model applied by Bawn (1993) to

³ Of course, as mechanisms to reduce transaction costs and provide stability by regularizing the means for parties to compete for office, electoral systems also enhance efficiency, but this is true of all political institutions. The essential point over which conflict occurs when debating the *form* of electoral institutions is their distributive character. Thanks to John Schiemann for making this point.

the choice of electoral system in post-war Germany, for example, explaining both the adoption of proportional representation in 1949 and a mixed system in 1953.

2.1.2. *Office-seeking*

Office-seeking theories of institutional choice are closely related to policy objectives in that the parties choosing institutions evaluate alternative institutions in terms of the utilities they will derive from their share of distributive goods associated with each institution. The office-seeking model is more general, however, since it posits both direct and indirect utility from holding office. Direct utility might be partisan power or representation of one's own constituency; indirect utility might be gains from additional shares of allocative resources determined by the balance of legislative seats, including (but not limited to) policy. The office-seeking model differs from the policy-seeking model in that it specifies that each party will prefer rules which maximize its own share of legislative seats—rather than those of any other party—regardless of the compatibility of the policy goals or ideology of other parties with its own. Such a model has tended to explain political motivations most clearly in transitional settings where second-stage goods such as policy outcomes are poorly defined or uncertain, and the most immediate concern for parties is maximizing legislative representation. For example, Benoit and Schiemann (2001) have explained the choice of Hungarian electoral system with a seat-maximization model. Similar models have been applied to electoral system choice in post-communist Russia (Remington and Smith, 1996) and in post-authoritarian Taiwan (Brady and Mo, 1992).

2.1.3. *Personal gain*

A personal gain model might explain parties' preferences for electoral alternatives based on the expected personal gains for key individuals associated with the alternatives. Party leaders may favor a particular electoral alternative in order to maximize their personal power, or to make good on bargains struck, such as promises of office or personal financial reward. In the 1989 roundtable deliberations in Poland, for instance, the communist Polish United Workers' Party appears to have conceded the free election of the senate in exchange for an arrangement which it expected to guarantee the presidency of General Jaruzelski (Olson, 1993). Of course, such explanations raise questions as to whether parties are behaving as unitary actors. Nonetheless, the personal gain model links institutional preferences not to distributive shares for parties in terms of either office or policy, but instead to maximizing the personal welfare of selected individuals involved in institutional decision-making, quite possibly in what is expected to be a very short-term arrangement.

2.2. *General interest derived preference explanations*

Parties may also rank alternative institutions according to their preferences for institutional outcomes that affect the general, rather than partisan, interest. Just as the framers of the US constitution debated passionately over the merits of a federal versus a confederal design, parties may struggle to implement competing institutions

on the basis of their different preferences for collective political outcomes. This may be a social concern such as fairness or representation, a concern with producing good government, safeguards against hyperconcentration of power, and so on. In many cases, however, parties whose real concerns are with self-interest may defend their preferred institution with arguments about the general interest. Especially with regard to the tradeoff between representation and governability, the former is often invoked by opposition parties who suddenly see the advantages of governability in a new light once in power. The motivations identified below assume that general interest concerns are sincere. The list is not exhaustive but identifies the most common approaches to explaining institutional choice in terms of the general interest.

2.2.1. Representation

A frequently expressed desideratum of electoral systems is representation, on the basis of simple fairness. Genuine representation entails legislative seats for one's own group, according to this argument, and this requires electoral institutions making it possible for such groups to gain seats. These groups may be sectors representing labor or agricultural interests, or ethnic, religious, or national minorities in heterogeneous societies. A preference for maximizing representation generally means maximizing proportionality, an option which affects all parties and potential parties rather than only one's own party. This preference for proportionality forms part of a two-dimensional model of electoral system utility applied by [Dunleavy and Margetts \(1995\)](#) to explain the persistence of the British first-past-the-post system.

2.2.2. Governability

Governability is a general outcome of electoral institutions also affecting the general rather than partisan interests. Indeed, governability is the other leg of the two-dimensional ([Dunleavy and Margetts, 1995](#)) model of the debate over the British electoral system. Governability implies a general rather than a partisan interest because governability is concerned with maximizing the seat share of the largest party, rather than the seat share of any particular party.

2.2.3. Social and political engineering

This motivation refers to preferences for alternatives based on their ability to encourage conciliation and conflict management between rival, possibly violent, groups in society. For instance, [Horowitz \(1985, pp. 639–641\)](#) ascribes the Sri Lankan adoption of the alternative vote in 1978 to the desire to promote intra-ethnic conciliation within a multiparty system. The rules for electing the Nigerian president prescribed by the 1978 constitution also were concerned with producing ethnically cross-cutting coalitions ([Horowitz, 1985](#)). In cases where conflict management is paramount, this motivation may override other criteria in electoral system choice.

2.2.4. Other general motivations

These include the goal of “making elections accessible and meaningful” ([Reynolds and Reilly, 1997](#)), referring to the general desire to choose electoral institutions that enhance political participation and efficacy. This includes designing systems that are

easy to use, that minimize “wasted votes”, and that provide a meaningful identification between constituents and representatives. Other general concerns might include administrative capacity or cost. In practice, such concerns tend to figure more in the rhetoric of electoral reform than in actual decision-making. When they do determine institutional alternatives, it is most often in determining the final shape of institutions already chosen in broad form for other reasons.

2.3. *Non-instrumental motivations*

Non-derived preference theories of electoral system origins cover many explanations, including both those where choice was conscious as well as those explaining institutional change as the product of social forces without focusing on specific agents. The key feature characterizing all of these explanations is that institutional alternatives are not systematically evaluated based on their consequences, but rather become focal or simply emerge based on other considerations or as the result of convergent forces.

2.3.1. *Historical precedent*

Especially in countries experiencing a return to democracy after a period of authoritarian rule, institutional designers may be attracted to electoral laws used during earlier episodes of democracy, finding these solutions “focal” in the midst of intense pressure and institutional crisis (Elster et al., 1998, p. 62). There is some evidence, for example, that the Civic Forum’s embrace of PR in 1990 was linked to the use of PR during the Czech inter-war period. The electoral system of the French Fifth Republic likewise restored the two-round majority system used under most of the Third Republic, which was in turn used under the Second Empire from 1851 to its last election in 1869 (Mackie and Rose, 1991, pp. 131–132). A return to historically prior electoral institutions may also provide an attractive symbol of rejection against the existing regime. For example, some parties in Bulgaria’s transitional Grand National Assembly urged that the constitution to be adopted in 1991 resemble the 1879 “Turnovo” constitution, Bulgaria’s first post-independence liberal constitution. “A return to the 1879 constitution... would signal a clean break with the communist legacy and might contribute to reviving some of the positive aspects of precommunist political traditions”, suggested one observer (Engelbrekt, 1991, p. 7). Indeed, the first post-communist legislative body in Bulgaria, the “Grand National Assembly”, was agreed to by the BCP at the insistence of the opposition, who wanted to evoke the first post-independence parliament responsible for the 1879 constitution (Ashley, 1990). On a smaller scale, historical precedent may influence specific elements of electoral systems, such as new district boundaries which may be fitted to historically focal administrative demarcations. Rather than debate over the drawing of PR districts, for example, in both the Bulgarian and Hungarian electoral systems the PR districts were formed around previously existing local governmental boundaries. On a less specific and more general scale, historical precedent explanations could also include what Frye (1997) terms “cultural approaches”, encompassing not only legacy institutions but also path dependence, general culture, and the institutional “culture”

imposed by the character of previous regimes. Jowitt's (1992) account of post-communist regimes in Eastern Europe, for example, attributes variation in institutional development to the degree of the "Leninist" legacy of state-socialism.

2.3.2. *Sociological*

Sociological explanations shift attention from agents and their preferences to the purposes for which electoral institutions were created. Rokkan, for example, qualified his original hypothesis in the context of ethnic and religious minorities, pointing out that the earliest moves toward PR occurred in the most ethnically heterogeneous societies of Western Europe (Rokkan, 1970, p. 157). Horowitz (1985) has also suggested that ethnic concerns may be central in the design of electoral systems, although his account suggests more of a conscious choice over alternatives linked to expected consequences. Purely sociological explanations tend to omit or at least downplay the conscious consideration of alternatives, simply linking the emergence of certain electoral arrangements to the result of convergent plural forces. For instance, Dahl and Tufte (1973) suggest that size itself may determine the shape of electoral regimes.

2.3.3. *Economic*

Economic approaches to electoral system origins look to economic factors to explain political institutions. Rogowski (1987) has argued that the more an economically advanced state is dependent on external trade, the more it will be drawn to the use of PR and large district magnitudes. This move to PR comes from the convergence of pressures from free trade groups seeking to maximize the state's insulation, strong parties seeking to boost state autonomy, and a need for the stability which Rogowski attributes to PR. His analysis of OECD countries in 1960 and 1975 suggests an association between trade and the number of electoral districts.

2.3.4. *Technocratic decision*

Technocratic decision explains electoral institutions when the choices are made by an expert or group of experts on primarily technical or administrative grounds. Examples of entirely technocratic motivations are rare, but may explain the adoption of certain elements of electoral systems, particularly such complicated features as PR formulas or district sizes and boundaries. The costs to understanding these factors for many decision-makers may simply outweigh the perceived potential benefits. The choice of PR formula in the Hungarian electoral law of 1989, for instance, was delegated by the roundtable negotiators to a small group of experts who purported to understand its implications and who cited technical criteria in justifying their choice (Benoit and Schiemann, 2001). The single-transferable vote (STV) system in Ireland was also chosen apparently without a systematic consideration of the alternatives, largely because of a visit to Dublin in 1911 by Lord Courtney of Penwith, president of the British Proportional Representation Society. He convinced Arthur Griffith, founder of the Sinn Fein Party and later of the PR Society of Ireland, of the merits of STV. STV was subsequently adopted in the free Irish state over other PR alternatives without significant debate (Carstairs, 1980, Chapter 17).

2.3.5. *Popular demand*

Change of electoral institutions by popular demand may occur when the normal process for institutional reform is bypassed and placed before the public in the form of a plebiscite. This may occur either through design, such as in the case of Ireland's 1937 constitution requiring electoral law changes to be ratified by nationwide referendum; through unintended political consequences, such as New Zealand's change to a mixed-member system in the 1990s; or through deliberate decision, such as Italy's change of electoral rules in the 1990s. This is typically a two-stage decision, where parties must take steps first to determine whether a popular initiative is likely to yield a beneficial outcome, and whether therefore to put the process in motion to let the electoral institutions be decided by direct vote. The second step is then a consideration of prechosen alternatives by the electorate, who will have a different set of interests than possibly instrumentally motivated political parties.

2.3.6. *External influences*

External influences may explain the choice of electoral system when forces outside the national political context are determining in the choice of electoral institutions. One example would be the imposition of electoral laws by a conquering power after military defeat; another the inheritance of electoral institutions from colonial rulers (see [Blais and Massicotte, 1997](#), for examples). More recent accounts also examine the role of international political and financial organizations in shaping electoral institutions. For example, accounts of the Lithuanian electoral law choice in 1992 attribute its content as having been drafted primarily by international organizations rather than by internal political parties ([Gelazis, 1995](#)). While external influence may explain how electoral laws originate, however, it cannot explain why such institutions persist once the external influence is removed.

2.3.7. *Idiosyncratic factors*

A final category of explanations might simply be termed idiosyncratic. This covers the adoption of institutions for reasons of accident, whim, error, or other circumstances that can be regarded as historically unique. In practice such causes are uncommon, although examples do exist. For example, the previously mentioned Irish STV system was largely shaped by the visit of Lord Penwith to Dublin in 1911. The first free constitution mandated PR as a principle for the electoral system, later changed specifically to STV in the constitution of 1937 by de Valera, head of the *Fianna Fail* party in office since 1932 ([Carstairs, 1980](#)). Successful passage of the constitution elevated the amendment rule for the electoral system to a constitutional level procedure, protecting the STV system from change despite numerous challenges and two referendums. Idiosyncratic explanations also may treat institutions generally as products which simply emerge rather than which are consciously designed. This view has been expressed by [Sait \(1938, p. 16\)](#): "When we examine political institutions... they seem to have been erected, almost like coral reefs, without conscious design.... We ask for the name of the architect. There was no architect; nobody planned it." This notion was echoed by [Rogowski \(1987\)](#), who suggested that:

Societies often adapt their institutions semiconsciously, responding to surface manifestations of root causes that their members only dimly comprehend: feudal dues were not commuted, nor absolutist government instituted, nor slavery abolished, nor even “Keynesian” fiscal policies first employed by groups fully cognizant of what most would now acknowledge to have caused those changes. (p. 220)

In the theory below, I present a distinctly different view: that at least with regard to electoral institutions, political actors are quite conscious of their range of actions and the consequences of those actions. The next section offers a formal presentation.

3. A seat-maximizing model of electoral system change

In what follows, I present a model of electoral system change and persistence based specifically on the assumption that the objective of political parties in selecting among competing electoral institutions is to maximize their shares of seats in the legislature. It should be noted that the structure is outlined here as *a* model of electoral system change, rather than being presented as *the* model. In other words, it is an example of a theoretically well-specified model of electoral system change and persistence that can be tested and potentially falsified through comparison with empirical evidence. By being deliberately parsimonious, the model will be just as useful for the cases which it does not explain as for those which it does, since it will illuminate which characteristics and assumptions about institutional choice should be examined and how. One valuable contribution of the exercise will be to identify the key quantities and assumptions required in any examination of electoral system change, and how these may be observed and confirmed in practical research. The model is therefore not intended to maximize explained variation in actual electoral system change and persistence, but rather to formulate a theory making unambiguous assumptions with strict implications that will serve as a guide to future investigations of this topic.

The seat-maximizing model of electoral system change may be summarized as the following.

Electoral systems result from the collective choice of political parties linking institutional alternatives to electoral self-interest in the form of maximizing seat shares. Political parties will rank institutional alternatives in descending order of the expected seat shares they expect the alternative to bring them in an election to take place under those rules. In order to most accurately link institutional alternatives to self-interest, each party will actively seek information that will enable it to estimate the vote share it expects under each alternative electoral rule. This includes both information about its own expected vote share as well as about the operation of the electoral system alternatives for transforming this vote share into seats.

A change in electoral institutions will occur when a political party or coalition of political parties supports an alternative which will bring it more seats than the

status quo electoral system, and also has the power to effect through fiat that institutional alternative. Electoral systems will not change when no party or coalition of parties with the power to adopt an alternative electoral system can gain more seats by doing so.

In terms of the map of explanations previously developed, the model is a derived-preference theory of self-interest, assuming specifically that parties seek institutional change when that change will improve their expected seat share relative to the status quo. Why the explicit focus on office-seeking? First, seat shares are generally the most immediate political objective among parties contesting elections. Even if parties are concerned with policy, the most preferred way to effect the most preferred policy is for one's own party to gain sufficient seats to make its passage possible. Second, especially in founding elections or elections involving new political groups, representation may be a goal in itself, with the desire to implement specific policies secondary to the desire to participate in the legislature. Individuals want to be elected or reelected, and this desire will take precedence over policy preferences (Geddes, 1991). Finally, many cases of institutional change involve fluid and unusual political circumstances, and policy preferences may be inchoate or poorly defined, with the participants themselves not necessarily certain of their own preferences or holding multiple policy preferences within a single "party". For example, in Remington and Smith's (1996) analysis of choice of 1993 and 1995 Russian electoral laws, office and not policy was seen as the key objective motivating institutional decisions. A similar case has been outlined in the choice of the 1989 Hungarian bargaining over the electoral law (Benoit and Schiemann, 2001).

3.1. Formal statement of the model

Define a political setting at time t as a set consisting of $\{P, \mathbf{L}, D, \mathbf{V}, \mathbf{V}^*, \mathbf{S}, \mathbf{S}^*, \mathbf{E}, \mathbf{R}\}$. Each t refers to an election although the notation below generally omits this subscript unless it is directly relevant. Vector and matrix quantities are expressed in bold.

3.1.1. Definitions

1. *Parties*. Let P refer to the total number of parties in the system. Parties are unitary actors holding a single set of preferences, beliefs, expectations, and utilities for the purpose of evaluating electoral institutions.
2. *Institutional fiat power*. Let \mathbf{L} be a $P \times 1$ vector of power to change or effect institutional rules through fiat held by each party p . Properties: $0 \leq L_p \leq 1.0$, $\sum_{p=1}^P L_p = 1.0$. \mathbf{L} can be thought of as a vector of voting weights held by each party for the purpose of changing the electoral law. In most legislative settings, \mathbf{L} will be equivalent to the proportion of seats held by each party.
3. *Decision rule for institutional change*. Let the scalar D represent the decision rule for exercising fiat power to change the electoral rules. Any party p will need $L_p > D$ in order to exercise fiat power to implement an institutional change, where $0 \leq D \leq 1.0$. For example: when majority vote is sufficient to pass an electoral law

modification, then $D = 0.5$. A party with 51% of the seats would have $L_p = 0.51 > D = 0.5$ and could therefore secure passage of an electoral law change.

4. *Votes, seats, and expected votes.* Let \mathbf{V} be a $P \times 1$ vector of the proportion of votes each party p will receive in the election, and \mathbf{S} a $P \times 1$ vector of seat proportions awarded to each party p . Let \mathbf{V}^* be a $P \times 1$ vector of unobserved vote proportions, reflecting the vote share that each party p expects, at the time of the electoral system choice, to receive in the next election. Properties: $\sum_{p=1}^P V_p = \sum_{p=1}^P S_p = \sum_{p=1}^P V_p^* = 1.0$.
5. *Electoral system alternatives.* Let \mathbf{E} represent an $(E + 1) \times 1$ vector of E distinct electoral systems $\{E_1, E_2, E_3, \dots, E_E\}$ plus a default alternative E_0 . Each electoral system $E_e(\cdot)$ is a function transforming votes into seats such that:
 - One electoral alternative will always be the status quo electoral system, designated as E_0 .
 - $E_e(V_p) \Rightarrow S_p$ is the transformation of vote share for party p into seat share for party p by electoral rule e .
6. *Expected seats under each electoral system.* Let \mathbf{S}^* be a $P \times (E + 1)$ matrix of unobserved transformations of expected vote shares into seat shares $E_e(V_p^*) \Rightarrow S_{pe}^*$ by each electoral rule e , as expected or believed by party p . Properties: $\sum_{p=1}^P S_{pe}^* = 1.0$ for each electoral system alternative e .
7. *Preferences over institutional alternatives.* Let \mathbf{R} refer to a $P \times (E + 1)$ matrix of preference orderings held by each party over each electoral system alternative. Each party p will hold a preference ordering over electoral law alternatives $\mathbf{R}_p = \{E_{p1} \succcurlyeq E_{p2} \succcurlyeq E_{p3} \succcurlyeq \dots \succcurlyeq E_{p(E+1)}\}$, where E_{p1} is preferred most and $E_{p(E+1)}$ is preferred least.

Given these definitions, the model itself may be stated formally as such.

3.1.2. The model

1. *Common knowledge of electoral system alternatives:* Each political party p will hold a common view of the range of plausible electoral system alternatives \mathbf{E} .
2. *Beliefs about relative political support:* Each political party p will have a belief about its expected vote share V_p^* , such that \mathbf{V}^* is complete.
3. *Beliefs about expected seat shares under each electoral system alternative:* Each political party p will have a belief on S_{pe}^* for each electoral system alternative e , the expected seats to be produced by each $E_e(V_p^*)$.
4. *Seat-maximizing preference among electoral system alternatives:* Each political party's utility for an electoral rule alternative will be defined by its expected votes under that alternative. Each preference ordering \mathbf{R}_p over \mathbf{E} will be therefore be ranked in descending order of $S_{pe}^* \forall e$.
5. *Electoral system change:* The status quo electoral law E_0 will be replaced by another electoral law $E_{f(t+1)}$ if for some subset of $1, \dots, Q$ parties \mathbf{Q} , $\mathbf{Q} \subseteq \mathbf{P}$, the following is true: $\sum_{q=1}^Q L_q > D$ and $S_{qf}^* > S_{q0}^* \forall q$. In other words, the total fiat power of coalition,⁴ \mathbf{Q} , must exceed the institutional decision rule D , and each

⁴ The term "coalition" here is used very broadly, literally in the sense of being "An alliance, especially

party in \mathbf{Q} must expect to gain more seat share under electoral institution E_f than under E_0 . Furthermore, when such a coalition may select among a set of more than one alternative E_f , $\forall f \neq 0$, then the coalition will choose the alternative f which maximizes $\sum_{q=1}^Q S_{qf}^*$.

3.2. Examples

The model can be illustrated with reference to a few examples. These are not intended to provide systematic evidence but rather to illustrate the workings of the model along a few different branches. A first example comes from France in the 1980s. The Socialist switch from the two-round majority system in France to PR for the 1986 elections reflected both the Socialists' ability to pass an electoral law amendment (58% of the National Assembly seats) and the interest in doing so given that polls widely showed that the union of the Right was likely to surpass the Socialists in the forthcoming elections (38% in 1985 opinion polls). The Socialist Party calculated that PR would mitigate the large-party bonus the Right could gain under the majoritarian system and therefore minimize the Socialist loss of seat shares. It then successfully adopted PR electoral rules under the simple majority decision rule, since its power $L_{soc} = 0.58 > D = 0.50$. This move was also supported by the far-right National Front Party, although the legislative fiat power of this party $L_{NF} = 0$ since it held no seats in 1985.

Another example comes from Ireland, where the relatively rare STV electoral system has been used since 1920, largely the result of the influence of it having been favored at the time by a few influential decision-makers including Eamon de Valera, founder of the *Fianna Fáil* party (Carstairs, 1980). The constitution adopted in 1937 explicitly requires the use of STV.⁵ According to the constitution of 1937, constitutional amendments require passage by both chambers using simple majority then approval in a nationwide referendum. Since 1937, serious attempts to change the electoral law have occurred twice, both times when the *Fianna Fáil* party achieved sufficient legislative power ($L_{FF} > 0.534$ and $L_{FF} > 0.504$) to pass an electoral law modification in the legislature where $D = 0.50$. They sought to replace the semi-proportional STV with a first-past-the-post system that would provide a consistent legislative majority to the largest party—in every election up to that time *Fianna Fáil*. The referendum held in 1959 to secure passage of the change, however, failed as did a second referendum held in 1969. The prevalent explanation is that the two main opposition parties *Fine Gael* and Labour mobilized support against the bill because they feared that first-past-the-post would convert *Fianna Fáil*'s plurality into a semi-permanent seat majority (O'Leary, 1975). In this case, only the fact that STV is a constitutional-level provision, coupled with the requirement for a referendum to

a temporary one, of people [or] parties." *American Heritage Dictionary*, Houghton Mifflin, 2002. As will be explained below, the only common interest that parties in \mathbf{Q} must have is a common perception of a gain in seat shares through modification of E_0 .

⁵ The Constitution (Article 16) states that elections to the lower chamber, the *Dáil*, should be held "on the system of proportional representation by means of the single transferable vote." See O'Leary (1975).

amend the constitution, have kept the electoral institutions from being modified by political parties seeking to maximize office.

A final example comes from the post-1989 Hungarian Republic, where the electoral law appears to have reached an equilibrium where no group of parties exists with the power to change the electoral law, such that each expects to gain more seat share by modifying the complex mixed-member system. While not part of the constitution, the electoral law requires a two-thirds majority vote in the unicameral Hungarian legislature to be modified ($L = 0.6667$). Only one governing coalition—the Socialist–Free Democratic government from 1994 to 1998 with a combined 71.7% of the seats or $L = 0.717$ —has held sufficient legislative power to secure passage of an electoral law change. But while a more majoritarian system would certainly have benefited the MSZP as the largest party, the smaller party in this coalition—the SZDSZ, which expected in the next election well under its previous 19.7% of the vote—would have expected fewer seats under such a rule change. For this reason, not every party in the two-party governing coalition expected to maximize its seats under a more majoritarian alternative that was considered, and no move to restrict the proportionality of the law was approved. For the same reasons, proposals put forth in 1997 suggesting the adoption of even more proportional mechanisms also failed, because the leading MSZP had no self-interest in pursuing them (Magyar Hírlap, 1997). The electoral law tends to produce a mild multipartyism, therefore, and coupled with the high $D = 2/3$ means that no coalition of parties with the power to change the electoral law exists that also has a unanimous self-interest in doing so (Benoit, 1996).

3.3. Empirical implications

Models of institutional change are difficult to confirm or infirm by looking at empirical evidence. This is because most models make assumptions about motivations, and genuine motivations are notoriously difficult to discern. Yet this difficulty arises precisely because of the important and indeterminate nature of institutional choice, the same characteristics which, despite the challenges, make it worth the attempt to study institutional choice using rigorously constructed models. This section seeks to clarify this task by outlining the empirical assumptions of the seat-maximizing model presented above, and then describing what observations might falsify the model.

The first task is to compile a list of what quantities require examination and how they might be empirically observed.

P. What is the universe of parties, and how has this been defined? The model assumes that parties are unitary actors. This means that in practice, “parties” may be actual single political parties, or umbrella organizations or coalitions of political parties acting as a single unit. For instance, in negotiations over founding electoral institutions in Eastern Europe, opposition groups in Poland, Hungary, and Bulgaria forged a united stance against the regime and turned the roundtable talks into what was effectively bilateral bargaining. Conversely, it may be that within a single political party there are multiple sets of preferences which affect institutional choice. Of

course, observation of such a non-unitary actor party would conflict with the definition of P required by the model.⁶

L. What is the fiat power assigned to each party? More importantly, how has this fiat power been determined? In some cases this will be formally defined power, such as numerical votes defined by seats held in a legislature; in other (transitional) contexts it may be set by extra-constitutional factors such as social force or popular legitimacy. Parties outside the political framework may possess a degree of effective fiat power if their forces are sufficient to threaten political or social conflict if their views are not considered.

D. This important quantity defines the institutional barrier to amending or adopting electoral laws. If there are two parties p, q such that $L_p = L_q$ then neither has the power to impose a new rule on the other. For example, $D = 0.50$ represents majority rule, under which if $L_p > 0.50$ then one party p has the power to change the electoral system. Super-majorities, common in legislative contexts, involve a higher setting of D , such as $D = 2/3$ or $D = 3/4$. In well-defined legislative contexts D will be simple to observe; in transitional and extra-constitutional contexts D will have to be assigned based on the decision rules which actors adopt for themselves.

V*. This represents the estimates by each party of the votes they can expect to receive in the election. While sometimes difficult to observe, there are usually reliable proxies such as opinion polls, or previously held elections, often to other offices such as executive, local elections, European Parliamentary elections, or by-elections. What does each party expect its votes to be? Are these expectations commonly held and agreed upon?

E. Of course some identification of the range of electoral alternatives being considered must be carried out. An interesting issue in its own right will be what is and who determines the universe of electoral arrangements considered as alternatives. In terms of the theory, however, viable alternatives not considered by institutional designers should also be evaluated, since the theory predicts that planners will seek all alternative institutions that maximize their seat shares relative to the status quo when such alternatives exist.⁷ Generally the range of options which choice participants considered is made plain in records of legislative and committee debates, public statements, and often personal interviews.

S*. This quantity summarizes each party's expectation of its seat share for each electoral system alternative. Does each party have a clear understanding of S_e^* ? This information is sometimes found in public or private recorded statements, such as

⁶ The debate on whether parties may be treated as unitary actors also depends on the context. For instance, Laver and Schofield (1990, pp. 217–244) review the status of political parties in European contexts and conclude that for static models of government formation, parties can typically be treated as unitary actors, even though they are well aware that in reality parties are coalitions of independent actors with a variety of preferences and motivations. The argument here is that, as groups taking positions on alternative electoral institutions, parties may also be treated as unitary actors, even though for many other purposes this assumption may be unrealistic.

⁷ For instance, in assessing the logic of institutional selection at the Polish Roundtable, Kamiński (1999) evaluates the STV electoral system even though it was not seriously considered by the choice participants.

legislative debates or party records, but often comes primarily from interviews with choice participants.

R. This quantity can be examined in two ways. First, does each party systematically rank the electoral alternatives? And for each party, what is this ranking? Evidence for ranking of electoral alternatives can come from a variety of sources: public statements, records of private party meetings, *ex post* interviews with choice participants, transcripts of legislative debates or roundtable transcripts, or roll-call votes on electoral law bills.

Observing these quantities provides all the necessary information for an empirical test of the model. This test takes place by comparing the observed patterns among the quantities with observable implications directly from the model. These implications are:

1. *Formation of preferences over electoral alternatives.* During deliberations and bargaining over alternative electoral institutions, the positions of a political party should be clearly linked to its expectation of the seats to be gained by the electoral rules. A party's position should not reflect a motivation not linked to maximizing seat shares.
2. *Explaining electoral rule changes.* Observed changes in electoral rules should be engineered by a subset of parties collectively possessing the fiat power to change an electoral rule and each having the expectation of improving its seat share by doing so. Each electoral law change should clearly reflect the perceived self-interest of the parties making the change.
3. *Predicting electoral rule changes.* When there exists a subset of parties with both the ability and electoral motive to alter the rules, electoral rules should change.
4. *Information-seeking and updating.* Each party p should actively seek information about S_{pE}^* in order to evaluate alternative electoral institutions. When new information becomes available that changes S_{pE}^* , then the party should update its ranking R_p .

4. When electoral systems should persist

Electoral systems should cease to change once no party or group of parties with the fiat power to change the electoral law perceives a potential seat gain by doing so. The model thus highlights the conditions under which the process of institutional manipulation should exhaust itself, resulting in a stable set of parties with fiat power \mathbf{L} such that no alternative E_f is more attractive than the status quo electoral law E_0 . It is important to note that this process is really more a heuristic to institutional change, implied by the formal statement of the model, than something which can be “proven” to result in institutions reaching an equilibrium. Indeed, as the following discussion will emphasize, because real electoral systems do change so frequently, the model is intended to identify the conditions of a potential institutional equilibrium, precisely in order to show how easily these conditions might be disturbed.

A global result of the model is that in the absence of external shocks, the political

system will eventually reach an equilibrium state of \mathbf{L} and E_0 where both will become stable. Before each election, each party in \mathbf{P} considers electoral system alternatives to the status quo electoral system E_0 . These parties partition themselves into like-minded coalitions \mathbf{Q} , although if divisions are high then \mathbf{Q} may be equivalent to \mathbf{P} when each party forms a coalition consisting only of itself. The electoral law E_0 will be changed in favor of an alternative E_f if and only if there exists some \mathbf{Q} such that every party which is a member of \mathbf{Q} expects its seats to be higher in the forthcoming election using the E_f electoral system than using the status quo electoral system E_0 .

Fig. 1 portrays the process of electoral system change graphically. The process

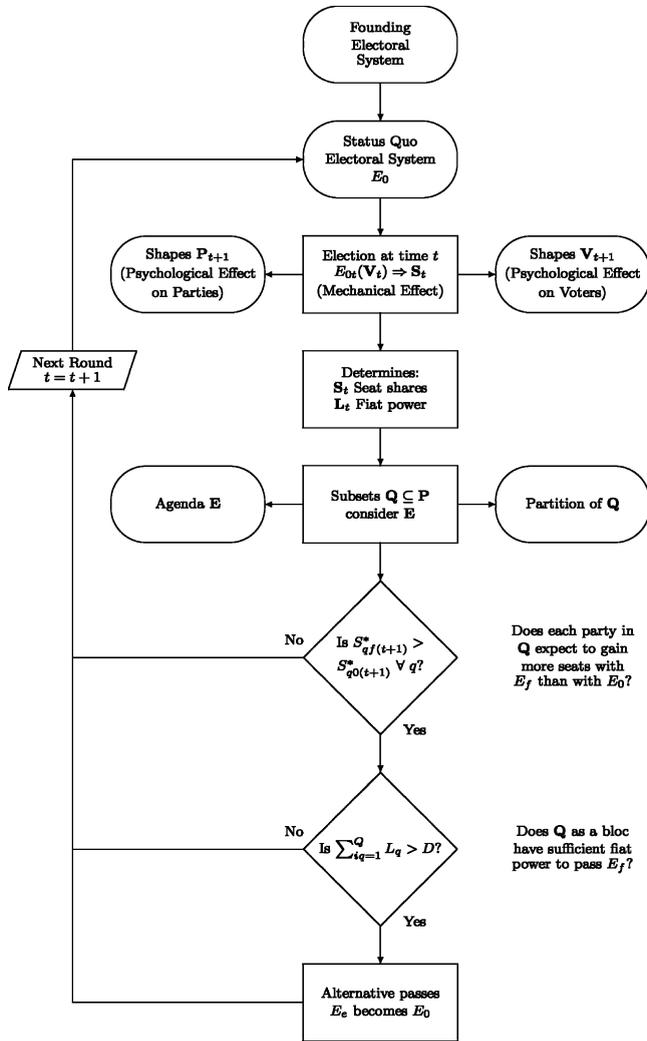


Fig. 1. Equilibrium process of electoral law change.

begins with a status quo electoral system E_0 , which operates in an election at time t on a vector of votes \mathbf{V} to determine the seat vector \mathbf{S} . At each election, various forces will shape \mathbf{V} and the number of parties P : not only exogenous factors such as party scandals, splits and mergers, and voter realignments, but also endogenous factors stemming from the electoral rules themselves, namely the psychological effect on voters and parties which the vote-to-seat transformation itself exerts (Benoit, 2001). The seat vector in turn determines the legislative fiat power \mathbf{L} .

In anticipation of a future election (time $t + 1$), parties consider alternative electoral systems in the institutional agenda \mathbf{E} in terms of their expected seat shares \mathbf{S}^* . The scope of this agenda will be determined by factors exogenous to the process and will vary from setting to setting and over time. If some set of parties \mathbf{Q} emerges such that every party in \mathbf{Q} prefers an alternative in \mathbf{E} that is ranked higher than E_0 , then its passage will be considered or attempted. If collectively the coalition \mathbf{Q} has fiat power $\sum_{q=1}^Q L_q$ greater than the decision rule D for changing the electoral institutions, then the alternative will be adopted, becoming the new E_0 . The process is then repeated. The cycle continues until no coalition of parties has sufficient fiat power to pass an electoral law alternative to the status quo that each member expects would improve its share of seats. The conclusion is that both \mathbf{S} (and therefore \mathbf{L}) stabilize, creating an equilibrium E_0 .

This model assumes that \mathbf{V} is constant, however, and this is never the case in the more complicated real world. Because both the actual votes and the expected votes will change over the course of time, electoral institutions will change. Broadly speaking, we can classify forces for change—disturbing this equilibrium—as belonging to four broad types.

1. Party's expectations of their share of votes \mathbf{V}^* diverge from their current share of seats \mathbf{S} . This creates a gap wherein power to shape electoral laws no longer equals expectation of shares of votes expected to translate into future seat shares. This means that parties in power will then reconsider E_{p0t} in light of their new expected $S_{p0(t+1)}^*$. An example would be the shift in the polls of the governing French Socialist party in 1985, explained above. For various reasons, the Socialists believed that their expected vote $V_{\text{soc } 0}^*$ would be less than the expected vote of their main rival, and this caused them to prefer a more proportional electoral system in order to maximize their expected seats S_{soc}^* in the 1986 election.

In addition to a change in the popularity of established parties, other possible shocks to \mathbf{V}^* may come from the introduction of new groups of voters and political parties, as in Rokkan's (1970) account in Sweden of the established parties' insistence on PR rules as a condition for introducing universal suffrage. Another source would be an electoral realignment, fundamentally altering previous patterns of party support.

2. The set of parties \mathbf{P} itself changes, possibly as the result of splits or fusions caused by factors exogenous to the consideration of votes and seats. For example, personality conflicts may play a role in the splits of some parties, and suddenly interests and possible institution-changing coalitions may be redefined. In addition, coalitions of parties previously sharing the same set of interests may splinter from one election to the next, as did Solidarity in Poland beginning in 1990, the National

Salvation Front in Romania in 1990, and the Union of Democratic Forces in Bulgaria in 1991.

3. The viable coalition set Q changes, creating new sets of forces that have shared interests in evaluating alternatives to E_0 and also possibly sufficient fiat power to secure passage of alternative. In fact, “coalitions” in the sense employed here are particularly fragile in a political sense, and may have no interest in common other than a change in the electoral law designed to bring them more seats. For instance, electoral competition in the Czech Republic in the mid-1990s took place mainly between two rival parties, the Civic Democratic Forum (ODS) and the Social Democratic Party (CSSD). In the June 1998 election only five parties exceeded the 5% threshold and entered parliament. The CSSD won 32% of the votes and the ODS came in closely behind at 27.7%. The proportional Czech electoral system had once again resulted in a minority government that lacked coalition potential, except that the previously ruling ODS administration of Vaclav Klaus was replaced by Milos Zeman’s CSSD. Several governing coalitions were explored but none came to fruition. Out of the stalemate was born an unprecedented “Opposition Agreement” between ODS and CSSD, essentially a cartel arrangement imposing various mutual conditions on these two parties. The ODS agreed to tolerate a CSSD minority government, and in exchange for agreeing not to bring votes of no confidence, was promised chairmanship of both houses of parliament and leadership of essential parliamentary commissions. A special feature of the Opposition Agreement was the commitment to enact electoral reform within 12 months of signing the agreement. With more than two-thirds of seats in parliament between them, the ODS and CSSD had the power to change the electoral law and even the constitution towards a more restrictive electoral law which would encourage a two-party system and make majority governments more likely. Both parties performed explicit calculations estimating that such rules would enhance their seat shares under a variety of scenarios, even though they would be political opponents. Despite a prolonged debate over its exact form, the amendment finally secured passage in both houses of the legislature in June 2000 (Klíma, 2000).

4. A dominant interest may somehow change D , the permissible rules for altering E_0 . For an example, we may return to the case of the French electoral law manipulation in the 1980s. The coalition of the Right led by Chirac won a slim parliamentary majority in the 1986 election under PR rules, including 35 seats won by the National Front. Chirac calculated not only that the vote plurality of the Right would contribute to a large-party seat bonus under majoritarian electoral institutions, but also that the 35 National Front seats would become available again for more mainstream parties of the Right in the second round of the majoritarian elections. Yet for this same reason the Right coalition to change the electoral law would not have been greater than the $D = 0.5$ needed to change the electoral law back to the two-round majority system, since the National Front would have lost seats with this system relative to the status quo PR rules. So Chirac sought a constitutional mechanism with a different D : putting forth the electoral law change under Article 49.3 which transforms any project of law into a measure of confidence. The Right therefore had to accept his plan without a vote or otherwise bring down the government on a no-confidence

measure. Unwilling to do this, the legislature accepted the bill. At the same time, Chirac exploited Article 38 to change the decision rule for redistricting from legislative to executive jurisdiction (Tsebelis, 1990).

5. The range of alternatives \mathbf{E} considered viable changes. When new alternatives may be introduced into the institutional agenda, it is possible that they will be chosen relative to the status quo. For instance, Kamiński's (1999) analysis of the Polish electoral choice indicates that alternatives more proportional than the majoritarian system actually chosen for the 1989 election would have been both seat-maximizing for the communist party and acceptable to Solidarity. Yet the PUWP did not want to consider list PR because it would have meant recognizing Solidarity as a political party, which it was not prepared yet to do. Kamiński shows that the STV system, however, could have avoided this, yet it was not chosen probably because of a lack of knowledge about various electoral rules and their consequences.

5. Further challenges for explaining electoral system change

This paper has thus far surveyed the landscape of existing explanations of change in electoral institutions, and developed one subset—the seat-maximizing model—into a general theory of electoral system change and persistence. This model was offered both as a means of introducing the key quantities involved in changes of electoral institutions, and to demonstrate practically how a specific model might be constructed and tested. The quantities provided, however, might easily be assembled into a different model with different observable implications. In constructing the seat-maximizing model, several important theoretical challenges have been raised which should be addressed in future empirical and theoretical work on electoral system change and persistence.

5.1. Manipulation or circumventions of D

One of the insights yielded by the model is the focus on D , the meta-institutional provisions for changing the electoral system. As pointed to in examples, a high setting of D (as generalized in the case of Ireland's referendum requirement, or Hungary's two-thirds majority rule) may make the difference between stability and change in electoral institutions. In this sense, D provides what Shepsle (Shepsle, 1979, 1986) refers to as a structurally induced equilibrium; indeed, the model presented here highlights this structure as critical to the equilibrium of electoral institutions.

This process points to another form of institutional endogeneity, that of the decision rule D itself governing institutional change. The model presented here takes D as exogenous, but this is not necessarily the case. At some point political actors will set D according to some set of political motivations, possibly office-seeking. A fuller account of equilibrium electoral institutions should address the equilibrium of D as well as E_0 .

5.2. *Founding electoral systems*

Another qualifier involves special cases of changes in electoral institutions where an electoral system must be chosen during a transition to democracy. The model itself is inspired by countries recently becoming democratic, and is designed to explain precisely the sort of electoral reform they have experienced. Yet the adoption of rules for the very first election after transition from authoritarian rule is likely to be exceptional in many ways.

First, uncertainty and lack of information may make clear linkages by parties between positions and self-interest difficult or even impossible. Nonetheless, updating should occur when new information becomes available. Second, while the logic of self-interest begins to operate in the first elected parliament, the founding electoral law and the election of the first parliament itself may be based on other grounds. Many first elections in Eastern Europe, for example, were also referendums against the previous regime. Third, the decision rules involved in determining founding electoral systems in transitional democracies are often not the products of institutions, but rather of bargaining power, social restraint, and informal agreements. They may be fuzzy to all participants and subject to manipulation and pressure during the choice process itself.

For example, the Russian electoral law of 1993 did not result from an explicit agreement among the major organized forces over the rules of the game. No parliamentary body existed to provide a mechanism for choosing the electoral law. Members of the old parliament had been working in 1993 on a new electoral law, and their recommendation served as the basis for Yeltsin's decree. "Within the very broad limits of acceptability of the general public, Yeltsin was free to choose the rules of competition and impose them by decree. No formal vote or parliamentary coalition-building process was involved" (Remington and Smith, 1996, p. 1258).

Yet the theory does not purport to explain *D* or how it is established or changed. What it does serve to do is to explain how *D* affects subsequent change and persistence in electoral rules. In transitional East Germany, for example, the roundtable structure "almost unwittingly... adopted the principle of representativeness" (Preuss, 1996, p. 105), with over 30 participants and the prior agreement to ratify its decision of electoral rules with a simple majority vote. This basically constrained the winning institutional rule to be highly proportional, which it was.

A final exceptional characteristic of founding electoral systems is that their choice may take place in a political and institutional vacuum where there is effectively no status quo institution against which to weigh alternatives. This may be equivalent to saying that in transitional settings, the status quo institutions may quickly become regarded by all participants as the lowest ranked—and hence unacceptable—alternative. Nearly all communist-era electoral laws governing the non-free elections, for example, used a single-member district system. In most countries, it was immediately agreed that these same rules would not be acceptable for multiparty electoral elections, and that new laws would have to be drafted. Yet the fact that in some countries, the communist-era systems were used in founding elections, such as in Albania and

Latvia, points to the need for some explanation based on the power and incentive of the institutional decision-makers.

5.3. *Additional theoretical challenges*

A final few challenges to the theory are offered as things to be considered in future refinements of the model. These are mainly issues which the model raises but does not incorporate. Indeed, the model has been kept deliberately parsimonious in order to make it falsifiable in empirical settings, and through formalization to raise in a well-defined context precisely the sort of issues to which I now turn.

First, the model of legislative consideration of electoral system alternatives **E** is context-free and ignores real-world factors such as agenda control and issue cycling. It treats the institutional agenda **E** as exogenous although this may well not be the case, since the ability to set an agenda may be correlated with **L**. Yet this problem also plagues a number of other explanations of electoral system origins and change, for instance historical precedent, technocratic expertise, or interest motivations. As long as alternatives were consciously evaluated, regardless of the criteria by which they were selected, the set of alternatives **E** was set according to some agenda.

It is also true that there are likely to be exogenously imposed restrictions on **E**, placing a limit on the real-world seat maximization that will occur. Under the pure seat-maximizing model, a coalition **Q** with power to change the electoral law for its benefit will continue to do so until no more beneficial alternatives remain that it may pass. This implies that a majority party would ultimately seek a pure winner-take-all rule. In practice, this will not occur because there are also limits of acceptability which constrain electoral rules independent of **D**. Some self-interest-maximizing institutional changes will be excluded from consideration as being simply beyond the pale, according to the limits set by public acceptability, opposition threats to withdraw support for the democratic institutions, or the simple bounds of political propriety. Yet extensive political practice shows that considerable and meaningful institutional change may occur within these broad and vague constraints.

A third complication comes from focusing narrowly on legislative electoral systems without regard to the greater institutional context. The single-institution focus may yield only a partial picture, since bargains and even strategic preferences during bargaining may occur in the context of a larger institutional package, especially simultaneous negotiations about the executive structure. A more complete explanation, or an attempt to apply the theory to a detailed case, may well require an extension to account for institutional choice over other institutions as well.

Another caveat concerns the relaxation of the assumption of perfect information, in particular the completeness of **V*** and **S***. It may be the case, especially in transitional contexts, that some or all parties are operating on the basis of limited information or imperfect understandings about the operations of electoral rules. In such contexts they may still be motivated by office, but the uncertainty may affect the parties' pursuit of seat maximization through the choice of electoral institutions. This problem in particular deserves elaboration in a more specialized version of the office-seeking model presented here.

A final caveat to the model concerns the possible existence of transaction costs to changing institutions, acting as brakes on the institutional change predicted by the model.

Changing institutions imposes transaction costs... on the participants. The transactions' costs include not only those devoted to decision-making, but also those required to enforce the procedures of the new regime and for individuals to adapt to the new procedures.

In terms of institutional robustness, the transactions' costs of change provide an institution with something of a cushion, giving it a stability it might not otherwise endure because prospective gains from change are more than outweighed by the costs of effecting them. In a world full of uncertainty about future states, imperfect information and a modicum of risk aversion may make that cushion substantial. As a consequence, institutions may be robust, not because they are optimally suited to the tastes of participants and the present environment, but rather because transactions' costs price alternative arrangements too high. (Shepsle, 1989, p. 144)

These transaction costs may take the form of risk from promoting a change which proves uncontroversial or unpopular, or unsuccessful and thereby a waste of valuable legislative time (Dunleavy and Margetts, 1995). It is also possible that over time a party that is seen to change the electoral law too frequently will be discredited as manipulating the rules for its own political gain. The model elaborated here does not account for institutional inertia in the form of transaction costs, simply because electoral systems tend to change so easily and readily in political practice. Yet this assumption deserves to be more thoroughly explored, since it is an important point in the literature on institutional change generally.

Future research should focus on exploring these assumptions and extensions to the basic model presented here. This should consist of empirical research seeking to verify the conditions in the model predicting when change should occur and for what reasons. On a broad scale, it would be possible to attempt to verify the model using cross-national, time-series data of party seats and electoral law changes. In general, majority governments whose fiat power exceeds D should be expected to attempt to tighten electoral rules to exclude smaller parties. Likewise, electoral law changes should generally bring more seats to the parties that were in control of the amendment's passage. Cross-national data will not yield a perfect picture, however, since motivations rather than actual outcomes are the key to the theory, and since it may not be possible using aggregate data to reconstruct each actor's motivations and beliefs or even to know who the sides were on each electoral change. Certain cases would nonetheless reveal prominent patterns for which explanations could be sought, such as national contexts where electoral systems either frequently change or conversely do not change at all.

More fruitful yet is likely to be the detailed examination of specific cases, seeking to verify that electoral system change did occur when the model predicts it, and that each change that occurred did so in the way that the model predicts. For instance,

Benoit and Schiemann (2001) applied a very similar model as an analytic narrative to understand the choice of the Hungarian electoral system. Benoit and Hayden (in press) apply the model more broadly to the process of electoral system change in Poland from 1989 to 1999. Similar tests could easily be applied to almost any country's case.

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