

# Handbook of New Institutional Economics

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*Edited by*

Claude Ménard

and

Mary M. Shirley

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 Springer

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NEW INSTITUTIONAL ECONOMICS

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## 4. Electoral Institutions and Political Competition

### Coordination, Persuasion and Mobilization

GARY W. COX

In the Schumpeterian conception, democracy consists of regular and non-violent competition for control of government between alternative teams of elites (Schumpeter 1942). The question that much scholarship in electoral studies addresses, and on which this essay will focus, is: how does changing the rules of the electoral game change the strategies of parties and candidates, hence the outcome of elections?

Figure 1 illustrates both the sequence of events in a stylized democracy and some of the topics to be covered. In the beginning, there is a set of potential electoral competitors. These agents decide (at stage 1 of the diagram) whether to enter a particular electoral competition—that is, to formally nominate candidates for one or more elective offices. Since winning office requires amassing a sufficient number of votes, the nature of the entry game between potential competitors has a strong coordination game flavor to it.<sup>1</sup> For example, if fifteen right-of-center parties all enter the race as separate competitors, while the left unites behind a single option, the right is likely to do poorly (under most extant electoral systems). The right can do better if some potential competitors withdraw in favor of others, but each potential competitor may prefer that *it* remain and *the others* withdraw.

After a given set of competitors have entered the race, each decides to allocate effort to one or more of three vote-producing activities: (2.1) persuasion: providing voters with reasons, such as better policy positions or larger bribes, to prefer it to the other competitors; (2.2) vote coordination: convincing supporters of other parties that the expected utility of their vote, in terms of affecting the allocation of seats across competitors, will be higher if they support it than if they support their most-preferred competitor; (2.3) mobilization: boosting the probability that its known supporters will actually participate in the election.

<sup>1</sup>The essence of a coordination game is that the players would like to coordinate their actions on some one of  $n$  possibilities but disagree which of these possibilities is the best. For example, two allies, A and B, may wish to coordinate an attack on a third nation but disagree whether the attack should be launched from A's territory or B's.



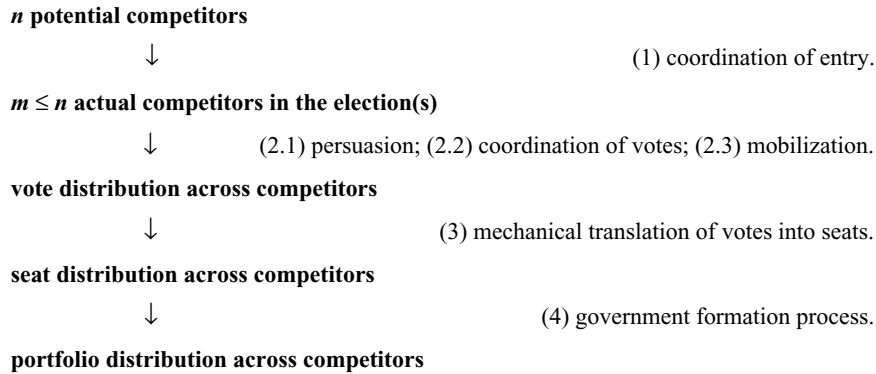


Figure 1. The office-seeking sequence in a hypothetical democracy

Each of these vote-producing activities is cost-effective under somewhat different conditions.

After the election has been held, an allocation of votes across the available competitors is determined. This allocation of votes is translated into an allocation of seats by a series of deterministic mathematical operations mandated by the relevant electoral rules (in particular, the electoral “formulas”) of a system. Finally, after the allocation of offices has been determined, those competitors who hold seats in the national legislature can bargain among themselves over the distribution of portfolios (defined here to include both cabinet ministerial posts and, in those systems where such positions confer substantial authority over the legislative agenda, legislative committee chairs).

In this essay, I focus on the first three stages of Figure 1, leaving government formation to others. In order to simplify the exposition, I do not deal much with the detailed electoral rules. Rather, I categorize electoral systems by three broad architectonic features: the number of votes per voter; the number of seats per district; and the proportionality of the votes-to-seats translation. These features play the role of independent variables, with candidates’ and parties’ strategies of coordination, persuasion and mobilization in the role of dependent (or sometimes intermediate) variables.<sup>2</sup>

Although not the focus of this essay, it may be worth suggesting how parties’ strategies in turn affect policy choices. A short answer is that parties’ strategies help define the sort of actor they will be in government. In particular, the larger are the electoral aggregates that form (the greater is the equilibrium level of coordination), the broader are the interests those aggregates will represent; and the more that parties choose to persuade via promises to provide differing packages of public goods, rather than differing packages of private goods, the greater the pressure will be on them to deliver such goods when in office.<sup>3</sup>

<sup>2</sup>Throughout, I focus (albeit not exclusively) on formally derived institutional comparative statics results. For other reviews similar in spirit, see Myerson (1995, 1999).

<sup>3</sup>More elaborate answers along these lines can be found in Shugart (2001), Cox and McCubbins (2001), and Tsebelis (2002).

## 1. ELECTORAL RULES

There is an immense range of different electoral rules that can be combined into an even larger number of possible electoral systems. Here, I shall focus on the three main components of any electoral system: votes, seats and the rules translating votes into seats. Each of these components can be characterized in detail, by describing all the features of the particular electoral system at hand. Each can also be characterized in a more summary fashion—the approach taken here.

### *Translating Votes into Seats*

One can characterize a given electoral system in terms of *where* and *how* votes are converted into seats. As far as *where* is concerned, votes can be translated into seats within electoral districts, within upper tiers and within electoral segments. Let's consider each of these in turn.

An *electoral district* is a geographical area within which votes are counted and seats awarded. For example, the U.S. House of Representatives has 435 districts, each returning a single member. Votes are counted at the district level and seats are awarded at the district level. There is no process by which votes from an election in California's 4<sup>th</sup> district can affect the outcome of the election in New York's 3<sup>rd</sup> or California's 5<sup>th</sup>.

Other electoral systems have provisions by which votes and sometimes seats are translated from their district of origin to a secondary district (a larger geographic area encompassing two or more districts), with an additional round of votes-to-seats conversions occurring at that level. For example, one could modify the U.S. system by stipulating that all votes not cast for a winning candidate in their district of origin transfer to the national level, where they can translate into seats according to stipulated rules.

Many electoral systems have *upper tiers* of secondary districts placed over their primary districts. In Belgium as of 1960, for example, votes were cast within 30 *arrondissements* (primary districts) which were in turn grouped into 9 provinces (secondary districts). A party's votes in a given *arrondissement* might suffice to "buy" one or more seats at that level, where the "price" in votes per seat was the so-called Hare quota (equal roughly to the total number of votes cast divided by M). Any unused votes cast for a party in a given *arrondissement* transferred to the provincial level, where they combined with the party's unused votes from the other *arrondissements* in the province, and might then suffice to "buy" some seats at the provincial level. The purpose of layering an upper tier of provinces over a lower tier of *arrondissements* was to increase the proportionality of the overall system (on which more below).

In addition to layering secondary districts over primary districts, another technique to affect overall proportionality that has become increasingly popular is to have two parallel segments of districts. An *electoral segment* consists of a set of electoral districts that together cover the entire nation, along with any associated upper tiers. The typical two-segment electoral designs combine one

segment of single-member districts with one segment of multi-member districts operating under proportional representation (see Shugart and Wattenberg 2001). In Japan, for example, the 1993 electoral reform created one segment of 300 single-member districts (which together covered the entire nation); and one segment of 11 multi-member districts (which also collectively covered the nation) (see Reed and Thies 2001).

A full description of where votes are converted into seats thus involves a stipulation first of the number of segments (one or two) and then a characterization of each segment. In addition, one would wish to specify the procedures by which seats are apportioned to districts and tiers, as well as the procedures (if any) by which district boundaries can be redrawn. Here, however, the structure of districts, tiers and segments will be reduced to a single number (the effective magnitude; see the next section) and the procedures by which reapportionment and redistricting occur will be left in the background.

In addition to knowing *where* votes are converted into seats, one would also wish to know *how*. Particular mathematical formulas are used at each stage of seat allocation in an electoral system. In Belgium, for example, the electoral code stipulates a “price” for each seat (the Hare quota) and each party in a given *arrondissement* wins as many seats as its votes can buy at the stipulated price. A somewhat different formula (a different way of deciding the price per seat) is then used at the provincial level to award seats at that stage.

Individual electoral formulas can be arrayed along a continuum indicating their *proportionality*. At one extreme are the winner-take-all formulas: the candidate or list with the most votes wins all the seats available to be won in the particular district. Such formulas provide strong incentives to form “large” coalitions, in order to be able to compete seriously for the seats at stake. Opposed to these winner-take-all systems are those in which a list receives seats in strict proportion to its votes. Here, the larger parties receive no bonus seats (seats in excess of what they would get on a strictly proportional allocation).<sup>4</sup>

Because an electoral system may have more than one electoral formula operating at different levels (as in Belgium or Japan), it is not always easy to characterize the overall proportionality of a system. Putting this technical difficulty aside (as does most of the literature), I shall denote the overall proportionality of the votes-to-seats translation in a system by  $P$ , with higher values of  $P$  denoting more proportional systems.

<sup>4</sup>Of course, there are many different ways to define the gap between vote and seat shares, leading to different algorithmic embodiments of the proportional ideal (Cox and Shugart 1991). Conceptually, I prefer to characterize systems in terms of responsiveness or *big-party bias*, defined as the degree to which parties with larger vote shares tend also to receive higher-than-proportional seat shares (Cox and Shugart 1991). Most of the literature, however, has focused on proportionality and an array of workable summary measures of it exist (Gallagher 1991; Monroe N.d.). In contrast, measuring big-party bias (especially in multi-party contexts) has proved more difficult (for the state of the art, see Monroe N.d.).

*The Number of Seats Per District, Tier and Segment*

For a given structure of districts, tiers and segments, the question arises as to how many seats will be at stake at each point in the system. For simple (one-tier, one-segment) electoral systems, the number of seats elected from a given district (known as the district magnitude) is a key parameter, because it determines the minimum vote share that guarantees that a list or candidate will win a seat, hence the minimum viable size of electoral alliances. For example, in a single-member district in the U.S., a candidate must win over 50% of the vote to guarantee a seat, whereas in a 3-seat district in pre-1993 Japan, over 25% sufficed.<sup>5</sup>

In multi-tiered systems, it is harder to define the minimum vote share that guarantees that a party will win a seat. Electoral scholars have come up with approximate formulas, under the rubric of the *effective magnitude* or *effective threshold*, that translate complex systems to their equivalent one-tier systems (Taagepera and Shugart 1989; Lijphart 1994). The effective magnitude, in other words, is an attempt to put all systems on a single metric, reflecting the minimum or threshold size which office-seeking politicians might aim to exceed. In what follows, I denote the effective magnitude of a system by  $M$ . The larger the effective magnitude, the lower the threshold an alliance must surpass to guarantee a seat.<sup>6</sup>

*The Number of Votes Per Voter*

The method of voting in a system regulates the translation of citizens' preferences into votes and can be characterized as enabling them either to reward the best competitor(s) or to punish the worst competitor(s) (Cox 1987). To understand this characterization, note that different systems allow different numbers of votes per voter. Those that give voters only one vote enable each of them to reward the candidate they judge best (by casting their single vote for that candidate). However, voters have no ability to single out for special opprobrium the worst among the candidates not voted for. In contrast, consider systems that give voters  $M - 1$  votes and force them to cast all of them for separate competitors, as used to be the case in many local elections in the U.S. (Cox 1984). Such systems enable each voter to punish the candidate they judge worst (by withholding a vote). However, voters have no ability to single out for special favor the best among those voted for. Yet other voting methods fall along a continuum running from the pure best-rewarding to the pure worst-punishing cases.

A summary measure of the degree to which a system is best-rewarding has been devised by Cox (1987). I shall call a transformation of this measure the *effective number of votes per voter*, denoted  $V$ . The logic is that, after one clears away the details of different voting rules, one is left with a simple contrast

<sup>5</sup> To clarify the meaning of "guarantee" here, note that it is possible to lose a single-member district with a vote percentage of 49.9% but not with 50.1%.

<sup>6</sup> See Lijphart and Gibberd 1977 for a study of thresholds.

between systems that give few votes (and thus enable voters only to distinguish between the best and the rest) and systems that give many votes (and thus enable voters only to distinguish between the worst and the rest).

Empirically, most national assemblies are elected using one-vote ( $V = 1$ ) best-rewarding methods. A certain number do use methods intermediate between the best-rewarding and worst-punishing extremes, however. For example, Spain's Senate is elected using a limited vote (Lijphart, Lopez Pintor and Sone 1986), as was part of Great Britain's House of Commons in the nineteenth century. There are even fewer who use a pure worst-punishing method—the only one of which I am aware is Mauritius (Cox 1997:146–7).

Another distinction worth noting at this point is that between systems in which votes are cast directly for individual *candidates*; and those in which votes are cast for sets or *lists* of candidates, with each list endorsed by one or more parties. When votes are cast for lists (or aggregate to the list level), it is possible to use various proportional representation formulas in translating votes into seats. When votes aggregate only to the level of the individual candidate, in contrast, it is not possible to use proportional representation formulas (except in a mathematically trivial sense). Thus, the distinction drawn below between more and less proportional formulas is in part a function of the voting options given to voters.

#### *Summary*

In summary, electoral systems can be characterized by how many votes voters cast (by extension, the effective number of votes per voter,  $V$ ), how many seats are awarded in the typical district (by extension, the effective magnitude,  $M$ ), and how proportionally votes are converted into seats ( $P$ ). In the sections that follow, I review what we know about how electoral competitors' strategies of coordination, persuasion and mobilization change, in response to changes in  $V$ ,  $M$  and  $P$ .

## 2. ELECTORAL COORDINATION

Modern representative democracy presents at its core a series of coordination problems that arise as natural consequences of electoral competition for governmental offices. A group with enough votes to elect some number of candidates in a given (legislative or executive) race will in fact elect that number only if it can make its votes count by concentrating them appropriately. One way to avoid spreading votes too thinly is to limit the number of candidates vying for the group's support. But which potential candidates, representing what shades of opinion, will withdraw in favor of which others? If attempts to limit the number of candidates fail, another chance to make votes count arises on polling day, when voters can concentrate their votes on a subset of the available candidates.

But which candidates will bear the brunt of strategic voting and which will be its beneficiaries?

Electoral coordination—whether the coordination of entry, resources or votes—can occur via a variety of processes. These processes can be classified in terms of the main actors involved (voters or elites) and the level at which their interaction is pitched (within individual electoral districts or across districts), yielding four categories. I shall briefly discuss each of these.

#### *Coordination of Votes within Districts*

Traditionally, strategic voting (voting so as to secure the best possible outcome rather than to support the most-preferred competitor) has been thought to concentrate votes. Consider, for example, a three-candidate contest for a single seat in which candidates A and B are tied in the polls at 40%, with C trailing at 20%. Those who most prefer the trailing candidate, C, may decide to vote for whichever of the leading candidates they prefer. Such strategic voting would have the consequence of concentrating the actual vote, relative to what would result if every voter simply voted for their most-preferred candidate. Indeed, in the extreme, all C's supporters might vote strategically and what had been a three-way race would reduce to a two-way race.

Does strategic voting have similar vote-concentrating consequences in other electoral contexts? As it turns out, the extent to which strategic voting concentrates votes depends on the electoral system in place, in two main ways (cf. Cox 1997). First, only in best-rewarding systems does strategic voting concentrate votes; in worst-punishing systems, it typically does just the opposite. Second, within the class of best-rewarding systems, smaller effective magnitudes lead to a greater concentration of votes, according to the “M + 1 rule.” Let's consider this second proposition in greater detail.

#### *The “M + 1 rule”: Theory*

Best-rewarding systems can be thought of as each having a maximum “carrying capacity” of parties, call it C. When the number of parties falls short of C it is theoretically possible that every party in the system can be in serious competition to win a seat—either expected to win one or more seats or to finish as the runner-up for the last-allocated seat. Strategic voting should be minimal in such situations. When the number of parties exceeds C, in contrast, it is increasingly unlikely that all parties can be seriously in contention for a seat. Instrumentally rational voters will avoid voting for parties that are unlikely to contend for a seat, however. Thus, if voters' initial priors concerning the distribution of preferences in the electorate are sufficiently precise, so that the identity of the trailing competitors is clear enough, one expects the vote share of trailing parties to fall short of what their vote share would be were all voters to vote

sincerely.<sup>7</sup> That is, weak parties find some of their supporters voting for the best of the candidates still in contention for the last-allocated seat, rather than for them.

For systems using M-seat districts in which each voter has a single vote, cast either for a candidate or a party list, we know that the “carrying capacity”  $C = M + 1$  (Cox 1997). That is, in an M-seat district one expects no more than  $M + 1$  viable competitors.<sup>8</sup>

#### *The “M + 1 rule”: Evidence*

Empirical evidence supporting the  $M + 1$  rule comes in a variety of forms. Here, I shall briefly discuss evidence from mass surveys documenting the existence of strategic voting; and evidence from cross-national aggregate analyses documenting the relationship between district magnitude ( $M$ ) and the number of viable parties.

Rather than examine survey evidence from a variety of countries, I focus on the case of Great Britain, for which the largest literature on strategic voting exists. Much of this literature deals with the elections of the 1980s, when the Alliance surged to near-parity in votes with the Labour Party. Estimates of the percentage of voters who voted for their second- or third-preference rather than first-preference candidate range from 5.1% to 17% (see e.g. Johnston and Pattie 1991; Heath *et al.* 1991:54; Lanoue and Bowler 1992; Niemi, Whitten and Franklin 1992; Crewe 1987:55). Estimates of the percentage of voters that would “consider” voting tactically vary from an average Gallup figure in 1986–87 of 15% to an average BBC Newsnight figure of 41% (Catt 1989). Even taking the low estimates both of voters that did cast, and voters that would consider casting, a tactical vote, the impact in terms of seats is potentially significant. Butler and Kavanagh (1988:266), for example, reckon that the Conservatives would have won 16 more seats than they did in 1987, had there been no strategic

<sup>7</sup>The models of Palfrey (1989), Myerson and Weber (1993), and Cox (1997) all assume that voters’ know the *expected* constituency-wide breakdown of preferences with certainty. Myatt (n.d.), in contrast, assumes that voters have diffuse priors over this expected breakdown of preferences. These two differing formal assumptions correspond to two polar substantive assumptions. To take the case of three-party competition in a single-member district, one might assume that voters know, from previous elections, that the Conservatives generally get between 40–42% of the vote, with Labour at 38–42% and the Liberals at 16–22%. Pushing this substantive idea—that the voters know a lot about the *expected* breakdown of the vote between the three parties—to its logical extreme, one arrives at the models of Palfrey, Myerson and Weber, and Cox. On the other hand, what if the race is between three new parties in a new democracy; or a realignment of forces has made past results a poor guide to the future? Pushing this idea—that voters know little about the expected breakdown of preferences in a constituency—to its logical extreme, one arrives at the model of Myatt.

<sup>8</sup>The results stated in this paragraph follow from the Palfrey/Myerson-Weber/Cox model. In Myatt’s model (which is fully developed for the  $M = 1$  case), there is a *tendency* to concentrate votes on two competitors, but it stops short of the extreme identified in the earlier models. Thus, the version of the “ $M + 1$  rule” that Myatt’s model would support would probably read something like: “When there are more than  $M + 1$  competitors, votes will concentrate on  $M + 1$  of them (but only to a limited extent).”

voting. Kim and Fording (2001), however, estimate much lower impacts until the 1997 election.

These estimates of the proportion of the British population who vote strategically all use narrow definitions whereby a respondent votes strategically only if they report voting for a candidate who was not their most preferred but who was “in the running” to win the seat. If one looks only at voters who have an opportunity to vote strategically—supporters of trailing candidates—one of course finds very much higher rates of strategic voting (cf. Blais and Nadeau 1996).

This excursion into the literature on strategic voting suffices to demonstrate that part of the causal mechanism underlying the  $M + 1$  rule appears to operate more or less as envisioned by the theory. Another sort of study that bears more directly on the  $M + 1$  rule relates characteristics of electoral systems to the size of the party system. Many works investigate this relationship cross-nationally, including Rae (1971), Taagepera and Shugart (1989), and Lijphart (1994) (for further citations, consult these works). All report a relationship between the number of parties in a country and the average or median district magnitude that is broadly consistent with the  $M + 1$  rule.

For a limited number of systems, there are more direct tests of the  $M + 1$  rule. These can be roughly divided into systems where the  $M + 1$  rule is predictively accurate—such as the U.S., Japan (Reed 1991; Cox 1997; Niemi and Hsieh 2002), Taiwan (Hsieh and Niemi 1999), and India (Chhibber and Kollman 1998)—and systems where it is not—such as Canada (Gaines 1999, Blais 2002) and Papua New Guinea (Cox 1997). For both cases of apparent success and apparent failure, the interesting question is whether the theoretical preconditions of the  $M + 1$  rule (e.g., relatively precise public knowledge of the candidates’ likely order of finish, prior to polling day) are met or not. Thus far, none of the exceptions to the rule occur where the theoretical preconditions are met; and none of the successes occur where the preconditions clearly fail. Nonetheless, it remains unclear how much the rule’s variable success is driven by variations in strategic voting as opposed to variations in strategic coordination at the elite level.

### *Summary*

To reframe the two results just noted, variations in the voting method ( $V$ ) affect whether strategic voting leads to a deconcentration of votes (in worst-punishing systems) or to a concentration of votes (in best-rewarding systems). Variations in the effective magnitude ( $M$ ) affect the carrying capacity of best-rewarding systems, with higher values allowing more competitors in equilibrium.<sup>9</sup>

<sup>9</sup>The third feature,  $P$  (proportionality), also plays a role—though it is harder to disentangle from that of  $V$  and  $M$ . For either  $V > 1$  or  $M > 1$ , the possibility of significant variation in  $P$  arises, and the general rule is this: the more proportional the system, the less coordination is demanded, and the more parties there can be in equilibrium.



### 3. COORDINATION OF ELITES WITHIN DISTRICTS

There are several species of coordination problem that elites face within electoral districts, of which I consider two. One deals with the provision of campaign finance by contributors. Another concerns optimal nomination.

#### *Strategic Contributions*

Suppose that contributors of campaign finance are primarily interested in legislative services that an elected representative can provide once in office (e.g., lobbying party leaders on behalf of the contributor; introducing bills for the contributor). Suppose also that potential entrants seek financing for a campaign by essentially selling access to their future labor (cf. Denzau and Munger 1986). If elected to office, candidates pay off their financial backers. Otherwise, their contributors get nothing. Given these assumptions, there will be a tendency for contributors to coordinate their contributions, because only winning candidates pay off and those with more contributions are more likely to win. At an informal level, what can be conjectured is that no more than  $M + 1$  competitors in an  $M$ -seat district will attract significant financial backing from contributors seeking legislative services (although contributions from ideologically motivated sources are a different story).

Such a conjecture seems to fit the facts in the U.S. congressional case (cf. Jacobson 1980). Often, there is only one well-financed candidate: the incumbent. Occasionally, there are two well-financed candidates, in which case the actual outcome tends to be much closer. Finding three or more well-financed candidates in the general election is extremely rare.

#### *Optimal Nomination*

Parties face three recurring problems when nominating candidates for office: overnomination, undernomination, and factional cheating on nomination deals. In this section, I briefly consider each of these problems.

Overnomination means nominating too many candidates, who then split the party's vote too thinly and end up winning fewer seats than would have been possible had the party nominated fewer candidates.<sup>10</sup> Undernomination means nominating fewer candidates than the party has votes to elect. Optimal nomination means fielding a number of nominees that maximizes the party's expected seat share in the district.

<sup>10</sup>In single-member districts, overnomination simply means nominating more than one candidate. It is an easy mistake to spot and all parties operating in single-member districts go to considerable (and generally successful) lengths to avoid dual candidacies. In  $M$ -seat districts, it is harder to say what constitutes overnomination. Nominating more than  $M$  candidates will usually be overnominating—but not necessarily if votes transfer or pool. In systems where votes do not transfer or pool, the party will have beliefs about its likely vote share. If it has votes enough to win  $M-2$  seats, then it should nominate  $M-2$  candidates and no more.

In some systems, figuring out the optimal number of nominees is easy. For example, in the U.S. each major party either runs zero or one candidate in each district. The zeroes typically arise in districts that are so “safe” for the other party that the party decides to save itself the cost of running a candidate there. In most districts, both parties decide to run a candidate, although their commitment of resources is highly sensitive to the closeness of the race.

In systems with larger-magnitude districts, figuring out the optimal number of nominees is not as easy. For example, in a three-seat district in the Japanese election of 1980, some Liberal Democrats might have thought the party had enough votes to sweep the three seats, while others believed that only two seats could be won. If there were currently two Liberal Democratic incumbents in the district, they would naturally not wish to have a third colleague nominated, as this might reduce their probability of winning a seat from essentially 1 to roughly  $2/3$  (if they are correct that the party will win only two seats and if additionally each of the party’s nominees has an equal chance of winning a seat).

Studies of nomination in the Japanese system over the period of Liberal Democratic dominance (1955–1993) find a steady improvement in the party’s ability to arbitrate internal disagreements over nominations of the sort described above. In particular, early in the period the party fairly often overnominated, with the consequence that two or more of its candidates “fell down together,” as the Japanese put it, in a version of the game of Chicken. Experiences of this sort led fairly quickly to improved deal-making among the factions and fewer overnominations (Reed 1991; Cox and Rosenbluth 1994; Niemi and Hsieh 2002).

Similar coordination problems arise under other systems with multi-member districts, such as the limited vote in Spain (Lijphart, Pintor and Sone 1986), the single non-transferable vote in Taiwan (Cox and Niou 1994), and the cumulative vote system in Illinois (Goldburg 1994). When district magnitudes exceed five, there is an increasing probability that elections will be based on lists, which essentially solve the coordination problem mechanically by forcing candidates to share their votes with one another (or, alternatively, forcing voters to vote for indivisible groups rather than individuals).

#### 4. COORDINATING ACROSS DISTRICTS

A distinctly different problem of coordination arises at the cross-district level. If there are multiple districts, each with its own population of parties, will those parties cooperate across district lines or not?

One advantage of cross-district coordination—or linkage—can be suggested by considering two districts in which two leftist parties each run a candidate against a single rightist candidate. Let us suppose that the leftists can win both districts, if they combine their votes, but neither, if they split. One solution to their problem is to negotiate cooperation in each district separately. Another,

potentially easier, solution is to *trade* withdrawals: party A withdraws in district 1 in exchange for party B withdrawing in district 2. Part of the deal, of course, is that each party's supporters will be encouraged to vote for the other's nominee.<sup>11</sup>

Cross-district trading of nominations and withdrawals can occur at various levels of "intensity." At the low end, there can be a few scattered deals affecting only a small number of districts (e.g., early cooperation between the *Komeito* and other parties in Japan; cf. Christensen 2000). Then there can be comprehensive but nonetheless election-specific deals, in which the whole pattern of nominations is decided centrally (e.g., the alliance between the Social Democrats and Liberals in the U.K.). A set of parties' (or factions') relations can be even further deepened if they *regularly* negotiate nominations centrally—as has occurred, for example, in Chile within the *Concertación*, in post-reform Italy within Berlusconi's group (Di Virgilio 1998), and in pre-reform Japan within the LDP (Cox and Rosenbluth 1996). Finally, the various parties might fuse, formally abandoning their separate labels and organizations.

In addition to trading nominations, parties in some systems have a clear incentive to legally unite for purposes of seat allocations in upper tiers. In Belgium, a party in a given *arrondissement* can participate in the allocation of seats at the provincial level only if it formally affiliates with parties from other *arrondissements* in the province. In Hungary, parties are eligible to run national-level lists only if they field at least seven regional lists. In Japan, a candidate running in one of the single-member districts is eligible to win a seat in the encompassing PR district only if she formally affiliates with a party running such a list. Similar incentives to affiliate with larger electoral forces arise in a number of other multi-tier and multi-segment systems (cf. Shugart and Wattenberg 2001).

A third incentive to form broad national parties arises in presidential systems. The presidential election so greatly dominates the mass media that hanging on to the president's coat-tails is in some systems a natural electoral strategy for legislators. At the same time, cultivating the support of local politicians is a natural strategy for presidential candidates. This may help explain why the resuscitation of real competition for the presidency in the U.S. brought with it the emergence of our second party system (McCormick 1975); why the creation of presidential elections in France led quickly to a bipolarization of legislative elections (Wilson 1980); and why nominations in Uruguay are dominated by the presidential candidates (Morgenstern 2001). The same story can play out in parliamentary systems, to the extent that parliamentary elections revolve around the prospective prime ministers, as in the United Kingdom, Israel or Germany.

The extent of cross-district coordination (in its various forms) depends on what such coordination can win. Two obvious prizes are legislative seats and

<sup>11</sup> Yet another solution along the same lines is for party A actually to jointly nominate B's candidate; and vice versa. This is legally permissible in some but not all systems.

executive portfolios. As noted above, each electoral system presents different incentives to coordinate across districts in pursuit of legislative seats—to use votes in primary districts more efficiently; to pool votes in secondary districts; to take advantage of executive coat-tail effects. Each system also presents different incentives to coordinate in pursuit of portfolios, although here the key conditions pertain not so much to the electoral system proper as to various constitutional and legislative features.

Hicken (2002) points out that incentives to coordinate are greater the more concentrated is power in a single post whose election depends on winning a majority in the assembly. From this perspective, federalism can diminish such incentives, as can bicameralism, presidentialism, and the dispersion of executive power among co-equal ministers. Chhibber and Kollman (1998) and Samuels (1998) both explore a more specific version of this hypothesis—that greater fiscal centralization in a state will lead to greater linkage.

Another line of studies looks not at the short-term office benefits of forming larger electoral aggregates but instead at the long-term policy benefits of refusing to coordinate. Studies of third-party movements (e.g., Rosenstone 1996 and Hug 2001) typically find strong policy preferences motivating the formation of separate vehicles, even when going it alone sacrifices seats that could be won with a more pragmatic stance (and the consequent alliance that would then become feasible). A variant on this theme concerns regional parties, especially those based on ethnic identities. Also related are studies of coordination in newly established democracies, where uncertainty about who the players are and who can outlast whom delays coordination (cf. Moser 1999; Zielinski 2002).

## 5. ELECTORAL PERSUASION

One way to win office is, *given* a particular distribution of preferences, to coordinate campaign finance, candidate entry and voters' choices in such a way as to maximize the number of seats the "socialists" or "liberals" or "Christian Democrats" win. The focus is on translating preferences efficiently into seats (via votes).

Another way to win office is to persuade. Rather than take preferences as given, one influences those preferences as best one can.

The models of persuasion that I shall consider in this section all take parties or candidates as the main actors. Some assume that competitors seek only office, while others assume they seek to maximize the rents they can extract from office. Some assume that competitors can promise only public goods, while others assume that they can promise private goods (only or as well).

### *Office-Seeking Competitors with Credible Promises*

Suppose that competitors seek only to win office and can make credible promises during the campaign concerning the policies they will pursue if elected. One

possibility is that candidates promise packages of public goods which can be characterized as falling somewhere along the left-right spectrum (“position taking”). Another possibility is that candidates promise packages of transfers (“bribing”).

When competitors take positions (i.e., promise only public goods), the consequences of changing electoral rules on their behavior can be stated as follows: higher values of  $V$  or  $M$ , along with more proportional values of  $P$ , lead competitors to disperse across the left-right spectrum (Cox 1987; 1990). The intuition behind the last two results is roughly as follows. When there are many seats to win and they are allocated proportionally, small shares of the vote suffice to win seats. Thus, electoral competitors can carve out narrow ideological niches and still be successful. In contrast, when there is only one seat to win and it is allocated to the plurality winner, electoral competitors can win seats only if they can amass the largest share of votes. This means that appealing to a narrow ideological niche is insufficient to win seats and a broader appeal must be fashioned.<sup>12</sup>

When competitors distribute (only) private goods, similar results obtain. Higher values of  $V$  or  $M$ , along with more proportional values of  $P$ , lead competitors to concentrate their “bribes” on smaller subsets of voters, giving the rest almost nothing (Myerson 1993). The logic is again driven by the minimum share of votes that will suffice to win a seat. In electoral systems where this minimum is lower, more concentrated appeals are more effective. The main difference between the models is simply in the tools that competitors are assumed to have available.

A related theoretical effort is that of Carey and Shugart (1995), who attempt to rank-order a wide range of electoral systems in terms of the incentives they provide politicians to cultivate a personal vote, rather than rely on their party’s overall image. As the means by which one might cultivate a personal reputation is usually the distribution of particularistic goods, Carey and Shugart’s ranking reflects the insight offered above. In addition, however, Carey and Shugart identify a number of other features of electoral systems that promote personal vote seeking, including a range of provisions that essentially force members of the same party and district to compete against one another (e.g., the single non-transferable vote, open lists, and preference votes). The degree of forced intra-party competition is an important feature of electoral systems that is not captured by the ( $V$ ,  $M$ ,  $P$ ) coding suggested here.

#### *Office-Seeking Competitors without Credible Promises*

What if voters do not believe the competitors’ promises, because they suspect that, once elected, politicians will have incentives to do the bidding of special

<sup>12</sup>The first result is somewhat more subtle. See Cox 1987; 1990.

interests, rather than fulfill campaign pledges?<sup>13</sup> The credibility of competitors' promises is an important analytical issue for some purposes. However, this problem does not appear to affect the main comparative statics result derived above—that increases in  $V$ ,  $M$  or  $P$  induce greater niche-seeking by competitors. Thus, I ignore it here.

*Rent-Seeking Competitors with Credible Promises*

In the office-seeking models discussed above, winning an office confers a fixed amount of utility on the victor. Conceptually, this utility might consist of the salary of the office, its prestige and any other “ego rents” attached thereto.

Another class of models assumes that office-holders can extract a variable amount from their office. In particular, several models envision one or more “predatory parties” whose maximand is their *expected rent*: the probability of their winning control of government, times the fiscal residuum they can extract once in control. Each party promises a certain tax rate; a certain expenditure on public goods; and a certain bundle of transfers to the groups in the electorate. If elected, the party collects taxes, provides the level of public goods and transfers promised, and keeps any residual for itself.

Several comparative static results drawn from this model hinge on electoral rules. I consider just one here: Persson and Tabellini (2000) show that changing from a single nationwide district operating under proportional representation (high  $M$  and high  $P$ ) to a set of single-member districts operating under plurality rule (low  $M$  and low  $P$ ) induces the following changes: parties promise more transfers to swing districts, financing the increased expenditure by reducing both the provision of public goods and their own rents. The logic of this result is as follows. If control of government comes down to who wins in a particular handful of districts, as it can in a district-based electoral system, competition will focus on those districts. But this means that both parties will offer more transfers to the voters in the swing districts, than they would offer to the same voters were there were no districts (just a nationwide PR election).<sup>14</sup> Studies

<sup>13</sup>There are several approaches to dealing with this credibility problem. Ferejohn (1986) and Alesina (1988), for example, consider repeated games of various sorts, attempting to identify when credibility will emerge endogenously. Bernhardt and Ingberman (1985) simply assume it is costly to state positions distant from those taken in the past. Osborne and Slivinski (1996) and Besley and Coate (1997) go even further, stipulating that the only credible promise that a candidate can make is to implement his or her ideal point. The Besley-Coate and Osborne-Slivinski models can be construed as replacing one sort of credibility problem with another. There is no longer the problem of voters believing anything the candidates say, because the candidates only state their ideals, which they then have an incentive to implement if elected. However, the models depend heavily on common knowledge of ideal points of all citizens. If a particular citizen's ideal point is not common knowledge, then that citizen faces the issue of how credibly to communicate what his or her ideal really is.

<sup>14</sup>That these increased transfers are financed by reducing *both* public goods *and* private rents simply reflects that neither the level of public goods nor the fiscal residuum were pegged at corner solutions prior to the lower of  $M$  and  $P$ .

by Lizzeri and Persico (2001) and Milesi-Ferretti, Perotti and Rostagno (2000) also conclude that, because targetable goods are electorally more valuable in district-based systems, the equilibrium level of transfers (pork barrel projects and other geographically targetable benefits) will be higher. As evidence in favor of the idea that district-based electoral systems promote transfers at the expense of general public goods, Persson and Tabellini (2000) show that expenditures on welfare are higher in more proportional systems, controlling for the age structure of the population, per-capita income, trade openness and federalism, *inter alia*.

## 6. MOBILIZATION

There are no formal game-theoretic models that consider how electoral mobilization varies with electoral rules. However, the literature has offered decision-theoretic analyses (see Cox 1999b for a review). In terms of the current independent variables, the main results appear to be as follows. Higher levels of mobilization are more likely as  $V$  decreases;  $M$  increases; or  $P$  becomes more proportional. The logic of the first result is simply that, if voters cast lots of votes, then the mobilizing competitor may not internalize the full benefits of mobilizing any particular voter or segment of voters. The argument in favor of the second and third results is that more proportional translations of votes into seats reward mobilizational effort more surely and smoothly. In contrast, mobilizing in a single-member district may simply reduce the margin by which one loses, or increase the margin by which one wins—and neither of these outcomes is worth the effort to an office-seeking competitor. Empirical evidence in favor of these arguments can be found in Blais and Carty (1990), Blais and Dobrzynska (1998), Jackman (1987), Jackman and Miller (1995), and Powell (1980, 1982, 1986).

## 7. CONCLUSION

The vast majority of models of electoral competition have not been concerned with institutional comparative statics. Only a few take the electoral rules themselves as the primary independent variables. And, thus far, there is almost no work that alters non-institutional features of the model, then considers whether those alterations condition the effect of changing the rules. In this sense, the formal literature analyzing electoral systems is relatively thin.

In this essay, I have characterized the independent variable—the electoral system—in terms of three features: the effective number of votes per voter, the effective number of seats per district, and the proportionality of the votes-to-seats mapping(s). The dependent variables—the strategies adopted by electoral competitors within a given electoral system—have been parsed into strategies of coordination, persuasion and mobilization.

*Coordination*

Taking voters' preferences and turnout probabilities as fixed, political competitors face problems in coordinating endorsements, entry, campaign finance and votes to maximize their respective seat shares. The severity of the coordination problem(s) that competitors face depends on the electoral rules governing their competition. The most prevalent voting methods give citizens just one vote to cast (either for a candidate or a list) and fall into the "best-rewarding" category. For such voting methods, strategic coordination leads to a concentration of votes upon a subset of viable candidates. The size of this subset is determined by the number of seats available to be won, with the most general rule of thumb encapsulated in the "M + 1 rule": the number of viable competitors cannot exceed M + 1 in equilibrium (when voters are primarily interested in who wins the current election and have sufficiently precise information concerning the likely order of finish of the competitors).

*Persuasion*

Rather than taking preferences as fixed, political competitors can also engage in a variety of persuasive activities. They can promise to deliver either broadly targeted goods (in the extreme, Samuelsonian public goods) or narrowly targeted goods (in the extreme, private goods) or something in-between. The results on persuasion I have reviewed here all make essentially the same point: that electoral systems differ in the extent to which they encourage competitors to fashion narrow appeals.

At the within-district level, fewer votes per voter, more seats per district, and greater proportionality lead competitors to cater to narrower clienteles within the electorate. If competitors are constrained to promise only public goods, they "cater to narrower clienteles" by spreading out over the ideological spectrum, rather than bunching at the median (Cox 1987; 1990). If they are constrained to promise only private goods, they "cater to narrower clienteles" by targeting their bribes, rather than diffusing them (Myerson 1993).

At the across-district level, elections based on small-magnitude districts lead competitors to prefer geographically targetable goods, rather than national public goods. The reason is, roughly, that geographically targetable goods can be promised specifically to districts where the competition is close, whereas public goods cannot.

*Mobilization*

Holding voters' preferences and their estimates of candidates' viability constant, competitors can seek to affect their decisions to vote or abstain. The general findings in the literature are that fewer votes per voter, more seats per district, and greater proportionality increase the mean level of turnout and decrease the variance in turnout. This relationship suggests an alternative causal mechanism to



explain the observation (Persson and Tabellini 2000) that more proportional electoral systems foster greater expenditures on welfare: more proportional systems (higher M and P) lead to higher turnout rates among the poorest citizens (those who are the first to “drop out” under more majoritarian systems with their lower turnouts); more consistent turnout among the poorest citizens leads to more consistent policies serving their social insurance desires (cf. Lijphart 1997).

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