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An Empirical Investigation
of Coalitional Bargaining Procedures

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ABSTRACT

Models of government formation processes in multi-party democracies are usually highly sensitive to the rules that govern the selection of formateurs. The formal literature has exclusively focused on two selection rules: selection proportional to seat share (Baron and Ferejohn 1989), and selection in order of seat share (Austen-Smith and Banks 1988). In this paper we use a new data set on government formation attempts in 12 multi-party democracies to empirically assess which selection rule most closely approximates the data. We find that while there is no empirical support for selection in order of seat share, proportional selection may serve as a good first approximation. However, our results also indicate that formateur selection exhibits a significant incumbency effect: ceteris paribus, the former prime minister's party is more likely to be selected to attempt the formation of the next government.

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1 Introduction

An important question in political economy is to understand how political institutions affect economic policy making (e.g. Besley and Coates 199?, Grossman and Helpman 1994, Persson, Roland, and Tabellini 1997a, 1998). Persson, Roland and Tabellini (1997b),for example, demonstrate how, compared to presidential democracies, parliamentary systems lead to a larger size of government, higher taxes, but also lower levels of public goods provision.

A defining characteristic of parliamentary democracies is that the executive is not directly determined in elections, but is the result of a goverment formation process among the parties represented in parliament. Countries, however, differ in the procedures used to select a government.[1] But does this matter? After all, no matter how a government is formed, once it assumes office it needs to maintain the confidence of the chamber. However, if many parties are represented in parliament, each lacking a majority of seats, parties need to form governing coalitions, and there are usually many coalitions that could win a confidence vote in the chamber. This makes the designation of a *proposer* (of a potential government) a decision with substantial political and economic consequences.

Recent advances in legislative bargaining theory (Baron and Ferejohn 1989, Baron 1991, Romer and Rosenthal 1978) have captured this insight formally through proposer models. In these models the chamber has the choice between a proposal and the *status quo*.[2] But since all proposals contained in the *status quo*'s majority win-set would be accepted, the actor who actually makes the proposal can exploit her proposal power to achieve her highest payoff among the alternatives in the win-set. Applied to the case of cabinet formation (Baron 1991) this means that the party that successfully assembles a cabinet will receive additional gains from proposing. That is, not only will the proposer or her party be included in the government for sure, but she will also receive a higher payoff than had she been included in

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[1]In only a few countries, such as Germany, is the prime minister elected by the chamber. In some parliamentary democracies, for example Italy, governments have to pass a vote of investiture. In others, such as Norway, an incumbent government may stay in office without further procedures until it loses a vote of censure.

[2]In the classic Romer-Rosenthal model the *status quo* is exogenously given. In bargaining models *à la* Baron-Ferejohn, it is replaced by endogenously generated continuation values (i.e., the players' expected equilibrium payoffs if a proposal is rejected and the game continues).

the cabinet without being the proposer.[3]

This raises the question of who has the right to propose a potential government to the legislature. The literature has used the term *formateur* to denote the person who proposes a potential government for chamber approval (e.g. Laver and Schofield 1990, Laver and Shepsle 1996). Most of the time the formateur will also be the prime minister designate. The process typically begins with the head of state selecting a member of parliament or another public figure to try to form a government. If the selected individual is unsuccessful in his attempt, then the head of state makes a second selection, and so on until a government is inaugurated. Hence, understanding the process according to which parties (or more precisely individual members of parties) are selected to make government proposals is an important step in the analysis of government formation in parliamentary democracies. We refer to this process as a *coalitional bargaining procedure*.

Since the designation of a formateur is precariously located between elections and government selection, many parliamentary democracies have chosen to treat the formateur selection process as ostensibly non-partisan. In some countries the head of state, usually a monarch or elected president, designates the formateur. In other countries this task is delegated to an *informateur*, usually a senior, experienced, "elder statesman". We are not aware of any detailed study on the motives or behavior of these actors. Following Laver and Schofield (1996) as well as Baron (1991, 1993) we assume that the recognition of the actors who can propose new cabinets is non-partisan. That is, the choice of a formateur can be summarized by a *selection rule*. That is, a deterministic or probabilistic rule that determines who is chosen as the next proposer given the composition of the chamber and the history of previous attempts. Sometimes coalitional bargaining procedures are embodied in the constitution, as in Greece where the largest party must be chosen as the formateur. Most of the times, however, they are reflected in conventions and norms.

At a theoretical level, this issue has been dealt with in two distinct ways. According to the coalitional bargaining procedure suggested by Baron and Ferejohn (1989) in each period formateurs are assumed to be selected randomly proportional to seat share. Austen-Smith

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[3]Persson, Roland, and Tabellini (1997a, 1998) , for example, use proposer models in their analysis of the poitical microfoundation of public finance.

and Banks (1988) on the other hand consider a coalitional bargaining procedure by order statistics. That is, first the party with the largest seat share is selected, then the second largest, and so on. We call the first rule *proportional selection*, the second *selection-in-order*. Essentially any (noncooperative) model of government formation in the literature builds on one of these two procedures (e.g. Austen-Smith and Banks 1988, Baron 1991, Baron and Diermeier 1998, Laver and Shepsle 1996, Persson, Roland, and Tabellini 1997b).

The choice of a coalitional bargaining procedure is not without consequences. In general, bargaining models are sensitive to the specification of the protocol that governs the right of players to make offers and counteroffers.[4] In the context of a bargaining model of government formation, Baron (1991) shows that the equilibrium predictions of the model crucially depend on whether parties are randomly recognized to make proposals or the order of proposals is fixed. The details of proposer selection institutions may also have profound consequences for the electoral process. Baron (1991) presents a model of electoral competition with sincere voting where parties are located centrally under proportional selection, but are dispersed given selection-in-order. Models of strategic voting under proportional representation generate different classes of equilibria depending on whether proportional selection or selection-in-order. (Austen-Smith and Banks 1988, Baron and Diermeier 1998).

A natural question thus arises: What is the coalitional bargaining procedure that most closely approximates what we see in the data? In spite of the importance of this question, to date there has been no empirical analysis of the process with which parties are selected to make government proposals.[5] The goal of this paper is to take a first step toward filling this gap. To achieve this goal we collect a new data set containing detailed information on the process of government formation in 12 multi-party democracies in the postwar period. We then use this data set to estimate a simple econometric model of coalitional bargaining procedures.

The main results of our analysis can be summarized as follows. First, there is no support in the data for the coalitional bargaining procedure proposed by Austen-Smith and Banks

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[4]For an exception, see Merlo (1997). In his model of government formation, the main results are independent of the coalitional bargaining procedure.

[5]Warwick (1996) is the only other empirical study of formateur selection. MORE

(1988). Second, the procedure proposed by Baron and Ferejohn (1989) has some support in the data. In particular, our estimates show that on average the elasticity of the probability that a party is selected to make a government proposal with respect to its size is close to one. However, our analysis also shows that in order to better approximate what we observe in the data, this procedure has to be amended to incorporate incumbency effects. In particular, our estimates show that, holding everything else constant, the party that was successful in forming the previous government is more likely to be chosen to try to form the next government, and the incumbency premium tends to be large.

2 Data

Our empirical analysis is based on a newly collected data set, which contains information on 367 government formations in 12 multi-party democracies over the period 1945–1997. The countries we consider are Belgium (33 governments), Denmark (29 governments), Finland (36 governments), France 4th Republic (52 governments), Germany (21 governments), Iceland (22 governments), Ireland (20 governments), Israel (30 governments), Italy (54 governments), Netherlands (21 governments), Norway (24 governments), and Sweden (25 governments). All these countries have been parliamentary democracies since World War II and elect their parliament according to proportional representation.

For each observation in the sample we observe the set of parties represented in the parliament, the share of parliamentary seats each party controls, and the number of attempts it takes to form a new government. Also, and most importantly, for each attempt we observe the identity (and party affiliation) of the person selected by the head of state to try to form the government and whether the attempt was successful. Keesings Record of World Events (1944–present) was used to identify the number of attempts for each government formation and the identity of the proposer on each attempt.[6] The list of parties represented in the parliament for each country and their shares of parliamentary seats at the time of each negotiation over the formation of a new government was taken from Mackie and Rose (1990) and, for later years in the sample, from Keesings and the *European Journal of Political*

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[6]Several other country-specific sources (such as local newspapers and databases) were used to confirm dubious entries in Keesings.

Research.

<<Figure 1 about here>>

Figure 1 depicts the empirical distribution of the number of attempts to form a new government. As we can see from this figure, 61% of all government formations in our sample occurred at the first attempt, and 90% of all government formations required no more than three attempts.

<<Figure 2 about here>>

Figure 2 contains the empirical distribution of the number of parties represented in the parliament at the time of a negotiation over the formation of a new government. The mean of the distribution is about 9 parties (8.74), the median is 8 parties, and the mode of the distribution (which accounts for 19% of the observations) is 6 parties. Note that the number of parties involved in the government formation process can be as small as 3 and as large as 16.

<<Figure 3 about here>>

In Figure 3, we present a histogram of the size (i.e., the seat share) of the parties selected to make government proposals for all attempts.[7] As we can see from this figure, there is a positive relation between a party's size and its recognition probability. Larger parties are more likely to be selected to make government proposals than smaller parties. This observation provides some *prima facie* empirical support for the proportional selection rule proposed by Baron and Ferejohn.

<<Figures 4, 5, 6 about here>>

Figures 4, 5, and 6 depict the histogram of the relative rank of the parties selected to make government proposals with respect to their size, for the first, second, and third

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[7]The last bin of the histogram includes parties whose seat share is larger than 40%. There are a few instances (20 observations) where a party controls more than 50% of all parliamentary seats. In these cases the majority party is always selected as the formateur.

attempt, respectively. According to the selection-in-order rule we would expect the largest party to be always selected in the first attempt, the second largest in the second attempt and so on. However, Figures 4-6 clearly show that the largest party is always more likely to be selected to make government proposals for all attempts. Moreover, for all attempts we observe a negative relation between a party's relative rank in terms of size and its recognition probability. Hence, the selection-in-order rule proposed by Austen-Smith and Banks appears to be rejected by the data.

The last important feature of the data concerns the relation between incumbency and recognition probabilities (Laver and Shepsle 1996). For all attempts, a member of the party of the former prime minister was selected to make a government proposal 62% of the times. This event occurred in 68% of the cases in the first attempt and in 54% of the cases in all other attempts. This observation may be suggestive of the presence of an incumbency advantage. However, a deeper investigation of this as well as the other issues we identified in our descriptive analysis of the data requires that we specify an econometric model where the recognition probabilities are allowed to simultaneously depend on the parties' sizes, their relative ranks, and their incumbency status.

3 Statistical Model

Our analysis focuses on the process leading to the formation of a new government which follows the resignation of an incumbent government (possibly because of a general election or because of a no-confidence vote in the parliament). Let j index a country. For each observation in the sample, let $N^j = \{1, ..., n_j\}$ denote the set of parties represented in the parliament in country j, where 1 denotes the largest party, 2 the second largest party, and so on, and n_j denotes the number of parties represented in the parliament in country j. Let $\Pi^j = (\pi_1, ..., \pi_{n_j})$ denote the vector of the parties' seat shares in the parliament. To economize on notation, we suppress the subscript indexing an observation. Note, however, that both N^j and Π^j can vary across observations and are not constant for each country.

After the termination of an incumbent government, the head of state selects a formateur, denoted by k_1, to try to form a new government. If the formateur is a member of parliament or is formally affiliated with a party represented in parliament, then we identify the formateur

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with his party, in which case $\Bbbk_1 \in N^j$. If instead the formateur is not a member of parliament and is not formally affiliated with any party represented in parliament, then we let $\Bbbk_1 = 0$ and adopt the normalization $\pi_0 = 0$.[8] If the formateur is successful in gathering the necessary support in the parliament to sustain its proposal, then a government is inaugurated. If not, then the head of state appoints a new formateur (possibly from the same party as the previous formateur), and so on, until an agreement is reached and a government is inaugurated. We let $\Bbbk_t \in \widetilde{N^j} = N^j \cup \{0\}$ denote the formateur at time t, where $t = 1, 2, ...$ indexes the government formation attempt.

In this paper, we do not try to explain which coalition forms the government or how long it takes to form a government.[9] Rather, we are interested in understanding how parties are selected to make government proposals. In particular, our goal is to empirically assess the extent to which a party's size and its relative ranking in terms of size affect its probability of being selected to try to form a government. Furthermore, we want to investigate whether a party that has been successful in forming the previous government faces a higher probability of being selected to try to form the next government, and, if so, we want to quantify such incumbency premium.

To achieve these goals we combine the procedures suggested by Austen-Smith and Banks (1988), Baron and Ferejohn (1989), and Laver and Shepsle (1996) into a tractable econometric model. In particular, we assume that the head of state in non-strategic and non-partisan (Laver and Shepsle 1996) and we approximate the behavior of the head of state using a *conditional logit model* (McFadden 1973).[10] This implies that for each government formation attempt $t = 1, 2, ...$, we can write the probability that the head of state in country j selects alternative $i \in \widetilde{N^j}$ as

$$P_{it}^j = \frac{\exp(\beta_{1t}\pi_i + \beta_{2t}f_i + \beta_{3t}d_{it})}{\sum_{\ell \in \widetilde{N^j}} \exp(\beta_{1t}\pi_\ell + \beta_{2t}f_\ell + \beta_{3t}d_{\ell t})}, \; t = 1, 2, ... \tag{1}$$

where $f_i \in \{0, 1\}$ is an indicator variable denoting whether party i is the party of the

[8] Occasionally, public figures that are not affiliated with any party are selected as formateurs. In our data set, this event occurs in 4% of the cases.

[9] For analyses of these issues see, for example, Merlo (1997), Diermeier and Merlo (1998), and Diermeier and Van Roozendaal (1998).

[10] For a structural interpretation of this specification using a random utility model see McFadden (1973).

former prime minister (in which case $f_i = 1$), and $d_{it} \in \{0, 1\}$ is an indicator variable which takes the value 1 if $i = t$ and zero otherwise. This specification captures the intuition that although larger parties may be more likely to be selected as a formateur than smaller parties (β_{1t}), there may be an incumbency bias (β_{2t}). It also incorporates a probabilistic version of selection in order (β_{3t}) by allowing for the possibility that the largest party is more likely to be selected first, the second largest party second, and so on.[11] Note that the coefficients of the model are not restricted to be the same across attempts, as for example incumbency effects may become less important as a negotiation progresses.

4 Results

We estimate our model using standard Maximum Likelihood techniques. The estimated coefficients of three model specifications for the first and second attempt are reported in Table 1.[12] In the specification of Column 1 we impose the restrictions $\beta_{2t} = \beta_{3t} = 0$ for all t. In the specification of Column 2 we impose the restriction $\beta_{3t} = 0$ for all t. Estimates of the coefficients of the unrestricted model are reported in Column 3. Loosely speaking, the specification of Column 1 corresponds to pure proportional selection. That is, the likelihood that a party is selected as a formateur *only* depends on its size. The specification of Column 2 corresponds to a modified version of proportional selection where incumbency effects are taken into account. The specification of Column 3 also incorporates features of the selection-in-order rule.

As we can see from Table 1, our estimates from the conditional logit model confirm our initial findings.

<<Table 1 about here>>

The coefficient associated with the dummy variable d_{it} is not statistically different from zero at conventional significance levels for any attempt. On the other hand, the coefficients associated with the variables π_i and f_i are statistically different from zero at conventional

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[11] As we pointed out in the previous section of the paper, the strict (deterministic) version of the selection-in-order rule is immediately rejected by the data.

[12] For attempts 3 through 9 there are very few observations. The estimation results for these cases are not reported here. They are available from the authors upon request.

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significance levels for all attempts. Furthermore, Likelihood Ratio tests reject the general specification of Column 3 in favor of the specification of Column 2, while the specification of Column 2 cannot be rejected in favor of the specification of Column 1 at conventional significance levels. These results suggest that after controlling for the size of a party, its relative rank with respect to size does not affect its probability of being selected to make a government proposal. That is, even a probabilistic version of the selection-in-order rule is rejected by the data. Incumbency effects, on the other hand, appear to be important. In the remainder of the paper we thus impose the restriction $\beta_{3t} = 0$ for all t.

It is well known that unlike in regression models, the estimates of the coefficients of a conditional logit model do not have any direct interpretation (e.g. Greene 1997). In particular, they do not directly reflect the marginal effects of the independent variables on the choice probabilities. Hence, they cannot be used directly to quantify the elasticity of the probability a party is selected to make a government proposal with respect to the party's size, or to measure the incumbency premium. Not only does the elasticity with respect to size depend on the value of the independent variables, i.e.

$$\frac{\partial \ln P_{it}^j}{\partial \ln \pi_i} = \beta_{1t} \pi_i (1 - P_{it}^j), \qquad (2)$$

but the choice set $\widetilde{N^j}$ differs across observations (so that the number of terms in the denominator in equation (1) is different across observations). To deal with the latter issue, we fix the number of parties and compute a separate estimate of the elasticity of the recognition probability with respect to size and of the incumbency bias for each possible number of parties in our sample. To deal with the former issue, we compute these estimates for all possible values of the independent variables in the sample and then average across observations.

The first question we would like to answer is: If the size of one party increases by 1%, by what percentage does its recognition probability increase? Providing an answer to this question is rather important. For example, proportional selection implies that if the size of a party increases by 1%, its recognition probability also increases by 1%. This implies that a party cannot increase its chances of proposing by splitting, and two parties cannot get more joint proposal chances by merging. To answer this question we present Table 2.

<<Table 2 about here>>

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As we can see from Table 2, the average estimate of the elasticity of the recognition probability with respect to size for all attempts is equal to 0.91. The standard error associated with this estimate is equal to 0.10.[13] Hence, the null hypothesis that the elasticity is equal to 1 cannot be rejected at standard significance levels. This result offers some empirical support for proportional selection as a reasonable approximation of average selection frequencies. However, individual estimates of this elasticity by attempt and number of parties represented in the parliament display substantial variation. For example, we see that the elasticity tends to increase between the first and the second attempt and to decrease with the number of parties.[14]

The second question we would like to answer is this: Consider the party that was successful in forming the previous government (i.e., the party of the former prime minister). Let that party be denoted by $i \in N^j$ and let P_{it}^j be its recognition probability for attempt $t = 1, 2, \ldots$ Holding everything else constant, let $\widetilde{P_{it}^j}$ be party i's average recognition probability if we remove the incumbency advantage from party i and we give it to one of the other parties $\ell \in N^j$ for all $\ell \neq i$. How large is the difference in the two probabilities–i.e., what is $P_{it}^j - \widetilde{P_{it}^j}$? Answering this question provides a measure of the incumbency premium. The answer is presented in Table 3.

<<Table 3 about here>>

As we can see from Table 3, the average estimate of the incumbency premium is rather large and is equal to 0.27. This means that controlling for size, on average an incumbent party is 27% more likely to be selected to make a government proposal than if it were not the incumbent party. The standard error associated with this estimate (computed using the Delta Method) is equal to 0.04. Hence, the average incumbency premium is statistically different from zero at conventional significance levels, and its 95% confidence interval is equal

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[13]The standard error was computed using the Delta Method (e.g. Greene 1997), since the estimate of the elasticity of the recognition probability with respect to size is a function of the estimates of the model parameters (see equation (2)).

[14]Note that some of the cells in the data contain only few observations. Hence the individual estimates should be interpreted with caution.

to [0.19, 0.35]. As it was true for the size elasticity, however, there is substantial variation in the individual estimates of the incumbency premium by attempt and number of parties. For instance, the incumbency premium tends to decrease between the first and the second attempt.[15]

The literature on government formation usually assumes that formateur selection rules are stationary. That is, the probability that a party is selected is the same no matter whether the government formation process immediately follows after a general election or whether it occurs in the middle of a parliament's life-span. Diermeier and van Roozendaal (1998), however, find that formation processes last considerably longer if they start immediately after an election.

To assess the robustness of our findings with respect to the timing of the government formation process, we reestimated our conditional logit model using two different subsamples. The first subsample contains data on all government formations immediately following a general election. The second subsample contains data on government formations that occurred during the constitutional interelection period. The estimation results are reported in Tables 4 and 5, respectively.

<<Tables 4 and 5 about here>>

Using the estimated coefficients and standard errors from Column 2 in Tables 4 and 5, for each subsample we compute the elasticity of the recognition probability with respect to size and the incumbency premium together with their standard errors. What we find is that the average size elasticity is equal to 1.11 for government formations immediately following a general election and is equal to 0.76 for government formations in the middle of a legislature.[16] The standard errors associated with these estimates are 0.16 and 0.13, respectively. Hence, neither elasticity is statistically different from 1 at standard significance levels. This result provides more evidence in support of the proportional selection rule, regardless of whether

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[15]Again, caution must be used in interpreting the individual estimates since some cells only contain a handful of observations.

[16]The individual estimates of the size elasticity and the incumbency premium by attempt and number of parties, not reported here, are available from the authors.

a government formation occurs immediately after a general election or between elections.

With respect to the incumbency premium, the average estimates we obtain are 0.18 for government formations immediately following a general election and 0.35 for government formations in the middle of a legislature. The standard errors associated with these estimates are 0.05 and 0.07, respectively. Hence, both these estimates are statistically different from zero at conventional significance levels. However, the average incumbency premium after an election is larger than the average incumbency premium between elections, but this difference is barely statistically significant.[17]

5 Conclusion

In this article we have presented an empirical analysis of formateur selection rules. In particular, we have tried to determine which of the selection rules commonly used in formal models of coalition bargaining can best account for the empirical regularities of formateur selection. Our analysis yielded the following results.

(1) There is little empirical support for selection in order of seat shares. Rather in all formation attempts the largest party is most likely to be selected as a proposer.

(2) A proportional selection rule provides a reasonably good approximation of the data. In particular, we could not reject the null hypothesis that on average a party's probability to be chosen as formateur is proportional to its size.

(3) There is a significant incumbency advantage. That is, controlling for seat share a party is about 27% more likely to be selected again if it can count the last government's prime minister among its members.

Formateur selection rules are an important building block of formal models of government formation. But the importance of these rules is not just confined to questions of modelling assumptions. In multi-party democracies, the choice of executive is typically not determined by an election alone. No party commands a majority of seats and there are typically many viable coalition governments. This makes the selection of a formateur a decision with important political consequences. For example, if changes in electoral outcomes do not lead to likely corresponding changes in government composition, voters may perceive this as a

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[17]Their 95% confidence intervals are equal to [0.08, 0.28] and [0.21, 0.49], respectively.

lack of control over their elected representatives. Incumbency effects, for instance, isolate governing parties from electoral outcomes. Concerns like these may lead to a constitutional crisis as recently witnessed in Italy.

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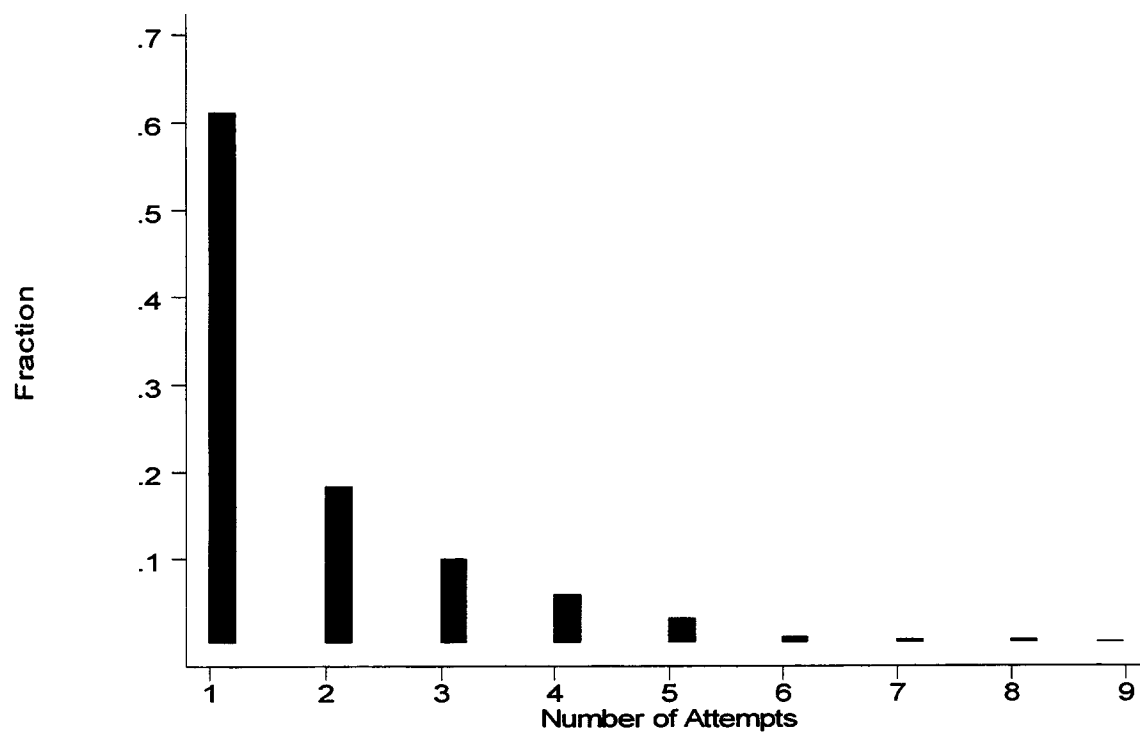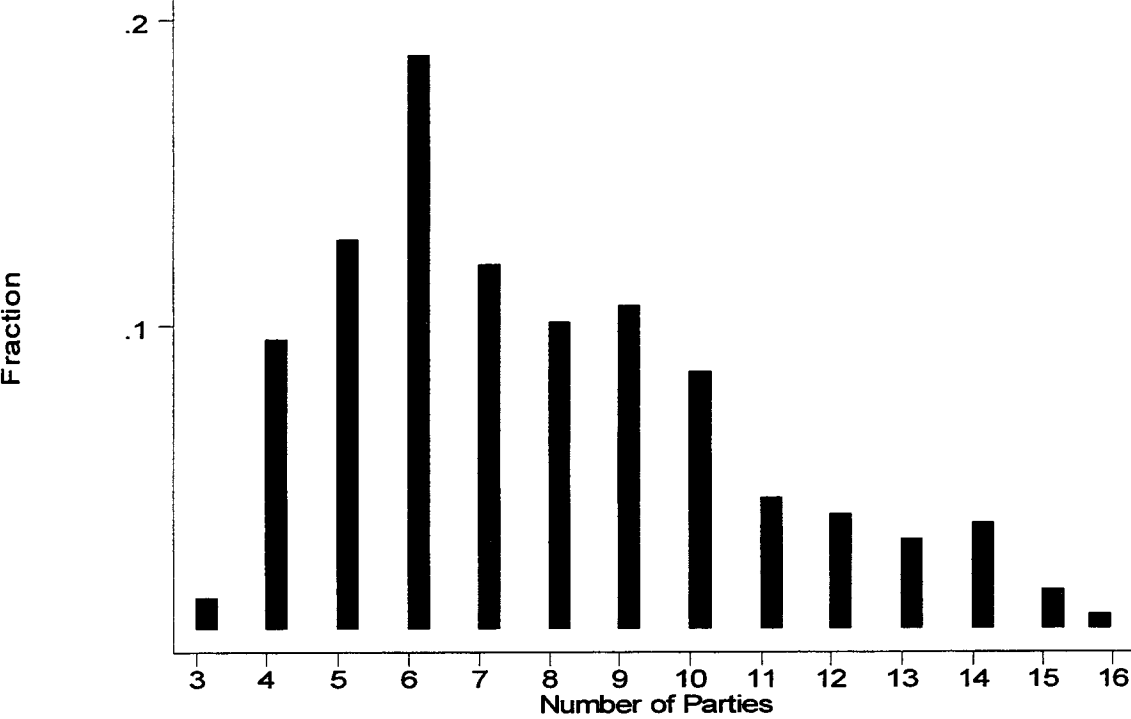**Figure 1: Histogram of the Number of Attempts**

Figure 2: Histogram of the Number of Parties

Figure 3: Histogram of the Size of the Recognized Parties (All Attempts)
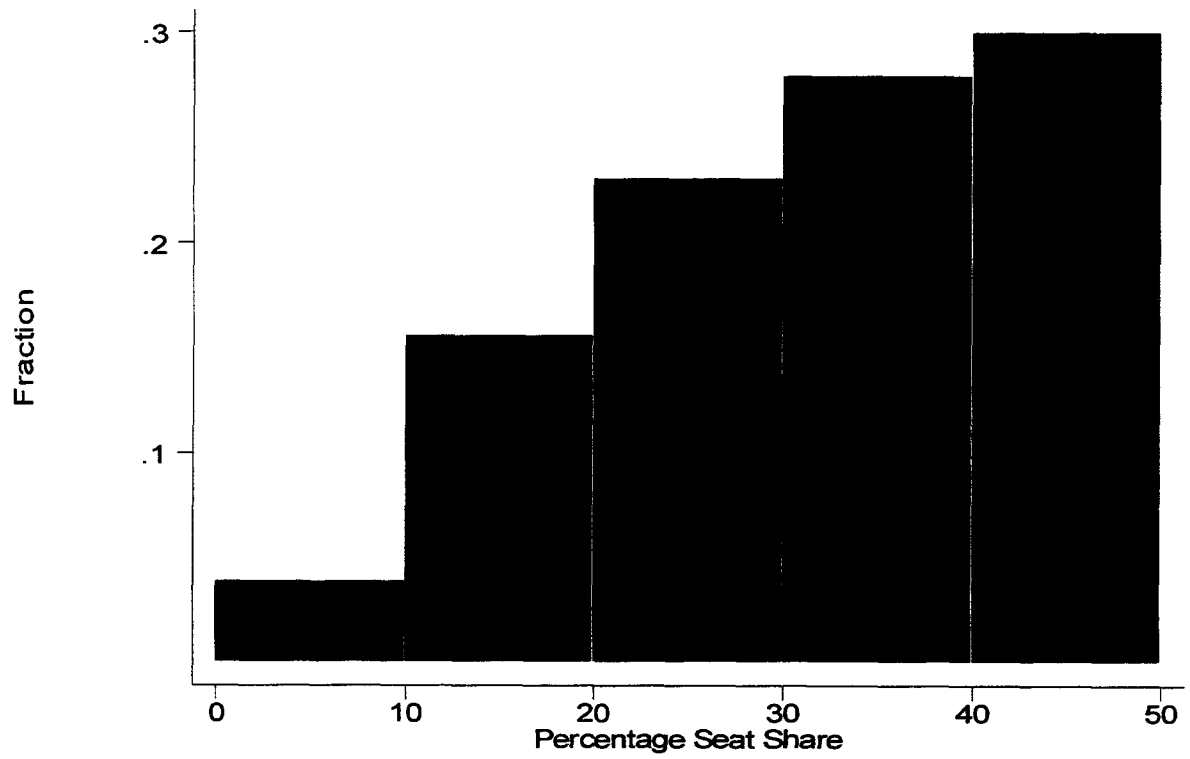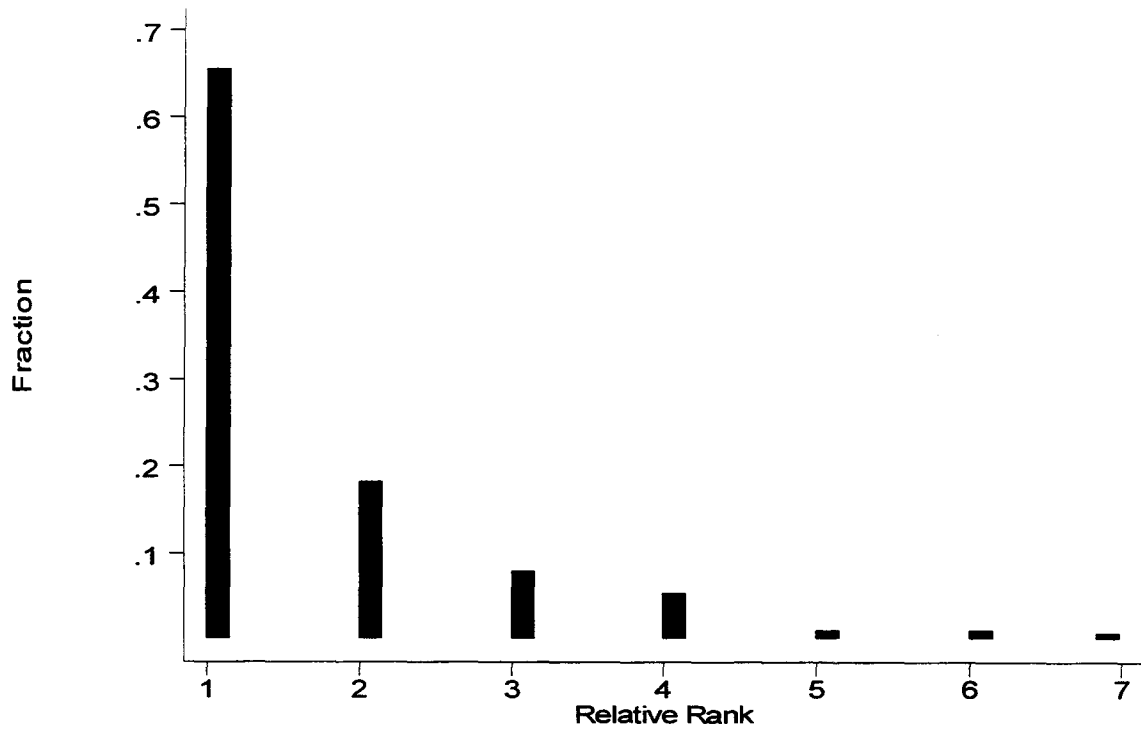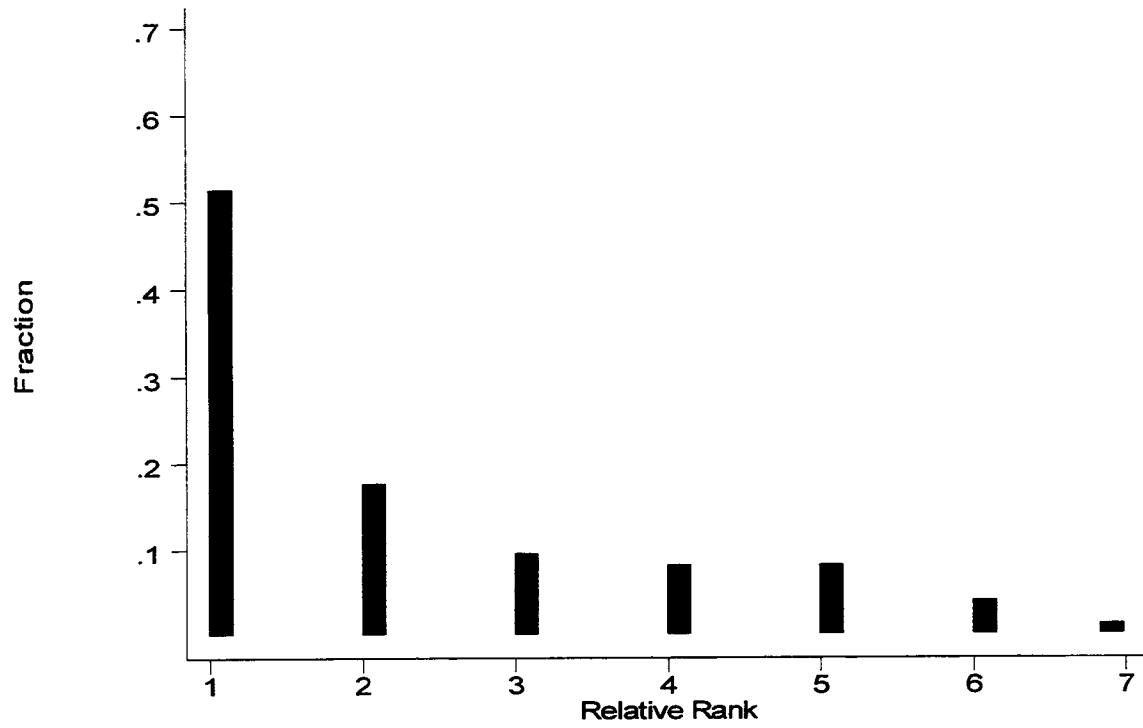
Figure 4: Histogram of the Relative Rank of the Recognized Parties (First Attempt)

Figure 5: Histogram of the Relative Rank of the Recognized Parties (Second Attempt)

Figure 6: Histogram of the Relative Rank of the Recognized Parties (Third Attempt)
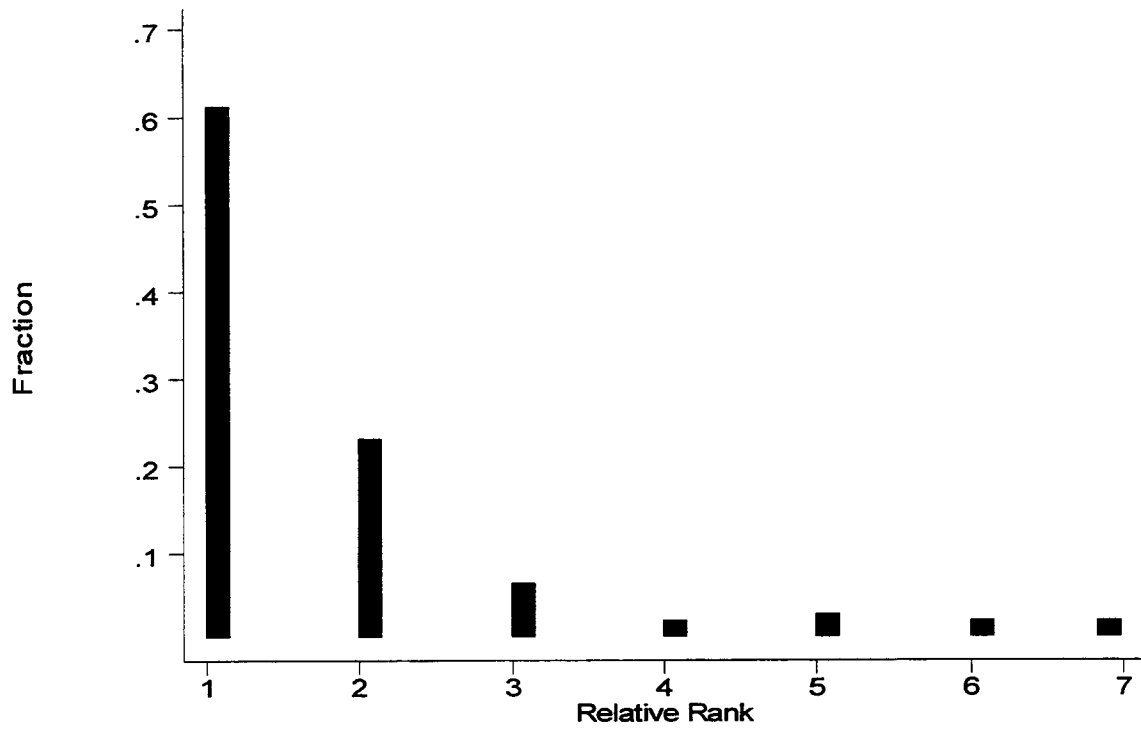
Table 1: Maximum Likelihood Estimates
(Standard Errors in Parentheses)

	(1)	(2)	(3)
First Attempt (367 observations)			
β_{11}	0.111 (0.005)	0.083 (0.006)	0.086 (0.009)
β_{21}		1.456 (0.140)	1.455 (0.140)
β_{31}			-0.103 (0.206)
Log-likelihood	-408.401	-355.931	-355.807
Likelihood Ratio Statistics (1) vs. (2) and (2) vs. (3)	104.940	0.248	
Second Attempt (143 observations)			
β_{12}	0.122 (0.010)	0.103 (0.011)	0.104 (0.011)
β_{22}		0.891 (0.216)	0.894 (0.214)
β_{32}			0.177 (0.217)
Log-likelihood	-170.279	-162.127	-161.804
Likelihood Ratio Statistics (1) vs. (2) and (2) vs. (3)	16.304	0.646	

Table 2: Size Elasticity

Number of Parties	First Attempt	Second Attempt
3	1.849	2.105
4	1.320	1.556
5	1.080	1.337
6	1.024	1.336
7	0.854	1.168
8	0.753	0.920
9	0.608	0.712
10	0.559	0.725
11	0.533	0.689
12	0.458	0.660
13	0.446	0.572
14	0.452	0.583
15	0.359	0.454
16	0.346	0.460
Average*	0.844	0.985
Average Elasticity for All Attempts*	0.910	

* Weighted by the number of observations in each cell

Table 3: Incumbency Premium

Number of Parties	First Attempt	Second Attempt
3	0.199	0.144
4	0.322	0.199
5	0.277	0.167
6	0.275	0.146
7	0.307	0.174
8	0.310	0.198
9	0.306	0.156
10	0.353	0.209
11	0.312	0.148
12	0.291	0.166
13	0.369	0.212
14	0.295	0.144
15	0.363	0.170
16	0.372	0.228
Average*	0.304	0.173
Average Premium for All Attempts*	0.266	

* Weighted by the number of observations in each cell

Table 4: Maximum Likelihood Estimates—Post-Election
(Standard Errors in Parentheses)

	(1)	(2)	(3)
First Attempt (175 observations)			
β_{11}	0.124 (0.009)	0.101 (0.010)	0.103 (0.014)
β_{21}		1.284 (0.206)	1.283 (0.205)
β_{31}			-0.052 (0.295)
Log-likelihood	-164.580	-145.530	-145.514
Likelihood Ratio Statistics (1) vs. (2) and (2) vs. (3)	38.100	0.032	
Second Attempt (69 observations)			
β_{12}	0.124 (0.014)	0.121 (0.016)	0.121 (0.016)
β_{22}		0.144 (0.318)	0.229 (0.307)
β_{32}			0.452 (0.286)
Log-likelihood	-79.832	-79.730	-78.535
Likelihood Ratio Statistics (1) vs. (2) and (2) vs. (3)	0.204	2.390	

Table 5: Maximum Likelihood Estimates—Mid-Legislature
(Standard Errors in Parentheses)

	(1)	(2)	(3)
First Attempt (192 observations)			
β_{11}	0.102 (0.007)	0.068 (0.008)	0.074 (0.012)
β_{21}		1.653 (0.195)	1.655 (0.195)
β_{31}			-0.210 (0.295)
Log-likelihood	-241.797	-206.659	-206.405
Likelihood Ratio Statistics (1) vs. (2) and (2) vs. (3)	70.276	0.508	
Second Attempt (74 observations)			
β_{12}	0.119 (0.013)	0.091 (0.014)	0.091 (0.014)
β_{22}		1.575 (0.296)	1.594 (0.299)
β_{32}			-0.299 (0.370)
Log-likelihood	-90.421	-76.903	-76.560
Likelihood Ratio Statistics (1) vs. (2) and (2) vs. (3)	27.036	0.686	