The Logic of Pre-Electoral Coalition Formation

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CHAPTER THREE

Existing Theories

3.1 Existing Theories of Pre-Electoral Coalitions

While there has been little systematic investigation of pre-electoral coalitions to this point, it would be misleading to imply that electoral coalitions are never mentioned in the coalition literature. In fact, if one looks carefully enough in the coalition literature one can see that two implicit hypotheses are made regarding pre-electoral coalition formation. The Disproportionality Hypothesis states that pre-electoral coalitions should be more common in disproportional electoral systems. In this case, electoral coalitions are formed as a means of overcoming some barrier of representation. The Signaling Hypothesis focuses on the electorate’s desire to be able to identify the nature of future governments. In this case, electoral coalitions act as a signaling device, indicating the likely shape of the post-election government coalition. While the Disproportionality Hypothesis is predominant in the literature, the Signaling Hypothesis tends to be called upon to explain why pre-electoral coalitions sometimes form in highly proportional electoral systems. To date, neither of these hypotheses has been carefully analyzed or tested. In this chapter I examine the theoretical underpinning of each argument in turn, I generate testable hypotheses, and I subject them to statistical analysis using a data set comprising all of the legislative elections between 1946 and 2002 in the 23 parliamentary democracies listed in table 2.1.

3.1.1 Disproportional Electoral Rules

By far the predominant argument in the literature is that disproportional electoral systems encourage pre-electoral coalition formation (Shepsle & Bonchek 1997, 190–91). Strøm, Budge, & Laver (1994, 316) state, “Systems not based on PR [proportional representation] lists tend to force parties to coalesce before elections in order to exploit electoral economies of scale. The more disproportional the
electoral system, the greater the incentives for pre-electoral alliances.” The argument is fairly straightforward. Electoral rules that consistently benefit larger parties should encourage party leaders to forge pre-electoral alliances. While the implicit goal of pre-electoral coalition formation in this argument appears to be to gain more seats, this need not be the main objective of party leaders. If the size of a party in terms of legislative seats is highly correlated with being part of a government coalition or being chosen as formateur, then party leaders in parliamentary systems could increase their chances of being in government by joining an electoral coalition (Laver & Schofield 1998).

This book opened with an empirical puzzle: Why did pre-electoral coalitions form prior to the 2002 legislative elections in Germany and France, but not in the Netherlands? The disproportionality argument outlined here implies that pre-electoral coalitions are a simple function of electoral rules. Thus, the claim would be that pre-electoral agreements were reached in France because of the majoritarian nature of French electoral institutions, and that they were not reached in the Netherlands owing to the highly proportional nature of Dutch electoral institutions. Of course, the German case is slightly ambiguous, given the way its electoral system combines majoritarian and proportional elements.

While the disproportionality argument has a great deal of intuitive appeal, it needs to be qualified. Imagine a country with a highly disproportional electoral system in which there is only one seat being contested (or one seat per district, the extreme case being a presidential election). The argument as stated above, and in the literature, suggests that pre-electoral coalitions should be quite common in this country. However, if there were only two parties, then there would clearly be no reason to form an electoral coalition. Except for periods of war or political crisis, when political elites may want to form a government of national unity, one would not expect to see electoral alliances in a two-party system. In other words, the incentives to form a pre-electoral coalition only really exist when there are more than two parties. The intuition from this example can be stated more generally: disproportionality encourages pre-electoral coalition formation, but only when the number of parties is sufficiently large. In fact, Duverger (1963 [1954], 328) made a similar point when he said in the 1950s that “[t]he action of the simple-majority single-ballot system is totally different according to whether it coincides with a dualist or a multi-party system. In the first case the idea of electoral alliances is logically unthinkable: if the two parties were to unite there would be only one candidate and the election would take on a plebiscitary character that would completely change the nature of the regime.” It is unclear why the conditional part of this hypothesis has been dropped or forgotten in the contemporary coalition literature.

Disproportional electoral rules should only encourage electoral coalition formation when the party system is sufficiently large. A vast literature exists investi-
gating the factors that determine the size of the national party system in various
countries (Duverger 1963 [1954]; Lijphart 1994; Amorim Neto & Cox 1997;
Clark & Golder 2006). There is strong theoretical and empirical evidence that
more disproportional electoral systems are associated with fewer political parties.
It is the existence of a ‘mechanical effect’ in favor of large parties that creates in-
centives for strategic voting on the part of voters and for strategic withdrawal on the
part of political entrepreneurs. The end result is that parties typically merge and
coalesce so as to exploit electoral economies of scale in disproportional systems.
This is precisely the same argument presented in the coalition literature for why
pre-electoral coalitions form in disproportional systems. Note that this argument
raises an interesting puzzle. If the incentives to coalesce are so great in dispropor-
tional systems, then one should not actually observe pre-electoral coalitions in
these countries; there simply will not be a sufficiently large number of independ-
ent parties. It is only when there are ‘surplus’ or ‘excess’ parties that choose to retain
their party identity in spite of the incentives created by disproportional systems
that one would expect to observe electoral coalitions.

Determining when and why some political parties will retain their separate
identities rather than merge or coalesce into a larger party is a complex question
that goes beyond the scope of this book. However, several institutions are already
known to influence how likely parties are to retain their separate identities. One
such institution is the use of fusion candidacies, where multiple parties can nom-
inate the same candidate. Fusion candidacies were employed in many US states in
the nineteenth century, and it is interesting to note that electoral alliances were
quite common between the Democratic Party and various other parties (depend-
ing on the state) at this time. Although this practice continues in New York State,
it was stopped in most other states more than a century ago. The end of fusion
candidacies contributed quite markedly to the evolution of a party system in
which the Democratic and Republican parties were the only viable parties outside
New York State (Argersinger 1980). Majority requirements are also thought to
encourage parties to retain their separate identities (Duverger 1963 [1954]).
Certain characteristics of presidential elections, such as the use of runoff proce-
dures, their temporal proximity to legislative elections, and the number of presi-
dential candidates, have also been found to influence the number of parties
(Golder 2006).

The size of the party system is also likely to be determined by the extent to
which the party system is nationalized. The Duvergerian logic outlined above
applies primarily to the district level. Although a country with single-member dis-
tricts may well be expected to have two main parties in any given district, there is
nothing to say that these parties will necessarily be the same across different dis-
tricts. Chhibber & Kollman (2004) have shown that the extent to which this local
two-party system is mirrored at the national level will depend on the relative importance of national and sub-national governments. If the most salient political issues are at the national level, and the national government controls most of the economic power, the party system is likely to be highly nationalized, with strong linkages across districts. In this case, disproportional electoral rules should lead to few parties. However, if there are no strong linkages across districts, then the number of parties in the national legislature may be larger than what one would expect from simply looking at the electoral rules. This idea may help to explain some 'non-Duvergerian' outcomes in party system size at the national level.

Although various institutions obviously influence whether there will be a 'surplus' or 'excess' number of parties, these institutions themselves are not the focus of the analysis here. They are relevant only to the extent that they create a party system of sufficient size that parties are able to take advantage of joining a pre-electoral coalition in order to gain office and policy benefits. Thus, the principal point that I want to emphasize is simply that the disproportionality hypothesis regarding pre-electoral coalitions must be conditional in nature:

**Disproportionality Hypothesis:** Disproportionality increases the likelihood of pre-electoral coalition formation only when there are a sufficiently large number of parties.

### 3.1.2 Signaling Devices

While the Disproportionality Hypothesis is predominant, a second explanation for pre-electoral coalition formation can be discerned in the literature. In this alternative argument, pre-electoral coalitions are treated as signaling devices with respect to voters. There appear to be at least three separate motives behind forming an electoral coalition as a signaling device: (i) to signal that member parties can form an effective government coalition; (ii) to signal the identity of a potential future government as clearly as possible; and (iii) to signal the desire of political parties to give voters a more direct role in choosing government coalitions. These variants of the signaling argument are typically found in the case study literature dealing with coalitions. They are often used to explain what appear to be anomalous cases of electoral coalition formation in highly proportional electoral systems. As such, they tend to be case-specific and rather ad hoc.

The argument that electoral coalitions send a signal to voters that member parties can form an effective government coalition has been made in the case of Ireland, Sweden, and India. Each of these countries has experienced long periods in which a single party has dominated the executive (Fianna Fáil in Ireland, the Social Democrats in Sweden, the Congress Party in India). Those voters who pre-
ferred one of the smaller, opposition parties in these countries risked ‘wasting’ their vote if they voted for this party. Opposition parties formed electoral coalitions in these countries to signal their ability to compete effectively with the ruling party and encourage the electorate to vote for them. In Sweden, the Social Democrats were dominant for decades because the various opposition parties were so ideologically distant from one another that they were not seen as a credible government alternative. Eventually, the three ‘bourgeois’ parties formed electoral coalitions in the 1970s as a signal to voters that their policy positions had sufficiently converged that they could offer a viable governing alternative (Hancock 1998, 231–32). Similarly, opposition parties in Ireland formed pre-electoral coalitions as a way of signaling to voters that they were a viable alternative to Fianna Fáil (Farrell 1987, 137–38). In India, opposition parties formed an electoral coalition based on a common anti-corruption platform to bring down the long-dominant Congress Party (Andersen 1990, 528–30).

The argument that electoral coalitions are a device to signal the identity of potential future government coalitions is perhaps more common. Pre-electoral coalitions can be used to signal with whom member parties will try to form a government if elected. As a result, pre-electoral coalitions can be expected to offer benefits to risk-averse voters who would rather know the identity of the post-election coalition for sure, rather than wait for the lottery that occurs during a government coalition bargaining process. These benefits are likely to be quite significant in those countries where the post-election bargaining process is very uncertain. Some of the parties in Germany are quite explicit in their campaign messages about the coalition government that they will form if elected. They often tell voters to support a particular coalition by splitting their votes in the constituency and party-list portions of the ballot, precisely because doing so can affect the identity of the post-election government coalition (Roberts 1988, 317–37). Pappi and Thurner (2002, 213) note that in “the German system, voters recognize the realistic options for a new coalition government and the German two-vote system offers voters an opportunity to support not only their party, but also the specific coalition advocated by their party.”

The final variant of the signaling argument is that party leaders form electoral coalitions to signal their desire to have voters play a larger role in determining government coalitions. At least, this was the public justification behind the electoral coalitions that formed in the Netherlands in the early 1970s (De Jong & Pijnenburg 1986; Andeweg 1989; Hillebrand & Irwin 1999; Rochan 1999). Coalition parties claimed that voters would feel that the future government coalition was more legitimate if they knew ahead of time what they were voting for. Some analysts have argued that this motivation has been important in Germany, as well. For example, Klingemann, Hofferbert, and Budge (1994) state that the Free Democrats (FDP)
and whichever of the major parties was its partner at the time benefited from forming an electoral alliance, since they could claim to have a direct popular mandate once in office.

If pre-electoral coalitions are to be useful as signaling devices, it must be the case that they translate fairly accurately into the government coalitions that eventually form after elections. If this is not the case, then the electorate is unlikely to continue voting for them in the future. In other words, public commitments to form a government with another party if successful at the polls should actually be implemented. On the whole, there seems to be strong empirical evidence to support this idea (Laver & Schofield 1998; Strøm, Budge, & Laver 1994; Martin & Stevenson 2001). In fact, cases where members of a successful pre-electoral coalition do not enter government together appear to be so unusual that they warrant particular comment in the case study literature. Two cases that are mentioned involve pre-electoral coalitions in Luxembourg and Norway. In Luxembourg, the Socialist Party and the Christian Democrats formed an electoral coalition for the 1968 elections and together won 68% of the vote. Following the election, though, the trade union affiliated with the Socialist Party prevented the party from entering government (Dumont & Winter 2000, 405). In Norway, the three ‘bourgeois’ parties (the Conservative Party, the Christian People’s Party, and the Center Party) formed a pre-electoral coalition for the 1981 elections and did well enough that they were expected to form the government. However, while forming the government, the parties had a disagreement over the issue of abortion, and both the Christian People’s Party and the Center Party refused to enter government with the Conservatives. After supporting the minority Conservative government for a couple of years, the Christian People’s Party and the Center Party did eventually join the government in 1983 (Narud & Strøm 2000, 177).

I do not consider the government that formed after the election in these two cases to be based on a pre-electoral coalition. Despite these two cases, it does appear that parties that form pre-electoral coalitions do enter government together if given the opportunity.

The three variants of the signaling story have often been developed in a case-specific and ad hoc manner. As a result, it is difficult to delineate shared features and generate testable claims that can easily be evaluated across different cases. The variant of the signaling story that can most easily be generalized is the one that focuses on the identifiability of potential future governments. The basic claim is that pre-electoral coalitions are more likely to form when the identifiability of future governments is uncertain. One only needs a measure of identifiability to be able to test this idea. Although measures of ‘identifiability’ do exist in the literature, the creators themselves acknowledge that the measurement criteria are very ‘impressionistic’ (Strøm 1990; Powell 2000; Shugart 2001). One alternative to
these impressionistic measures is to assume that uncertainty about the identity of future governments is correlated with the number of potential governments that could form. The number of potential governments is obviously an increasing function of the number of parties. This statement means that those countries with a large number of parties should also have a high level of uncertainty as to who will be in the next government. This line of reasoning generates the following testable hypothesis:

**Signaling Hypothesis:** Pre-electoral coalitions are more likely to form when there are a large number of parties.

### 3.2 Data and Model

Before specifying the model to test the Disproportionality and Signaling Hypotheses, it is useful to first examine the *unconditional* disproportionality hypothesis that is predominant in the contemporary coalition literature. Remember that this hypothesis states that electoral coalitions will be common and successful in disproportional systems such as those that employ a majoritarian electoral formula; they should be absent or uncommon in systems that employ a proportional formula (Laver & Schofield 1998; Strøm, Budge, & Laver 1994). In table 3.1, I present information on the number of electoral coalitions that have formed in elections using majoritarian formulas, as opposed to those that have formed in elections using some form of proportional representation (M. Golder 2005). Majoritarian systems—plurality rule, absolute majority rule, alternative vote, single non-transferable vote—all require the winning candidate to obtain a plurality or majority of the vote. Although it is possible to distinguish between proportional, multi-tier, and mixed electoral systems in my sample of countries, I do not do so here—they are all classified as proportional systems because they employ a proportional formula in at least one electoral tier. Table 3.1 also provides information on the average number of pre-electoral coalitions, the average percentage of the vote received by these coalitions, and the average effective number of electoral parties by electoral formula. The effective number of electoral parties is calculated as $1 / \sum \nu_i^2$, where $\nu_i$ is the percentage of votes won by the $i$th party (Laakso & Taagepera 1979). If the unconditional hypothesis is correct, then pre-electoral coalitions should be both significantly more frequent and more successful in countries that employ majoritarian systems than in those using proportional systems.

The evidence in table 3.1 is quite clear. Pre-electoral coalitions are just as likely to form in proportional systems as in majoritarian ones. Indeed, the percentage
of elections with pre-electoral coalitions is higher in proportional systems than in majoritarian systems. Moreover, the average percentage of the vote won by pre-electoral coalitions is also slightly higher in proportional systems than in majoritarian systems. In sum, there is very little evidence thus far in favor of the unconditional disproportionality hypothesis found in the existing coalition literature. This outcome is exactly as I predicted earlier. Note that the average number of electoral parties is significantly lower in majoritarian systems than in proportional ones. By encouraging political parties to coalesce and merge, disproportional systems have fewer parties and, hence, fewer opportunities for electoral coalitions to form. Making the disproportionality hypothesis conditional on the number of parties was motivated precisely by the need to take account of the opportunity structure facing individual parties. The question now is whether there is evidence in favor of the conditional Disproportionality Hypothesis.

Up to this point, I have expressed the Disproportionality and Signaling Hypotheses in terms of the likelihood of pre-electoral coalition formation—whether an electoral coalition forms or not. However, the literature is slightly ambiguous on this point, referring at different times to the likelihood that pre-electoral coalitions will form, to the electoral success of these coalitions, and to the relative importance of electoral coalitions. In this chapter, I test the Disproportionality and Signaling Hypotheses using (i) the percentage of the vote received by pre-electoral coalitions and (ii) the percentage of parties involved in a pre-electoral coalition as dependent variables. In chapter six, I examine how the disproportionality of the electoral system and the number of parties affect the actual likelihood of electoral coalition formation. The results from that analysis are qualitatively similar to those presented in this chapter, using the different dependent variables just mentioned.4

The Disproportionality and Signaling Hypotheses can be tested using the following multiplicative interaction model:

\[
\text{Disproportionality} \times \text{Signaling} = \text{Outcome}
\]

### Table 3.1
PECs by Electoral Formula

<table>
<thead>
<tr>
<th>Electoral Formula</th>
<th># of Elections</th>
<th>% of Elections</th>
<th>% of Vote for PECs</th>
<th>Effective # of Electoral Parties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Majoritarian</td>
<td>37</td>
<td>64</td>
<td>37</td>
<td>19.8</td>
</tr>
<tr>
<td>Proportional</td>
<td>137</td>
<td>126</td>
<td>52</td>
<td>20.7</td>
</tr>
</tbody>
</table>

Notes: Data are based on 364 legislative elections from 1946 to 2002 in the 23 countries listed in table 2.1. Majoritarian electoral formulas include plurality rule, absolute majority rule, the alternative vote, and the single non-transferable vote. Proportional electoral formulas include proportional, multi-tier, and mixed electoral systems (M. Golder 2005).
PEC = $\beta_0 + \beta_1$ Effective Threshold + $\beta_2$ Electoral Parties + $\beta_3$ Effective Threshold × Electoral Parties + $\varepsilon$  \hspace{1cm} (3.1)

where PEC is one of the two dependent variables already mentioned. Effective Threshold captures electoral system disproportionality and is measured using Lijphart’s effective threshold. The higher the effective threshold, the more disproportional the electoral system. An alternative measure of electoral system disproportionality is the district magnitude. While district magnitude has long been considered the decisive factor in determining the proportionality of an electoral system (Rae 1967; Taagepera & Shugart 1989; Cox 1997), it captures only one element of it. In contrast, the effective threshold takes account of several aspects of the electoral system—the district magnitude, legal thresholds, and upper-tier seats. It is for this reason that I prefer to use the effective threshold. I should note, though, that qualitatively similar results to those presented here are found if the log of average district magnitude is used instead of effective thresholds. Electoral Parties is the effective number of electoral parties. The interaction term is required to test the conditional nature of the Disproportionality Hypothesis.

The marginal effect of Electoral Parties is

\[ \frac{\partial PEC}{\partial \text{Electoral Parties}} = \beta_2 + \beta_3 \text{Effective Threshold} \]

According to the Signaling Hypothesis, this quantity should always be positive, since an increase in the number of electoral parties is expected to increase both dependent variables irrespective of the effective threshold. It follows from this idea that $\beta_2$ should be positive. The Signaling Hypothesis does not make a precise prediction about $\beta_3$, because it says nothing about the modifying effect of electoral system disproportionality.

The marginal effect of Effective Threshold is

\[ \frac{\partial PEC}{\partial \text{Effective Threshold}} = \beta_1 + \beta_3 \text{Electoral Parties} \]

The Disproportionality Hypothesis predicts that this quantity should only be positive when the number of electoral parties is sufficiently large. Since $\beta_1$ indicates the marginal effect of effective thresholds when there are no electoral parties, this coefficient should be zero (or negative). Given that the marginal effect of effective thresholds should be increasing as the number of parties grows, $\beta_3$ should be pos-
itive. While this theory does not provide us with a clear expectation as to when the marginal effect of effective thresholds will become positive and significant, the Disproportionality Hypothesis will have found little support if this never occurs across the observed range for the number of electoral parties. The flip side of the Disproportionality Hypothesis is that the marginal effect of electoral parties should only increase the two dependent variables when the electoral system is sufficiently disproportional. Thus, \( \beta_2 \) should be zero (or negative), since this coefficient indicates the marginal effect of electoral parties in highly proportional systems (Effective Threshold = 0). This prediction is in direct contrast to the Signaling Hypothesis, where \( \beta_2 \) was expected to be positive.

I use the data described in chapter 2 to test the Disproportionality and Signaling Hypotheses. Thus, I analyze all 364 legislative elections that took place in Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Malta, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, and the United Kingdom from 1946 to 2002. The data set contains evidence of 240 pre-electoral coalitions competing in 174 elections. Unfortunately, my analysis omits parties that won less than 1% of the national vote, because official electoral statistics typically do not list them. Descriptive statistics for the data are shown in table 3.2. The percentage of the vote for pre-electoral coalitions ranges from zero, in elections where there were no coalitions, to 99.12% in the 1976 German election. The 1976 German election also had the highest percentage of parties in a pre-electoral coalition (100%). Effective thresholds range from a low of 0.6% in Israel in 1949 to a high of 35% in countries such as the United Kingdom with single-member districts. The lowest effective number of electoral parties was 1.99 in the 1971 New Zealand elections, and the highest was 10.29 in the 1999 Belgian elections.

I tested the Disproportionality and Signaling Hypotheses using a pooled analysis. The reader might be concerned that the data are censored, since it is not possible to observe the electoral support for pre-electoral coalitions if no coalition actually forms. After all, there were 190 elections with no pre-electoral coalitions. One might be tempted to omit countries and elections where there were no pre-electoral coalitions to avoid this censoring issue. However, doing so leads to biased and inconsistent estimates, since those countries that have factors discouraging the formation of pre-electoral coalitions would be systematically under-represented. The second temptation is to include countries and elections that do not have pre-electoral coalitions but code electoral coalition support as zero. Including these countries and elections is wrong, since doing so also results in inconsistent estimates (Wooldridge 2002, 524–25). The correct procedure would be to include all observations, but to use a tobit model to take account of the censored nature of the data. However, it turns out that using a tobit model in this particular case
yields almost exactly the same inferences as using straightforward ordinary least squares (OLS). Given that interpreting the results from tobit models can be quite complicated (Sigelman & Zeng 1999) and that my inferences are unaffected, I prefer to report OLS results. I employed the Beck and Katz (1995) procedure for panel-corrected standard errors to take account of panel heteroskedasticity and contemporaneously correlated errors—this procedure would not have been possible with the tobit model.

### 3.3 Results and Interpretation

The results from my analysis are shown in table 3.3. Models 1 and 2 refer to the two dependent variables that I use. Model 1 refers to the percentage of the vote won by pre-electoral coalitions, and Model 2 refers to the percentage of parties in a pre-electoral coalition. The first column provides a direct test of the Signaling Hypothesis, because the effective number of electoral parties is the only variable included. I do not show the equivalent results for the case where the dependent variable is the percentage of parties in a pre-electoral coalition, because they are qualitatively similar to those already shown. By including Electoral Threshold without an interaction term, the second column provides yet another test of the unconditional disproportionality hypothesis. Finally, the last two columns provide a test of the conditional Disproportionality Hypothesis by presenting results from the full model outlined in equation (3.1).

The first column provides no support for the Signaling Hypothesis. The number of parties in a country seems to have no significant impact on pre-electoral coalitions. Nor is there any evidence that an increase in the number of parties will have any effect on the vote for pre-electoral coalitions when we control for electoral sys-

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage Vote for PECs</td>
<td>364</td>
<td>20.42</td>
<td>28.46</td>
<td>0</td>
<td>99.12</td>
</tr>
<tr>
<td>Percentage of Parties in PECs</td>
<td>364</td>
<td>22.86</td>
<td>27.85</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Electoral Parties</td>
<td>364</td>
<td>3.90</td>
<td>1.42</td>
<td>1.99</td>
<td>10.29</td>
</tr>
<tr>
<td>Effective Threshold *</td>
<td>349</td>
<td>13.43</td>
<td>12.86</td>
<td>0.6</td>
<td>35</td>
</tr>
</tbody>
</table>

*Data on effective thresholds are missing for Austria (1994–2002), Belgium (1995–2002), and Greece (1946–64).
tem disproportionality (column 2). The results from the full model outlined in equation (3.1) also provide no support for the Signaling Hypothesis (columns 3 and 4). The marginal effect of electoral parties on both the percentage of votes won by pre-electoral coalitions and the percentage of parties in a pre-electoral coalition is negative in highly proportional systems, that is, when \( \text{Effective Threshold} = 0 \). This result is in direct contrast to the Signaling Hypothesis, which predicts that this effect should always be positive. The positive sign on the interaction coefficient does indicate that this reductive effect declines as the effective threshold increases, though.

As expected, there is no evidence in support of the unconditional disproportionality hypothesis (column 2). An increase in the effective threshold appears to have no significant effect on pre-electoral coalitions. However, there is considerable support for the conditional Disproportionality Hypothesis (columns 3 and 4). As predicted, the interaction term \( \text{Effective Threshold} \times \text{Electoral Parties} \) is positive and significant in both Model 1 and Model 2. While this finding is supportive of the Disproportionality Hypothesis, it should also be the case that the marginal effect of effective thresholds is positive when the number of electoral parties is sufficiently high. Although the coefficient on \( \text{Effective Threshold} \) is negative in both models, it is important to remember that this coefficient only captures the marginal effect of effective thresholds when there are no electoral parties

### Table 3.3
Regression Results: Disproportionality vs. Signaling Hypotheses

<table>
<thead>
<tr>
<th>Regressor</th>
<th>Signaling (Model 1)</th>
<th>Unconditional Disproportionality (Model 1)</th>
<th>Conditional Disproportionality (Model 1) (Model 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electoral Parties</td>
<td>-0.05 (1.04)</td>
<td>0.86 (1.40)</td>
<td>-3.22* (1.76) -1.98 (1.48)</td>
</tr>
<tr>
<td>Effective Threshold</td>
<td>0.17 (0.12)</td>
<td>-1.27*** (0.47)</td>
<td>-0.99*** (0.43)</td>
</tr>
<tr>
<td>Effective Threshold * Electoral Parties</td>
<td>0.42*** (0.14)</td>
<td>0.35** (0.12)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>20.68*** (4.04)</td>
<td>14.42** (6.71)</td>
<td>30.71*** (7.89) 27.21*** (6.73)</td>
</tr>
<tr>
<td>Observations</td>
<td>359</td>
<td>344</td>
<td>344 344</td>
</tr>
<tr>
<td>( R^2 )</td>
<td>0.000</td>
<td>0.005</td>
<td>0.051 0.043</td>
</tr>
</tbody>
</table>

Note: Data are based on 364 legislative elections from 1946 to 2002 in 23 parliamentary democracies. *\( p < 0.10; ** p < 0.05; *** p < 0.01 \) (two-tailed). Panel-corrected standard errors appear in parentheses.
Figure 3.1
The Marginal Effect of Effective Thresholds on:

- 95% Confidence Interval
  a) The Percentage of Votes for Pre-Electoral Coalitions

- Effective Number of Electoral Parties
  b) The Percentage of Parties in Pre-Electoral Coalitions

(Brambor, Clark, & Golder 2006). As should be obvious, this coefficient is substantively meaningless, and it is necessary to evaluate the marginal effect of effective thresholds at more realistic values for the number of electoral parties. This is exactly what I do in figure 3.1.
Figure 3.1 graphically illustrates the marginal effect of effective thresholds on the percentage of the vote won by pre-electoral coalitions (the top figure) and on the percentage of parties in a pre-electoral coalition (the bottom figure) as the effective number of electoral parties changes. The solid, sloping lines indicate how the marginal effect of effective thresholds ($\beta_1 + \beta_3$ Electoral Parties) changes with the effective number of electoral parties. The two-tailed 95% confidence intervals around the lines indicate the conditions under which effective thresholds have a significant effect—they exert a significant effect whenever the upper and lower bounds of the confidence intervals are both above (or below) the zero line.

As predicted, effective thresholds have a positive effect on pre-electoral coalitions only when the number of parties is sufficiently large. Specifically, the marginal effect of effective thresholds will increase the percentage of votes for pre-electoral coalitions when the effective number of electoral parties is greater than 3.5. It will increase the percentage of parties in a pre-electoral coalition when the number of parties is greater than 3.4. These results are substantively meaningful, since 48% and 56% of the sample have an effective number of electoral parties higher than 3.5 and 3.4, respectively. Thus, the evidence clearly supports the conditional Disproportionality Hypothesis that parties are more likely to be in a pre-electoral coalition and that these coalitions are more likely to be electorally successful in disproportional electoral systems so long as the party system is sufficiently large.

3.4 Conclusion

This brief analysis represents the first attempt to formulate and test hypotheses relating to pre-electoral coalitions using cross-national data. Specifically, it tests the two hypotheses most commonly made (often implicitly) about pre-electoral coalitions in the literature—the Disproportionality and Signaling Hypotheses. The results from a pooled analysis of pre-electoral coalitions in 23 parliamentary democracies from 1946 to 2002 clearly support the Disproportionality Hypothesis—parties are more likely to be in pre-electoral coalitions, and these coalitions are more likely to be successful in countries that have a disproportional electoral system and a large number of parties. Although the number of parties in a country was taken as given in this analysis, I did indicate several institutions that might encourage political parties to retain their separate identities in disproportional systems despite electoral incentives to merge or coalesce.

In contrast, there was little evidence that electoral coalitions are more likely to form when there are many parties, so as to signal the identity of future governments to voters (Signaling Hypothesis). While the evidence in support of the
Disproportionality Hypothesis seems clear, I believe that one should be cautious in rejecting the Signaling Hypothesis on the basis of this analysis alone. As my earlier discussion indicated, there are several versions of the Signaling Hypothesis, and only one variant was tested here. Moreover, the proxy for the identifiability of future governments used in this analysis was the effective number of electoral parties. It may simply be the case that this is not a particularly good proxy. The fact that countries such as the Netherlands and Israel do have a number of successful pre-electoral coalitions despite their highly proportional electoral institutions should make one wary of rejecting the Signaling Hypothesis too hastily.

The evidence presented in this chapter shows that electoral institutions play an important role in explaining pre-electoral coalition formation. Though the link between electoral rules and pre-electoral coalitions has long been suspected, this chapter is the first to systematically analyze and find evidence for such a relationship. Although this is an important step, the implication common in the coalition literature that pre-electoral coalitions are a simple function of electoral rules is probably too reductionist. After all, there are costs to forming pre-electoral coalitions. Just as government coalitions emerge out of a bargaining process between party leaders, so do pre-electoral coalitions. Party leaders who are thinking about forming a coalition must reach an agreement as to how they would distribute office benefits if they come to power. For example, party leaders have to decide which party will get to run the more powerful ministries and who is to become prime minister or president. They may also have to decide which party should step down in favor of the other at the district level. It is likely that these distributional issues will be hard to resolve in some circumstances. Political parties also have to reach agreement on a coalition policy that they would implement if successful at the polls. The fact that parties must make concessions on office and policy may explain why pre-electoral coalitions often fail to form, even when there appear to be clear electoral incentives to do so. A more nuanced understanding of pre-electoral coalition formation must take account of the distributional costs that arise during coalition bargaining, as well as the potential electoral benefits. The following chapter provides a formal model in which the electoral benefits of coalition formation are clearly weighed against the associated distributional costs. The analysis will show that it is only under particular conditions that pre-electoral coalitions actually form.