

Coalition theory: a veto players' approach

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Coalition theories have produced arguments about the importance of party positions for participation in government coalitions, but have not connected the existing government institutions (in particular agenda setting) with the coalition government that will be formed. This article presents a veto players' approach to coalition formation, which pushes the logic of non-cooperative game-theoretic models one step further: we argue that policy positions play a significant role in coalition formation because governments in parliamentary systems control the agenda of the policymaking process. As a result, the institutions that regulate this policymaking process affect coalition formation. In particular, positional advantages that a government may have (central policy position of *formateur*, fewer parties, and small policy distances among coalition partners) will become more necessary as a government has fewer institutional agenda setting advantages at its disposal. The empirical tests presented in this paper corroborate these expectations by explicitly accounting for the conditional effects of policy positions and institutional agenda setting rules on one another in a set of multilevel logit models.

Keywords: veto players; coalitions; institutions

Coalition theory: a veto players' approach

Theories and empirical research on coalition formation have been a very important part of political science for the last 50 years. This literature is very diverse: it ranges from cooperative game theory (which for the most part ignores the policy positions of parties) to non-cooperative game theory (which minimizes party distances, and calculates the 'continuation value' of a coalition formation game), to empirical studies (which identify the policy positions of different parties in the coalition formation process and their influence). We argue that coalitions depend not only on characteristics of parties but also on the institutional characteristics of a political system, in particular the agenda setting rules regulating interaction between government and parliament.

We argue that if governments are interested in the policymaking phase (not just the coalition formation game), then they will try to become more influential, either by using positional advantage (centrality) or the institutional advantage

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provided by existing legislation. Because institutional advantage precedes the coalition formation process, parties will include information about the institutions in their coalition formation calculations: if the government has strong agenda setting powers, all parties would be willing to be part of the government; if the agenda setting powers are low, only centrally located parties and parties close to each other will be able to have a policy impact and not be rolled on the floor of parliament. Consequently, in the absence of single-party majorities, parties to the left or the right of the political spectrum will be able to govern a country only if there are strong agenda setting institutions.

The implications of these analyses for the study of political systems are significant. For example, instead of arguing that Italy (of the first Republic) is a consensus system (Lijphart, 1981, 1999), or that the Netherlands are a case of extreme pluralism (Sartori, 1976), we argue that both countries have institutional structure attributing weak agenda setting powers to their governments, and as a result are governed by centrist coalitions.

In order to develop this argument, we organize this paper into five sections. First, we discuss the coalition formation literature. Second, we discuss the literature on agenda setting in parliamentary systems (Doering, 1995a, b) and the literature on executive dominance (Lijphart, 1981, 1999) that has not yet been connected to the coalition formation literature. Third, we explain how the agenda control and executive dominance literature can be merged to generate expectations on the subject of coalition formation. In the following two sections, we describe the data and empirical models employed and present our findings. In the final section, we discuss the implications of these empirical results.

Theories of coalitions

The goal of this paper is to examine the interactive impact of positional and institutional advantages on the policymaking process that, so far, has been ignored in the coalition formation literature. This paper presents a very partial but focused account of coalition formation models: we do not include models that deal with elections and coalition formation (Austin-Smith and Banks, 1988; Lupia and Ström, 1995); nor do we discuss arguments that posit that coalitions are formed as a result of party leaders striving to keep their positions (Luebbert, 1986).

The initial coalition theories based on cooperative game theory were policy-blind. They held that coalitions would form only to include the parties that were necessary to form a winning (majoritarian) coalition (Von Neumann and Morgenstern, 1944; Riker, 1962; Leiserson, 1966). More sophisticated studies such as Laver and Schofield (1990), Sened (1996), Schofield (1995), and McKelvey and Schofield (1986, 1987) have also developed models in multiple dimensions addressing the lack of equilibrium by identifying other solution concepts that would produce centrist results, even if there exists no 'core' (i.e. a set of outcomes common in all possible majority coalitions). These models produced expectations

that government coalitions will be centrally located, but because they were based on cooperative game theory (where agreements are enforceable) they ignored the institutions that regulate coalition bargaining, in particular the importance of a '*formateur*' party (i.e. a party that is assigned the task of forming the government). This party is selected by the head of state (king or president), who thus selects the future prime minister. The rules for this selection are either fixed in the constitution, the product of enduring unwritten norms, which the head of state obeys, or the product of other calculations (see below).

Non-cooperative game-theoretic models paid attention to this institutional detail and developed very different outcomes of the coalition formation process depending on the rule of selection. In particular, Baron (1991) develops a model with three parties in two dimensions based on two rules of selection: (1) a sequential rule for the selection of a *formateur*; or (2) a random selection rule (where the probability of selection of a party is proportional to its size). Each process produced significantly different outcomes. The logic of Baron's (1991) model is that the *formateur* will apply a mixed strategy regarding which party to whom he will make the offer to join him in the government formation, and that each party will estimate its 'continuation value' in the government formation game (i.e. it will see what its own utility is from rejecting the offer and letting the game continue according to the rules). In equilibrium, these utilities would be equal to each other. (The proposing party is indifferent between the two alternative proposals it can make, and both recipients are indifferent between accepting and rejecting.) As a result of this logic, 'equilibrium policy proposals reflect the preferences of the parties out, as well as in, the government' (Baron, 1991: 156).

Another property of the model, as Baron explains, is that 'the policies considered here are not intended to represent policies that need either legislative approval or agreement within the cabinet for their implementation. The formation of a government thus need not be cemented by the allocation of portfolios or ministries but, instead, is identified by a policy program that is sustained by a majority on a vote of confidence' (Baron, 1991: 139–140). According to this logic, there are two central conditions in the model. First, it ignores the effects of portfolio allocation (for alternative non-cooperative models, see Crombez (1996) and Kalandrakis (2000)). Second, it assumes that coalition bargaining is distinct from policymaking. We will focus on this point, which is the fact that the agreements examined in his model are independent from ratification by parliaments or governments. Yet the reason that governments are formed is for the selection and implementation of policies.

There has been a model that focuses on both policy production and implementation: Laver and Shepsle's (1996) model of portfolio allocation focuses on the agenda setting role of government. The model assumes that each minister has exclusive jurisdiction over his area of expertise, and that agreements are not enforceable; this means that each minister will implement his own preferences when he receives his portfolio. Consequently, the only choices available in the

coalition formation process concern which portfolio will be allocated to which party. (This way the infinite space of outcomes that defeat the status quo in a multidimensional model gets reduced to a finite one.) This model has the additional advantage of coming to specific predictions, not just producing existence results. However, Warwick (1996) has raised serious questions about the empirical reliability of this model and we echo his concerns.

In this paper, we take a different tack than both Laver and Shepsle (1996) and Baron (1991): unlike Laver and Shepsle (1996), we will assume that governments have a collective responsibility and select and implement the agreements they make. Also, in contrast to the Baron (1991) approach, these agreements need to be ratified by parliament, and thus one has to examine the institutions regulating the interaction between governments and parliaments ('agenda setting' or 'executive dominance'). Because governments may have more or less power to do as they wish, this information should enter into our calculations of how and which coalitions form.

Executive dominance and agenda control

In political science, a classic and fundamental distinction among different countries is their regime type: are they presidential or parliamentary systems? The distinction between these regime types is clear: a division of powers in presidential systems, stemming from separate elections of the executive and legislature and the lack of political responsibility of one to the other, and a collaboration of powers in parliamentary systems originating only from the election of the legislature, and the ability of the legislature and the executive to dissolve each other and go back to elections. The literature on these distinctions and on the characteristics of the two different systems is expansive and ever-growing (for a recent literature review, see Elgie, 2005).

Recently, more nuanced approaches have emerged concerning the study of regime type. These unify the different regimes and examine their properties regardless of regime type; the first example of this is Lijphart's consociationalism approach as presented in his books *Democracies* (1981) and *Patterns of Democracy* (1999); the second is Tsebelis' veto player approach in *Veto Players* (2002). Lijphart (1981, 1999) consociationalism approach divides political systems based on whether regimes are majoritarian (a regime that assigns decisions to a simple majority of the people) or consensus (a regime that assign decisions to 'as many people as possible') (1999: 2). On the other hand, Tsebelis' (2002) veto players' approach focuses on the number and ideological distance of individual or collective actors whose agreement is necessary to change a status quo (SQ).

Both of these approaches identify differences between presidential and parliamentary systems, but not in the rigid way that is inherent in the definitions used in the traditional regime-types literature. In the consociationalism approach, the difference exists in the 'executive dominance' variable, while in the veto players'

approach, the difference lies in the number of veto players and their ideological distances as well as agenda setting power. Presidential systems have (on average) a greater number of veto players, and thus larger ideological distances among them than parliamentary systems. In addition, in presidential systems the legislative agenda is controlled by the legislature; in parliamentary systems by the executive. Other rational choice models also point out that the distribution of agenda setting power is a major difference between presidential and parliamentary systems (Diermeier and Feddersen, 1998; Persson and Tabellini, 2000). These analyses point to the general conclusion that policymaking power is concentrated in the hands of governments in parliamentary systems and in the hands of parliaments in presidential ones – exactly the opposite of what their names would suggest.

Lijphart focuses on the ‘executive dominance’ variable, which measures ‘the relative power of the executive and legislative branches of government’. He asserts that, ‘for parliamentary systems, the best indicator [for executive dominance] is cabinet durability’ (1999: 129). This ‘executive dominance’ variable has been criticized by Tsebelis (2002) on grounds of logical consistency, but we will use it here as an indicator of what a prominent political scientist believes to be the relationship between the executive and the legislature. The empirical results will demonstrate that it is indeed relevant and helpful.

A more convincing and theoretically coherent approach to the relationship between governments and parliaments is offered by Doering (1995a, b) in a series of articles about agenda setting.

Doering (1995a, b) explains that the power of agenda setting is the reason why governments in parliamentary systems dominate the policymaking process. Among the many possible policy solutions available, the government is able to select their preferred policy choice to propose before the parliament; and they have the institutional means to defend the policy and prevent it from being altered on the floor of the parliament. Doering (1995a, b) identifies seven variables that contribute to the agenda setting powers of governments when producing common legislation.

1. *Authority to determine the plenary agenda of parliament.* This variable has seven modalities; the two extremes are that the agenda can be determined by the government or by the parliament alone.
2. *Money bills as government prerogative.* While this prerogative belongs to the government in all countries, in some countries members of parliament are restricted from proposing money bills.
3. *Is the committee stage of a bill restricted by a preceding plenary decision?*
4. *Authority of committees to rewrite government bills.* This addresses the question of whether the government bill reaches the floor with comments by the committee, or does the committee amend the government bill and submit its own proposal to the floor?
5. *Control of the timetable in legislative committees.*
6. *Curtailing debate before the final vote of a bill in the plenary.*

7. *Maximum lifespan of a bill pending approval, after which it lapses if not adopted.* The shorter the lifespan of a bill if not adopted by parliament, the more imperative the agenda setting power of the government.

Table 1 provides the score of each country in each of the seven agenda control variables, along with the first factor of a principal components analysis performed by Tsebelis (2002). The first eigenvalue explained 47% of the variance. Doering's (1995a, b) assessment of agenda setting powers remains the most advanced indicator in the literature of parliamentary systems because he has compiled a series of objective indicators about agenda control, regardless of the regime type (i.e. parliamentary, semi-presidential, and presidential systems).¹ Doering's (1995a, b) agenda control and Lijphart's (1981, 1999) executive dominance indicators both revolve around the same idea: the critical variable is the ability of governments to select the policies they prefer as opposed to having them massively amended by parliaments. Having discussed these two different groups of theories, we will now connect them and show the relevance of agenda setting for coalition formation.

Veto players: merging coalition theories and agenda control

There are a series of findings replicated in the empirical literature that could be attributed to several theoretical approaches, and then there is one that has been effectively orphaned, left unchallenged (empirically) and unexplained (theoretically). We explain this as yet unverified finding through a combination of the coalition theories presented in the first part of this paper, and the agenda setting ones presented in the second.

The findings that corroborate several theories are the following: first, government *formateurs* are centrally located parties; second, other parties have a higher probability of participating in governments the closer they are ideologically to the *formateurs* and the further the *formateurs* are from the center of the political spectrum. The finding that is an 'orphan' stems from the fact that *government* characteristics, not parliamentary ones, account for the longevity of parliamentary governments.

The centrality of government *formateurs* and parties has been tested by Warwick (1998) and confirmed through a different methodology by Martin and Stevenson (2001). Warwick (1998) tests theoretical models by Crombez (1996) based on non-cooperative game theory and Sened (1996) based on cooperative game theory. The reason for the centrality of government *formateurs* is that centrist parties (if they are selected as *formateurs*) can find parties located close to them in every direction in the policy space while for extremist parties this is only

¹ Doering (2001) has more recently included 'fighting fire with fire' in his agenda setting indicators. We will not recalculate the summary indicator from veto players, because the differences are minor, and it has been used by other researchers.

Table 1. Government Agenda Control (Doering, 1995a)

Country	Plenary agenda	Financial initiative	Committee	Re-write	Time table	Financial voting	Lapse bill	Agenda control
Austria	4	3	3	3	2	2	2	-0.044
Belgium	4	3	3	4	3	2	3	-0.170
Denmark	5	3	2	1	4	2	1	-0.106
Finland	5	3	3	4	1	3	2	-0.148
France	2	1	3	1	2	1	3	0.333
Germany	4	3	3	4	3	2	2	-0.126
Greece	2	2	3	2	2	1	2	0.280
Iceland	5	3	3	1	4	2	1	-0.170
Ireland	1	1	1	4	1	2	2	0.519
Italy	6	3	3	4	2	2	2	-0.219
Luxembourg	3	3	3	3	2	2	4	-0.053
The Netherlands	7	3	3	1	4	3	4	-0.527
Norway	4	3	3	4	2	2	2	-0.063
Portugal	3	1	3	3	2	2	3	0.147
Spain	4	1	1	4	2	2	2	0.221
Sweden	5	3	3	4	4	3	4	-0.427
Switzerland	3	3	3	4	3	2	4	-0.135
United Kingdom	1	1	1	1	1	1	1	0.690

true in one direction – toward the center. Non-centrist parties (if they are selected as *formateurs*) can find more parties in close proximity toward the center than at the extremes (and they may not find other extremist parties if they are extremists themselves). Given that all the ideological models consider minimizing ideological distances as one of the components of party goals (the other being maximizing government seats for each party), centrist governments will indicate a higher goal achievement than extremist ones.

The other half of this finding is that government survival depends on government characteristics (i.e. decreases with the number of parties in government and their ideological distance) and not on parliamentary characteristics as other coalition theories predict. This finding is surprising because game-theoretic models of coalition formation calculate the ‘continuation value’ of the different party moves (i.e. what will happen if a proposal is not accepted). All of these calculations are based on the characteristics of the parliament that forms the different coalitions, since it is the parliament that will accept or reject any coalition formation. How do we make sense of these two different interpretations?

One could think that government and parliament characteristics correlate, since multiparty systems generally give birth to multiparty governments. This expectation on the average is true, but there are several multiparty systems that generate single-party minority governments (Norway) or single-party majority governments (Greece). When Warwick (1994) introduced both parliament and government

characteristics in his empirical estimations of government duration, the parliamentary features dropped out and only the ideological distances of parties remained a significant variable. These results were corroborated by Saalfeld (2010) who finds that it is the number of parties in government (not their distances) that matters. Here we provide a unified framework that explains all of these empirical features and generates additional empirical expectations that will be confirmed in the final part of this paper.

Parties participate in parliamentary government because they are strongly interested in policies and because governments more or less control the agenda in parliamentary systems. Discussing the issue of agenda setting, Tsebelis (2002) has argued that there are institutional, positional, and partisan advantages. In the coalition formation game we ignore the partisan advantages (since we are discussing coalitions it means that there are no stable partisan majorities) and we instead focus on institutional and positional advantages.

First, let us explain why coalition partners prefer to minimize the ideological distances among them. If they are interested in policymaking as this article assumes, they are seeking to increase the winset of the SQ, that is, they want to increase the number of alternatives they have for policymaking. In Figure 1, we present a simple case of a three-party coalition where all distances among the parties can decrease at the same time. This is a case where the smaller distance solution is preferred no matter where the SQ is located. It should not be perceived as a general formula able to predict which party will enter a coalition, because the outcome usually depends on the position of the SQ. Consider that party A is the *formateur*, and has a choice among two possible situations: the two other coalition partners are closer (parties B1 and C1) or further away (parties B and C) from its ideological position. Figure 1 shows that no matter where the legislative SQ is located party A will have more options in coalition AB1C1 than in coalition ABC. This is because the winset of the SQ with respect to ABC is contained within the winset of AB1C1, no matter where SQ is located. Both parts of Figure 1 indicate that if party A controls the policy-making agenda it can select its own ideal point if the coalition is AB1C1, but will have to accept something less with ABC.

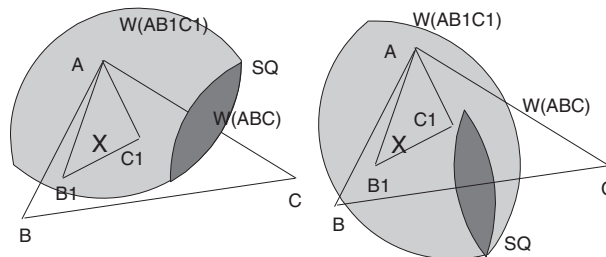


Figure 1 Effects of ideological distance on policymaking.

However, it should not be taken for granted that the *formateur*, in this case the prime minister, controls the agenda. While some of the literature has made this point (Huber, 1996), other authors maintain that the prime minister is in charge (Laver and Shepsle, 1996), or in some cases the minister of finance (Hallerberg and von Hagen, 1999). There is no systematic evidence in the literature by which to investigate the veracity of all these claims. In Figure 1, we can dispute this assumption, and attribute agenda setting power to B or B1 (in the case of the ABC or AB1C1 coalition). Still, the *formateur* (party A) is better off with a coalition AB1C1 than ABC. Indeed, if B controls the policymaking agenda it will select the point closer to it in $W(ABC)$, which is further away from A than B1 (the point that will be selected if B1 controls the agenda). Finally, we can consider another assumption that the government divides agenda setting rights among its different components, so that the whole process is *as if* the actual agenda setter is somewhere in the triangle ABC or AB1C1. Still, the conclusions are not altered, because this fictitious actor will make his best proposal within the winset of the SQ, and again this proposal will be better for actor A in the AB1C1 case than in ABC. In Figure 1, we have drawn the indifference curves of an actor X located somewhere inside the triangle AB1C1.

Thus, our argument is that the reason parties minimize the distances among coalition government partners is because they will be able to implement more plans, or respond to more shocks, the closer they are to each other. This point, though constantly assumed in the literature, is nevertheless rarely clearly articulated or substantiated. In addition, because the policymaking aspect has been ignored, the institutions regulating the interaction between government and parliament have not been included in the analysis. To this unexplored point we now turn.

Why should the *formateur* be a centrist party instead of an extremist one? In the non-cooperative game-theoretic literature *formateur* selection is either random, or given through an exogenous rule; also, (under complete information) the first *formateur* will be able to form a government, regardless of his policy position (Baron, 1991). By contrast here we endogenize *formateur* selection and connect it to the policymaking process leading to different expectations. Think of a party without a parliamentary majority (say, the *formateur* of a parliamentary government) who has to select partners for a coalition. First, we will give a narrow interpretation of Figure 2, then we will use the argument surrounding Figure 1 for a wider interpretation. In the more narrow interpretation, Figure 2 presents a five-party parliament with parties of relatively equal strength (a majority requires three of them) and explains why it is more reasonable that the *formateur* will be selected in the center of the political spectrum (party G) and will select other parties as a function of the agenda setting powers available.

Any one of the peripheral parties will require a stable three-party majority. In order for this majority to include party G (like ABG or BCG), the *formateur* party will have to offer G more policy advantages than it could get by itself (otherwise

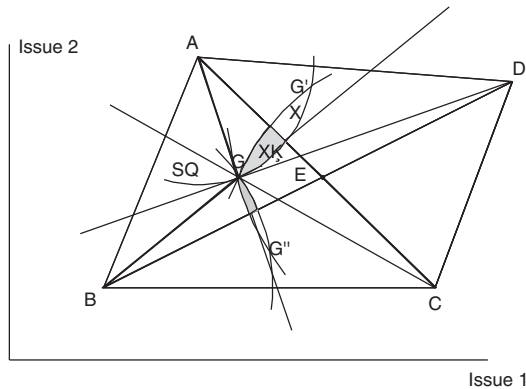


Figure 2 Effect of centrality of *formateur*.

G would not be willing to participate in the government), and if it does not include G (like ADC or BCD) they will have to be able to make proposals that will get a majority despite the lack of support by G. In all cases, the analysis would have to include what G is able to do by itself in terms of policy.

The entire policy space can be divided into three mutually exclusive and collectively exhaustive subsets: the points preferred to G by a majority (the interior of two lenses called GG' and GG'' in the figure), the points for which a majority is indifferent to G (the broader of the two lenses), and the points that are defeated by G by a majority (the rest of the plane).

As a result G will be a very expensive partner to be included in a coalition, and a coalition without G has very little chance of policy success. Chances are that nobody else will be nominated to form a government, and even if they were, they would not accept the offer.

So far we have discussed a narrow interpretation according to which G was a single, minority party. However, on the basis of the argument just presented concerning the hypothetical policy agenda setter in Figure 1 (point X in that figure), G could already be a minority coalition (if it were a majority coalition it would most likely not have a problem of selecting further allies). But will G agree to form a government if it is in a minority?

Step by step, we will examine the policy advantages that G has if it forms a minority government under a series of different agenda setting rules. In particular, we will focus on the relation between institutional and positional advantages. We will demonstrate that the institutional agenda setting advantages to the government, while always welcome, are more important for an extremist agenda government than for a centrist one. We will consider three different rules. First, we consider a closed rule (the government can bring a 'take it or leave it' proposal to the floor of the parliament). Then we will consider agenda setting rules that include the ability of the government to make the last amendment on the floor of

the parliament (assuming that the corresponding minister can offer the last amendment, or an MP who belongs to party G). This rule is what Weingast (1992) has called 'fighting fire with fire', and which Heller (2001) has demonstrated exists in many countries. Finally, we will consider an open rule according to which members of parliament can modify the government's proposal any way they want.

1. Under the closed rule, G can have its own preference voted by a majority in parliament as long as the SQ is not included in the lenses GG' or GG'' . From the findings in Figure 2 it is obvious that as G approaches the intersection E of the two diagonal lines connecting the four extreme parties the size of these lenses shrinks.² If the SQ is located inside the shaded part of the lenses, the government cannot guarantee itself a better outcome, so it will probably leave the SQ as it is. If it is in the non-shaded part of the lenses, it can propose something inside the shaded area that will prevail (the symmetric of SQ with respect to the corresponding diagonal gets a majority).

2. Under the 'fire by fire' rule, the only amendments that can defeat G are inside the two lenses. If such an amendment is proposed in the shaded areas the government will let it stand; if it is in the non-shaded areas of the lenses, the government will counterpropose another amendment that falls within the shaded part of the corresponding lens and this amendment will be the final outcome.

3. Under open rule, when the government proposes its own ideal point, anything inside the lenses GG' and GG'' can be proposed on the floor, and it will defeat G.

In conclusion, a minority government of G has the ability to obtain outcomes inside the shaded area of the two lenses under the closed rule or fire by fire rule, and inside the whole lenses under the open rule. The area of the final outcome shrinks as the government moves to the center of parliament. In other words, the government has two distinct advantages: the centrality of its location inside parliament (positional advantage), and the agenda setting rules (institutional advantage).

Figure 2 is an example of an unusual feature: if G is located in the intersection of the two diagonals, it is the multidimensional median in the (two dimensional) policy space. However, the argument we made above is more general than the five parties and two dimensions presented in Figure 2. If the number of parties and policy dimensions increases, instead of focusing on the intersection of the two dimensions, one would have to see the distance of the government party or coalition from the center of the yolk (Ferejohn *et al.*, 1984; Tsebelis, 2002) of the party system. As this distance increases, the positional advantage of the government decreases.

These two advantages (the institutional and positional) are not simultaneously attributed to governments. The institutional advantage is pre-existing, inscribed in

² In the particular case we present here, when G coincides with E it will be able to win all the time (the winset of G is empty). In general, this will not be the case. There will be different lenses and they will all be minimized when G is in the center of the yolk (Ferejohn *et al.*, 1984) of the parliament (see Tsebelis, 2002) for a discussion of collective veto players along these lines).

the institutional rules of agenda setting (studied and formalized explicitly by Doering (1995a, b) and implied by Lijphart (1981, 1999), in their indicators). The positional advantage is generated with the coalition formation process. A government without institutional or positional agenda setting advantages cannot have its policy proposals accepted. As a result, the positional advantage will be more worthwhile in policymaking terms the lower the level of agenda setting privileges that a government has. Governments with lots of agenda setting powers will not care very much about positional advantages, while governments with low agenda setting powers will be as effective as their positional advantages permit.

This relationship between institutional and positional advantages is the focus of the empirical investigation of this paper. As shown in Figure 1, it is always better to have smaller ideological distances among coalition partners, and it is always better for the government to be centrally located, as is displayed in Figure 2. However, institutional advantages in agenda setting may subsume these positional advantages. In the absence of institutional advantages, centrality of the *formateur* and small ideological distances among coalition partners will be necessary. So, our hypotheses can be summarized as follows:

HYPOTHESIS 1: As a government has less institutional advantage at its disposal, central policy position of *formateur* becomes necessary.

HYPOTHESIS 2: As a government has less institutional advantage at its disposal, small policy distance among coalition partners becomes necessary.

Out of the two hypotheses, the second is expected to have stronger empirical corroboration, because it depends on the political actors that participate in the government coalition. The first one (*formateur* selection), however, is determined by multiple factors, not just by the political game. For example, in certain countries (e.g. Greece) it is determined by the constitution. In others, there are strong norms to appoint the largest party. Finally, the choice is made by the head of state (king or president) and it depends on his understanding of the situation (e.g. whether the first party won or lost in the last election, how close this party is to his/her own policy positions). An interesting example in that respect is Sandro Pertini who, as president of the Republic of Italy, avoided appointing a Christian Democrat to the position of prime minister, despite the presence of a strong norm. Being a Socialist himself, he appointed the first Socialist prime minister of Italy (Betino Craxi in 1983) as well as a prime minister from the small Republican party (PRI; Giovanni Spadolini in 1981). He even made unsuccessful attempts to appoint other small party prime ministers (Ugo La Malfa from the PRI). The most recent government formation negotiations in Italy where President Napolitano, after selecting the person with a majority of votes in the Lower House (who failed to secure a majority in the Senate), is now focusing on the selection of the appropriate personality outside

party establishments, indicates that parties in parliament may not be the only factors determining *formateur* selection. All these factors are expected to produce a significant amount of noise in the data, and therefore Hypothesis 1 will have weak (if any) corroboration.

Data and models for analysis

Policy position is a major determining factor in the process of the coalition formation of parliamentary governments. Warwick (1998) has studied the positional advantage of coalition governments, but he did not condition that positional advantage on agenda setting powers. The empirical analysis of this paper replicates Warwick's (1998) positional findings, and then remedies its shortcomings by conditioning them on the agenda setting indicators of Doering (1995a, b) (i.e. agenda control) as well as Lijphart (1999) (i.e. executive dominance). Following the established theoretical findings of the literature, we consider a two-step process in our model: first, the selection of a *formateur*, and second, the formation of the government (conditional upon the selection of a *formateur*).

Data

Dependent variables. The two dependent variables are *formateur* party selection, a dummy variable coded '1' for *formateur* parties and '0' for non-*formateur* parties, and government membership status, a dummy variable coded '1' for parties that entered the government and '0' for parties that did not. The *formateur* party is the party of the individual who forms the government.

Positional variables. The three positional variables – party and *formateur* non-centrality, party-*formateur* distance, and party-system polarization – used in this paper are generated by the same process as employed by Warwick (1998). We will not give a detailed report on the data generating process here. However, what is interesting to note is that the positional data used in this paper were generated in a cumulative way: starting with an article by Crombez (1996), developed in the following work by Warwick (1998) and then expanded in our research. Warwick found that the government formation process (conditional upon the selection of a *formateur*) leads to the inclusion of more parties when the *formateur* is smaller or not centrally located, and even more so if these parties are in ideological proximity with the *formateur*.

We expand Warwick (1998) dataset up to 2003 by using the *Comparative Manifestos Project (CMP)* dataset.³ We first extracted two-dimensional factor scores

³ Warwick's (1998) analysis covers 15 West European parliamentary democracies in the 1945–89 era and incorporates two different measures of ideological positions – European Manifestos Project (EMP), and expert opinion data on left-right party positions (LR). The empirical results in this paper were stronger when we used the same data (both EMP and LR) and methods as Warwick (1998). The interaction terms with agenda power and executive dominance were statistically strong with $P < 0.000$.

from the CMP data and then calculated three positional variables following Warwick's definitions (1998).⁴ First, party noncentrality (or *formateur* non-centrality) is calculated in each parliament as the squared distance of the party (or the *formateur*) from the centroid of all parties' positions divided by the sum of all parties' squared distances from the centroid. Second, party-*formateur* distance – the distance between a party's policy position and that of the *formateur* – is measured by the squared distance between the two parties' positions divided by the sum of all parties' squared distances from the centroid. Finally, party system polarization – the degree of policy distance among all parties – is measured by means of the standard deviation of the parliamentary party system.⁵

Agenda setting power. Agenda control and executive dominance are measured by Doering (1995a, b) and Lijphart (1981, 1999), respectively. The interaction terms between positional variables and agenda setting power are used to examine how the pre-existing institutional power reduces the impact of positional advantage on government formation.

The other variables used for the analysis are the party size and *formateur* size, representing, respectively, the proportions of parliamentary seats held by the party and the party that actually formed the government. Pro-system fractionalization is Laakso-Taagepera's (1979) 'effective number' of pro-system parties in the legislature. High party system fractionalization may enhance the formation of minority governments because it hinders the formation of winning coalitions (Dodd, 1976). It may also do so by improving the largest party's bargaining position (Crombez, 1996). Total party system fractionalization is

⁴ The retention of just two factors is arbitrary, but consistent with the previous studies: Warwick (1998), Crombez (1996), and Budge *et al.* (1987). Warwick (1998) produced the same results with even more elaborate procedures. For the same set of parties that Warwick uses, the extracted positions correlate at more than 0.9 for the first and second dimension. To run principal component factoring, we used a total of 56 institutional dimensions. We also rotated the factor load (as the weighted correlation between each institutional dimension and the factor) to ensure the two factors are not correlated to each other ($r = 0.0031$).

To ensure that systems with larger numbers of parties or elections do not thereby have disproportionate influence on the results, we employed a weighting scheme that weights each country equally. We also tested the results without Greece and the United Kingdom, which have small numbers of parties and governments in our sample. The main results not only held but were stronger.

⁵ This measure of polarization is as follows:

$$\sqrt{\sum_{j=1}^m \sum_{i=1}^n p_i (x_{ij} - \bar{x}_j)^2}$$

Where p_i is the proportion of seats held by party i , x is its position on a policy or ideological scale j , x_j is the weighted mean position to parties on that scale, and the summations are over the n parties and m policy dimensions of the system (Dodd, 1976: 105–106).

Although the noncentrality and distance variables measure the distance of a party relative to the other parties in the 'same' parliament, party-system polarization measures the ideological spread of a parliament compared with other parliaments. Polarization of the party system is expected to encourage the formation of a smaller government because larger distances among parties are likely to increase their policy costs relative to the portfolio benefits of joining governments.

likely to be highly correlated with party system polarization because a fragmented parliament tends to be polarized. To make the effect with numbers alone, following Warwick (1998), we use only the pro-system parties, the parties that are involved in coalition bargaining.⁶ The newly generated variables in this paper are all highly and strongly ($P < 0.000$) correlated with the initial ones generated by Warwick (1998).⁷

Models

In this paper, we build a series of regression estimates of *formateur* party selection (Table 2) and government membership (Table 3) between 1945 and 2003 for 17 West European parliamentary governments: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, and the United Kingdom. The observations in the analysis are based on the number of parties in the legislature. Since the focus is on coalition governments, we exclude parliaments with majority parties (See Crombez, 1996; Warwick, 1998). For the period under consideration (1945–2003), this yields 388 parliamentary governments and 2671 parties.⁸

The dataset used for this research has a hierarchical structure: parties (level 1) are nested within government formation opportunities (level 2), which themselves are nested within countries (level 3). The model includes predictors from each level as well as cross-level interactions. Running a standard logit model (as Warwick, 1998, did) would ignore the multilevel structure of the data. As a consequence, the resulting confidence intervals for the coefficients of the higher-level variables would be too small. For instance, the agenda control and executive dominance variables vary only by country. However, the unit of analysis is individual parties. Therefore, the standard error estimates of the country-level variables will be based on more observations (number of parties) than there actually are (number of countries). Ignoring this clustering in the data would violate the assumption that the observations are independent (Steenbergen & Jones, 2002; Gelman & Hill, 2007). The preferred model is thus a multilevel logit model, which takes into account the clustering in the data. We first estimated a three-level mixed-effects logit model. However, the results suggested that there was very little variance (close to zero) of the random effects for the second level (government formation opportunity), making it sufficient to account for

⁶ The ‘effective number’ of pro-system parties is the inverse of the sum of squared (pro-system) party proportions of parliamentary seats. There is no significant difference between the empirical results with pro-system fractionalization and total party system fractionalization.

⁷ Correlations between Warwick’s data and ours are the following: *formateur*-noncentrality: 0.81, party-*formateur* distance: 0.69, pro-system fractionalization: 0.95, and party system polarization: 0.81.

⁸ Consistent with Warwick (1998) and standard practice (e.g. King *et al.*, 1990), a government is considered formed when a head of state appoints it and ends ‘when it resigns, is defeated in parliament, changes its prime minister or party composition, or an election occurs (Warwick, 1998).’

Table 2. Impact of positional advantage and agenda setting power on *formateur* selection

	Basic models			Complete models		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Size and position						
Party size	13.315*** (0.629)	13.342*** (0.633)	13.370*** (0.632)	14.476*** (0.725)	14.525*** (0.734)	14.563*** (0.733)
Party noncentrality	-1.963*** (0.458)	-1.735*** (0.497)	-2.995*** (1.099)	-1.653*** (0.452)	-1.470*** (0.486)	-2.266** (1.069)
Agenda setting power						
Agenda control		-1.001 (0.663)			-0.863* (0.460)	
Party noncentrality × agenda control		1.720 (1.741)			1.302 (1.674)	
Executive dominance			-0.217* (0.131)			-0.181** (0.081)
Party noncentrality × executive dominance			0.375 (0.347)			0.244 (0.333)
Controls						
Pro-system fractionalization				0.504*** (0.078)	0.518*** (0.076)	0.532*** (0.073)
Party-system polarization				0.294 (0.237)	0.311 (0.234)	0.201 (0.218)
Constant	-4.439*** (0.240)	-4.538*** (0.250)	-3.829*** (0.432)	-6.799*** (0.512)	-6.959*** (0.521)	-6.307*** (0.512)
Random effects: country (variance)	0.249	0.247	0.238	0.033	0.016	0.000
Number of observations	2324	2324	2324	2324	2324	2324
Number of countries	17	17	17	17	17	17
Log-likelihood	-690	-689	-689	-672	-670	-669

Notes: Multilevel logit model.

Units of analysis are individual parties.

The dependent variable is coded '1' to indicate that the party is a *formateur* party and '0' otherwise.

Standard errors are given in parentheses.

Statistical significance is based on the two-tailed tests.

*** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$.

Table 3. Impact of positional advantage and agenda setting power on government membership

	Basic models			Complete models		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Size and position						
<i>Formateur</i> size	-3.733*** (0.553)	-3.698*** (0.554)	-3.778*** (0.556)	-3.834*** (0.618)	-3.853*** (0.619)	-3.923*** (0.623)
<i>Formateur</i> noncentrality	3.465*** (0.501)	3.218*** (0.526)	4.238*** (1.183)	3.533*** (0.506)	3.277*** (0.533)	4.355*** (1.187)
Party- <i>formateur</i> distance	-1.261*** (0.179)	-1.111*** (0.186)	-2.243*** (0.410)	-1.258*** (0.180)	-1.112*** (0.187)	-2.238*** (0.413)
Agenda setting power						
Agenda control		-0.935 (0.675)			-0.871 (0.653)	
<i>Formateur</i> noncentrality × agenda control		-3.647** (1.816)			-3.618** (1.820)	
Party- <i>formateur</i> distance × agenda control		1.892** (0.747)			1.898** (0.745)	
Executive dominance			-0.115 (0.130)			-0.098 (0.126)
<i>Formateur</i> noncentrality × executive dominance			-0.268 (0.360)			-0.289 (0.361)
Party- <i>formateur</i> distance × executive dominance			0.346*** (0.126)			0.344*** (0.126)
Controls						
Pro-system fractionalization				-0.015 (0.080)	-0.028 (0.081)	-0.027 (0.080)
Party-system polarization				-0.312 (0.207)	-0.290 (0.208)	-0.279 (0.208)

Table 3. (Continued)

	Basic models			Complete models		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	0.192 (0.247)	0.119 (0.253)	0.511 (0.454)	0.638 (0.490)	0.604 (0.496)	0.928 (0.605)
Random effects: country (variance)	0.333	0.325	0.304	0.298	0.294	0.271
Number of observations	1902	1902	1902	1902	1902	1902
Number of countries	17	17	17	17	17	17
Log-likelihood	-1066	-1062	-1061	-1064	-1061	-1060

Notes: Multilevel logit model.

Units of analysis are individual parties.

The dependent variable is coded '1' to indicate that the party is a member of the government and '0' otherwise.

Standard errors are given in parentheses.

Statistical significance is based on the two-tailed tests.

*** $P < 0.01$, ** $P < 0.05$, * $P < 0.1$.

the two-level structure (parties and countries). We thus estimate a two-level mixed-effects logit model and present the results in Tables 2 and 3.⁹

Results of multilevel logit analysis

Table 2 presents the impact of the positional variable (i.e. party noncentrality) and agenda setting power (i.e. agenda control and executive dominance) on *formateur* party selection. Basic models (Models 1, 2, and 3) include party size and noncentrality, and complete models (Models 4, 5, and 6) include pro-system fractionalization and party-system polarization as additional controls. Models 1 and 4 replicate Warwick's (1998) tests and report the results without the interaction of party noncentrality with agenda setting power. Models 2 and 5 include interactions of party noncentrality with agenda control, and Models 3 and 6 introduce its interactions with executive dominance. The basis variable (agenda control or executive dominance) is introduced in the models with interaction terms in order to produce results that do not depend on the unit of analysis, but there is no expectation concerning signs or significance. All else being equal, centrally located parties tend to be selected as the *formateur*, yet if the agenda setting power is strong in the government, this positional advantage should matter less for the selection process. The expectation is that noncentrality is negatively associated with *formateur* selection, but the interactive terms (party noncentrality \times agenda control and party noncentrality \times executive dominance) are positively associated with it.

The results in Table 2 show that party size and party noncentrality, respectively, are positively and negatively associated with *formateur* selection with strong statistical significance. As expected, *formateur* parties tend to be formed by larger and more centrally located parties. The interactive terms have the expected opposite (positive) signs despite weak statistical significance. The results are robust even when additional controls such as pro-system fractionalization and party-system polarization are included in the complete models. The results indicate that even when a party is less centrally located, if the government has

⁹ To check the robustness of the results, we employed two tests. First, following Martin and Stevenson's (2001) suggestion, we ran a conditional logit of *formateur* selection. The premise is that the data are set up as a panel of government formation opportunities and potential *formateur* choices, and only one party can have a positive outcome. The conditional logit model attempts to explain which observations within each government formation opportunity had positive outcomes. Variables that do not vary within a group play no role in the explanation. Second, we used Bayesian estimation using the Markov Chain Monte Carlo methods which, unlike maximum likelihood procedures, assume that there is a stochastic element to the estimates obtained. Our multi-level models, like other political science models, have relatively large samples of units (parties) nested within relatively small samples of units (countries). Raudenbush and Bryk (2002) suggest that when the number of groups (level 2) is small, a Bayesian example produces more meaningful and interpretable results of data analysis. We tested the robustness of the results with the Bayesian estimation. Still, the main results were robust for the different methods and even stronger for the interaction terms with executive dominance.

stronger agenda control and executive dominance, the party still tends to become a *formateur* party.¹⁰

Table 3 presents the impact of positional variables (i.e. *formateur* centrality and party-*formateur* distance) and agenda setting power (i.e. agenda control and executive dominance) on government membership. Basic models (Models 1, 2, and 3) include *formateur* size, *formateur* noncentrality, and party-*formateur* distance, while the complete models (Models, 4, 5, and 6) include additional controls for pro-system fractionalization and polarization. Both of the models are the same as used in policy tests conducted by Warwick (1998); a logit model of the inclusion of parties in government, conditional upon the selection of the *formateur*. But unlike Warwick (1998), we also take into account the multilevel structure of the data. Models 1 and 4 replicate Warwick's (1998) tests and report the results without the interaction variables. Models 2 and 5 include the interactions of *formateur* noncentrality and party-*formateur* distance with agenda setting, and Models 3 and 6 include their interactions with executive dominance. Other things being equal, *formateur* parties that are more centrality located should form smaller governments and the *formateur* parties should seek partners from their ideological neighbors and should be successful in attracting partners as the ideological distance is closer. However, *formateur* parties should care less about these positional advantages when agenda setting power is strong. Therefore, *formateur* noncentrality and party-*formateur* distance are expected to have positive and negative signs, respectively. However, their interactive terms with agenda control and executive dominance should produce opposite signs (i.e. negative and positive signs).

The results in Table 3 strongly support our expectations. *Formateur* noncentrality and party-*formateur* distance, respectively, show a significant positive and negative impact on the odds of government membership. The results clearly support the hypotheses that the centrality of a *formateur* party should increase its likelihood of forming a smaller government and that larger policy distance from the *formateur* should reduce a party's likelihood of participating in the government. The coefficients for the interactive terms are highly significant with expected opposite signs with interaction terms, and agenda control producing more significant results than those with executive dominance. The results also hold even when other party characteristics such as pro-system fractionalization and party-system polarization are taken into account in the complete models. The results strongly confirm our argument that the existence of *strong agenda setting* institutions leads governments to pay *less* attention to *positional advantages*.

¹⁰ One may argue that being the largest party rather than party size matters most for *formateur* selection. However, less than two-thirds of the governments considered in this paper were formed by the largest party in the parliament. We therefore use party size and noncentrality as predictors of *formateur* selection, but test the results with the largest party dummy (largest party = 1, otherwise = 0) and noncentrality. Not only did the results show the same signs, but they also gave stronger support for our argument. The interaction term between largest party noncentrality and agenda control was much stronger ($P = 0.11$).

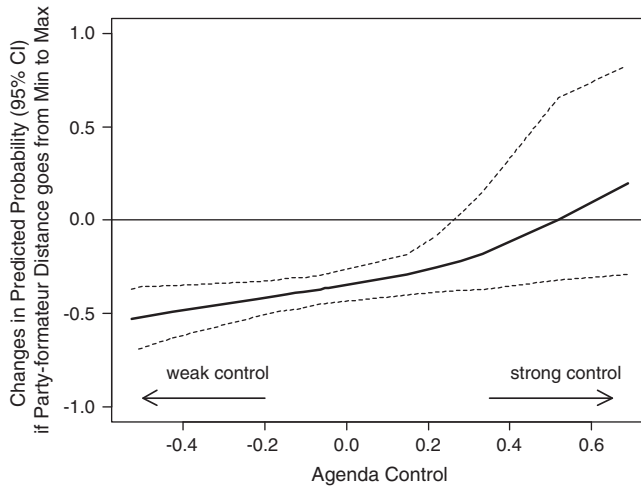


Figure 3 Changes in predicted probability of government membership as a function of party-*formateur* distance and agenda control.

As we expected, size and noncentrality effects are very apparent indicators for government membership patterns, but not as strong for *formateur* selection (the signs are correct but conventional statistical significance is absent).

While the coefficient and standard error estimates presented in Tables 2 and 3 give us a first look at the conditional relationships between institutional and positional advantages in the choice of both *formateur* and government formation, the appropriate test for an interactive logit model is to look at the specific shape of the 95% confidence interval (See Franzese, 2003a, b). Figures 3 and 4 are derived from the complete models with interaction terms (Models 5 and 6) in Table 3. Figure 3 presents the combined effects of a party's distance to the *formateur* and the level of agenda control on the probability of government membership. The theoretical expectation is that parties are less likely to be in the coalition if their ideological distance to the *formateur* increases, but that this effect is conditional on the agenda setting power of the government. *Formateurs* should care more about the size of the coalition if agenda setting power is weak, and less if agenda setting power is strong. Therefore, the effect of party-*formateur* distance is expected to *decrease*, as agenda control *increases*.

Figure 3 illustrates this effect. The y-axis shows the changes in predicted probability of government membership when party-*formateur* distance changes from its minimum to its maximum value, the solid line indicating the changes and the dotted lines indicating the 95% confidence interval of these changes. The x-axis shows the varying levels of agenda control.¹¹ As expected, the size of

¹¹ All other variables are held constant at their mean. First differences (changes in predicted probabilities for varying values of independent variables of interest) were simulated in R using the logit.mixed of ZELIG (Bailey and Alimadhi, 2007).

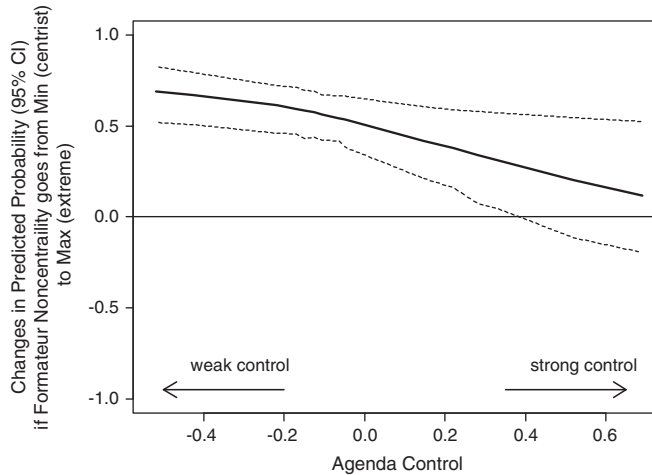


Figure 4 Changes in predicted probability of government membership as a function of *formateur* noncentrality and agenda control.

the effect of party-*formateur* distance shrinks as agenda control increases. Take for instance a country where agenda control is weak (e.g. the Netherlands). In such a system, the probability of a party being in government decreases significantly, by about 0.4, when it is far away from the *formateur* (maximum) compared with when it has the same position as the *formateur* (minimum). As agenda control increases, this decrease in membership probability gets smaller. When agenda control is strong (e.g. the United Kingdom), there is no statistically significant difference (i.e. the 95% confidence interval includes zero) in the probability of a party being included in government when party-*formateur* distance is large rather than small. The figure indicates that party-*formateur* distance makes no difference when agenda control is roughly bigger than 0.22.

Figure 4 shows the combined effect of *formateur* noncentrality and agenda control. Here, the theoretical expectation was that centrist *formateurs* should care less about coalition size due to their positional advantage, but should care more if they are not centrally located in the ideological space. Again, this effect is conditional on agenda control power. When agenda control power is low, the probability that a party is included in government increases substantially (by roughly 0.55) when the *formateur*'s policy position is extreme rather than centrist. Once agenda control increases and reaches a threshold (roughly 0.4), there is no statistically significant difference in the probability that a party is included in the government when the *formateur* is extreme not centrist.

Similar tests (not presented here but available upon request) for the interaction terms between party noncentrality and agenda setting power on *formateur* selection in Table 2 indicate that our predictions are still valid. According to our graphic analysis on the combined effect (like our analysis on Figures 3 and 4

above), the probability of a party being selected as a *formateur* decreases by 0.1 when it is extreme rather than centrist, yet this positional advantage becomes statistically insignificant when agenda control power is stronger than 0.13.

Conclusion

The main contribution of this paper is analytical. Theories of coalition formation have assumed that the positions of parties matter without explaining why. As a result, *formateurs* are assumed to be centrist unconditionally, and the distances of coalition partners are minimized unconditionally. We argue that party positions matter because of the *policymaking* process. Therefore, their significance depends on the agenda setting process that attributes different powers to governments vis-à-vis parliaments. These institutional advantages are always there, because governments control the agenda in parliamentary systems. However, they can vary from moderate levels to almost exclusive agenda setting rights, reducing the parliament to little more than a rubber stamp for government decisions. Our argument is that when institutional advantages are low, the government formation process will focus on the positional advantages of agenda setting (central location of *formateur*, small number of parties in government, and small ideological distances among parties). While the existing empirical literature has identified all these tendencies, it has never conditioned them on the prevailing institutional setting.

Understanding how coalitions form has been an important intellectual enterprise with which political science has been wrestling for some 50 years, as well as an important substantive task precisely because governments control the agenda, and as a result promote their own preferences in policymaking. The empirical evidence presented in this paper provides strong corroboration of the expectation generated by our argument. In addition, these expectations are corroborated with different datasets (besides the Manifesto data, which attribute different positions to the parties over time, we run models with expert opinions in one dimension – Warwick's (1998) left-right position data – which come to the same results), different methods (e.g. conditional logit, and Bayesian estimates), executive dominance indicators or agenda setting indicators. Thus, there is a reasonable degree of reliability in the results. Our findings indicate that the government formation process depends not only on positions occupied by the different parties as the literature so far has amply demonstrated, but also on the agenda setting institutions prevailing in different countries in such a way that the first compensates for the second.

This analysis leads to some significant big picture implications for multiparty systems. Thus far, the literature has considered multiparty systems with one of two different lenses, best exemplified in the work of Sartori (1976) and Lijphart (1981). Sartori (1976) was inspired by his own country (Italy)¹² and classified

¹² Here we are referring to the textbook Italy (from the end of the war until 1990); we will address contemporary Italy in a moment.

countries with many parties as ‘polarized’, stating that they were examples of ‘extreme’ pluralism.¹³ Polarized pluralism is characterized by the existence of parties that occupy the ideological center, sending other parties to extreme (and sometimes anti-system) positions. Sartori (1976) considers different cutoff points between moderate and extreme pluralism and concludes that the difference is somewhere between five and six parties. Consequently, a party system with more than six parties qualifies as a polarized and extreme pluralist one. On the other hand, Lijphart (1981, 1999), inspired by his country (the Netherlands), identifies countries as consociational when multiple parties participate in the government. Unlike Sartori’s (1976) single number of parties criterion, there are multiple characteristics of consociationalism: proportional electoral system, multiparty system, coalition governments, and lack of executive dominance.

What is interesting to note is that on the basis of Lijphart’s (1981, 1999) criteria Italy would be a consociational country (like the Netherlands), while on the basis of Sartori’s (1976) criteria the Netherlands would be an extreme pluralist society (like Italy).¹⁴ Both countries have had centrist governments and are characterized by low agenda setting powers of the government (a quick glance at Table 1 in this article will demonstrate that both countries score low in the indicator used in this analysis), but it is not at all obvious that they should both be classified either as consociational or as extreme pluralism.

In addition, Italy has evolved in the 1990s and 2000s into a country with alternating political coalitions in government. In a recent paper, Francesco Zucchini (2011) points out that governments have increased their agenda setting powers during this period (compared with the past) and attributes this change to the alternation patterns prevailing during this period. His argument is that when the SQ is far away from the current coalition (as is the case in Italy today) the government needs significant agenda setting powers to modify it. He concludes that alternation will cause the development of significant agenda setting powers. He actually correlates agenda setting powers (exactly the same indicator as in this study) with alternation across European countries and finds a very strong positive correlation.

So, here are the emerging patterns from the research: Both Lijphart (1981, 1999) and Sartori (1976) use a terminology that implies societal attributes (consociationalism, polarized pluralism) too encompassing to account for the diversified government features that they want to describe. Italy and the Netherlands cannot be accurately classified in the same box (in addition, Italy seems to be changing boxes over time).

If countries with low government agenda setting powers select centrist parties (as we demonstrate in this article), then they will present a pattern of centrist

¹³ He starts with multiple criteria, like the existence of anti-system parties, bilateral oppositions, etc., but at the end he reduces his distinction to the number of parties.

¹⁴ Sartori himself classifies the Netherlands as a moderate pluralist country, but he restricts the study of this country to 1967 when it had only five parties. Since then, the number of parties in the Netherlands has significantly increased.

governments. If countries with low alternation (as Zucchini claims) have low agenda setting powers, we will find that these two characteristics will coexist. Putting the two arguments together, one has to conclude that the three characteristics are locked together: limited agenda setting powers, centrist governments, and low alternation. Politics will be more centrist in countries with low agenda setting powers, and there will be low levels of alternation. But this does not necessarily have societal implications. Whether the centrist *formateur* parties will find other parties close to them in order to form coalitions or not depends (as we already know) on the polarization of the country, not on the number of parties (extreme pluralism) or consociationalism. As Tables 2 and 3 indicate, because Italy is more polarized, it is likely to have more minority governments than Holland.

One final question remains: how do the causal mechanisms operate – from agenda setting to central policy positions and lack of alternation (as we argue) or from alternation to agenda setting as Zucchini expects? Are the two causal relations opposing and contradicting each other, or can they be combined in an interactive process where they jointly determine different equilibria? Analytically the latter seems to be the case, because in both models parties adapt optimally to their environment. But empirically, in order to even start thinking about these issues we would need a time series of agenda setting powers of governments in different countries. Thus, future researchers have an important and interesting puzzle to pursue in parsing out the simultaneous reaction of social and political polarization to institutions and how institutions are changed to adapt to the degree of polarization.

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References

- Austin-Smith, D. and J. Banks (1988), 'Elections, coalitions, and legislative outcomes', *American Political Science Review* 82: 405–422.
- Bailey, D. and F. Alimadhi (2007), 'Logit mixed: mixed effects logistic regression', in K. Imai, G. King and O. Lau, Zelig (eds), *Everyone's Statistical Software*. Retrieved from <http://gking.harvard.edu/zelig>
- Baron, D. (1991), 'A spatial bargaining theory of government formation in a parliamentary system', *American Political Science Review* 85: 137–164.
- Budge, I., D. Robertson and D. Hearl (eds) (1987), *Ideology, Strategy, and Party Change: A Spatial Analysis of Post-War Election Programmes in Nineteen Democracies*, Cambridge: Cambridge University Press.
- Crombez, C. (1996), 'Minority governments, minimal winning coalitions, and surplus majorities in parliamentary systems', *European Journal of Political Research* 29: 1–29.

- Diermeier, D. and T. Feddersen (1998), 'Cohesion in legislatures and the vote of confidence procedure', *American Political Science Review* 92: 611–621.
- Dodd, L. (1976), *Coalitions in Parliamentary Government*, Princeton: Princeton University Press.
- Doering, H. (1995a), 'Time as a scarce resource: government control of the agenda', in H. Doering (ed.), *Parliaments and Majority Rule in Western Europe*, New York: St. Martin's Press, pp. 223–246.
- (1995b), 'Is government control of the agenda likely to keep legislative inflation at bay?', in H. Doering (ed.), *Parliaments and Majority Rule in Western Europe*, New York: St. Martin's Press, pp. 654–687.
- (2001), 'Parliamentary agenda control and legislative outcomes in Western Europe', *Legislative Studies Quarterly* 26: 145–165.
- Elgie, R. (2005), 'From Linz to Tsebelis: three waves of presidential/parliamentary studies?', *Democratization* 12: 106–122.
- Ferejohn, J., R. McKelvey and E. Packell (1984), 'Limiting distributions for continuous state Markov voting models', *Social Choice and Welfare* 1: 45–67.
- Franzese, R. (2003a), 'Multiple hands on the wheel: empirically modeling partial delegation and shared policy control in the open and institutionalized economy', *Political Analysis* 11: 445–474.
- (2003b), 'Quantitative empirical methods and context conditionality', *Newsletter of the Organized Section on Comparative Politics of the American Political Science Association* 14: 20–24.
- Gelman, A. and J. Hill (2007), *Data Analysis Using Regression and Multilevel/Hierarchical Models*, Cambridge: Cambridge University Press.
- Hallerberg, M. and J. von Hagen (1999), 'Electoral institutions, cabinet negotiations, and budget deficits within the European Union', in J. Poterba and J. von Hagen (eds), *Fiscal Institutions and Fiscal Performance*, Chicago: University of Chicago Press, pp. 209–232.
- Heller, W.B. (2001), 'Making policy stick: why the government gets what it wants in multiparty Parliaments', *American Journal of Political Science* 45(4): 780–798.
- Huber, J. (1996), 'The vote of confidence in parliamentary democracies', *American Political Science Review* 90: 269–282.
- Kalandrakis, T. (2000), 'General equilibrium parliamentary government', thesis defended at University of California Los Angeles.
- King, G., A. James, B. Nancy and L. Michael (1990), 'A Unified Model of Cabinet Dissolution in Parliamentary Democracies', *American Journal of Political Science* 34: 846–871.
- Laakso, M. and R. Taagepera (1979), 'Effective number of parties: a measure with application to West Europe', *Comparative Political Studies* 12: 3–27.
- Laver, M. and N. Schofield (1990), *Multiparty Government: The Politics of Coalition in Europe*, Oxford: Oxford University Press.
- Laver, M. and K. Shepsle (1996), *Making and Breaking Governments: Cabinets and Legislatures in Parliamentary Democracies*, Cambridge and New York: Cambridge University Press.
- Leiserson, M. (1966), 'Factions and coalitions in one-party Japan: an interpretation based on the theory of games', *American Political Science Review* 62: 70–87.
- Lijphart, A. (1981), *Democracies: Patterns of Majoritarian and Consensus Government in Twenty-One Countries*, New Haven: Yale University Press.
- (1999), *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries*, New Haven: Yale University Press.
- Luebbert, G. (1986), *Comparative Democracy: Policy Making and Governing Coalitions in Europe and Israel*, New York: Columbia University Press.
- Lupia, A. and K. Strom (1995), 'Coalition termination and the strategic timing of parliamentary elections', *American Political Science Review* 89: 648–665.
- Martin, L. and R. Stevenson (2001), 'Government formation in parliamentary democracies', *American Journal of Political Science* 45: 33–50.
- McKelvey, R. and N. Schofield (1986), 'Structural instability of the core', *Journal of Mathematical Economics* 15: 555–591.
- (1987), 'Generalized symmetry conditions at a core point', *Econometrica* 55: 923–933.

- Persson, T. and G. Tabellini (2000), *Political Economics: Explaining Economic Policy*, Cambridge: MIT Press.
- Raudenbush, S. and A. Bryk (2002), *Hierarchical Linear Models: Applications and Data Analysis Methods*, 2nd edn., Thousand Oaks, California: Sage Publishing.
- Riker, W. (1962), *The Theory of Political Coalitions*, New Haven: Yale University Press.
- Saalfeld, T. (2010), 'Veto players, agenda control and cabinet stability in 17 European parliaments, 1945–1999', in T. König, G. Tsebelis and M. Debus (eds), *Reform Processes and Policy Change: Veto Players and Decision-making in Modern Democracies*, New York: Springer, pp. 125–143.
- Sartori, G. (1976), *Parties and Party Systems*, New York: Cambridge University Press.
- Schofield, N. (1995), 'Coalition politics: a formal model and empirical analysis', *Journal of Theoretical Politics* 7: 245–281.
- Sened, I. (1996), 'A model of coalition formation: theory and evidence', *Journal of Politics* 58: 350–372.
- Steenbergen, M. and B. Jones (2002), 'Modeling multilevel data structures', *American Journal of Political Science* 46: 218–237.
- Tsebelis, G. (2002), *Veto Players: How Political Institutions Work*, Princeton: Princeton University Press.
- von Neumann, J. and O. Morgenstern (1944), *Theory of Games and Economic Behaviour*, Princeton: Princeton University Press.
- Warwick, P. (1994), *Government Survival in Parliamentary Democracies*, New York: Cambridge University Press.
- (1996), 'Coalition government membership in Western European parliamentary democracies', *British Journal of Political Science* 26: 471–499.
- (1998), 'Policy distance and parliamentary government', *Legislative Studies Quarterly* 23: 319–345.
- Weingast, B. (1992), 'Fighting fire with fire: amending activity and institutional change in the post-reform congress', in R. Davidson (ed.), *The Post Reform Congress*, New York: St. Martin's Press, pp. 142–168.
- Zucchini, F. (2011), 'Government alternation and legislative agenda setting: lessons from Italian politics', *European Journal of Political Research* 50(6): 749–774.