

Making Words Count: Coalition Agreements & Cabinet Management

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Abstract

The Cabinet is a central actor in policy making in parliamentary systems. Yet, relatively little is known about how coalition cabinets operate. The delegation of decision making authority to ministers invites policy drift, which threatens the cohesiveness of the cabinet's policy program. Cabinets employ a variety of methods to contain policy drift. The writing of coalition agreements is among the major tools, but there are others, including limiting ministerial autonomy and the use of junior ministers to shadow ministers. The present study demonstrates that coalition agreements are written to contain policy drift and that it is directly related to the degree of hierarchy in the cabinet. We study the factors which affect the likelihood of a coalition agreement being written and how extensive they are, if written. Among these are ideological diversity in the cabinet, the use of alternative methods for controlling ministers, and the complexity of the bargaining situation in the coalition.¹

¹The data will be made publicly available at [website] upon publication. The research was supported by [funding agency].

The formation of government coalitions has long been recognized as an important area of study within the field of comparative politics. Historically, parliamentary systems were identified with the supremacy of parliament over the executive branch but parliament's supremacy rapidly gave way to greater delegation to the cabinet, which culminated with the cabinet adopting a dominant role in the formulation of public policy (Strøm, 2000). Thus, the advent of multi-party systems, which necessitate the formation of government coalitions, along with concerns about representativeness naturally lead to the development of an impressive body of literature on the formation of government coalitions.

The same normative concerns have driven scholars of government coalitions to turn their attention to a greater degree to policymaking in parliamentary systems in recent years. While the composition of the cabinet is likely to be important in determining the direction of government policy, the preferences of coalition partners can still diverge considerably and, indeed, a significant number of governments terminate as a result of policy disagreement.² An understanding of how government coalitions make policy, thus, speaks to how, or whether, voters' preferences are translated into policy and, in addition, it helps us evaluate the common criticism that coalitions reduce the scope for accountability.

Cabinet governance can be understood as a principal-agent problem where the cabinet delegates drafting and implementation of policy to cabinet ministers. The ministers' autonomy and their informational advantage vis-à-vis the cabinet creates a moral hazard problem. Once ministers have been appointed, they often have an incentive to adopt policies that differ from the compromise reached during the coalition formation process.³

Coalition cabinets are not oblivious to the presence of moral hazard and adopt a variety of mechanisms to minimize the damage. Cabinets police the coalition bargain by adopting institutional mechanisms that increase the coalition parties' ability to monitor the activities of their partners. Thies (2001), Lipsmeyer & Pierce (2011), and Martin & Vanberg (2011) argue that junior ministers serve the function of 'keeping tabs on partners'. Martin & Vanberg (2004, 2011) and Carroll & Cox (2012), argue that parliamentary scrutiny of

²Of the 265 coalition governments in Müller & Strøm's (2001) dataset, 87 were terminated because of a policy disagreement.

³We assume all coalitions must reach an agreement, or a common understanding, about the government's policy. Thus, a compromise could be a verbal agreement or common expectations that emerge during negotiations, i.e., a compromise does not imply a written coalition agreement.

legislation serves much the same purpose while Lipsmeyer & Pierce (2011) further argue that parliamentary scrutiny reduces the need for junior minister oversight. Importantly, these authors demonstrate how the use of these oversight mechanisms varies with the expected degree of moral hazard.

Here we train our eyes on another way in which ministers' moral hazard may be tamed. The formation of a coalition often involves the writing of a formal coalition agreement that details, to a varying degree, the policy compromises agreed upon. As we discuss below, coalition agreements, while not legally binding, constrain ministers' autonomy and increase the likelihood that the coalition bargain will be implemented. Thus, much as we would expect junior ministers and committee chairs to be more likely to shadow ministers from a different party when the moral hazard problem is serious, so would we expect coalition agreements to be made and to be more extensive.

Although much of the literature on cabinet management has rightly focused on ideological divisions as a source of moral hazard, it has failed to take account of the fact that cabinets differ in their ability to deal with moral hazard problems. Government cabinets are organized in different ways, as, e.g., Dunleavy & Bastow (2001), Thies (2001), and Warwick & Druckman (2001) have demonstrated, and they rely on different mechanisms of coordination, which affects the degree of oversight within the cabinet. We argue that hierarchical cabinets are more likely to police the coalition bargain effectively. The scope for ministerial drift is smaller the less autonomy individual cabinet ministers enjoy and the greater the degree to which policy making authority is concentrated in the core cabinet. In addition, we argue that the decisions of which tools to use to police coalition partners, or individual ministers, are interdependent. Importantly, we show that the different methods of policing coalition partners are complimentary rather than substitutes for one another. Intuitively, coalition agreements are more extensive when cabinets are better equipped to exercise oversight as when junior ministers are used to shadow coalition partners.

Delegation in Cabinets

There are practical reasons for departmentalizing cabinets. Adopting a pure collegial form of cabinet decision making invites substantial inefficiencies — there are not enough hours in the day for every policy to be debated, scrutinized, and formulated within the cabinet.

Moreover, it is unlikely that the whole cabinet needs to consider every issue — many decisions are non-controversial. Cabinets, thus, have an incentive to delegate decision making authority so that cabinet ministers may attend to the other things that demand their time and attention.

While delegation may be necessary, it comes at a cost. As Laver & Shepsle (1996) demonstrate, pure ministerial government results in Pareto inefficient policy outcomes. Although the source of this inefficiency is typically cast as a consequence of the conflicting preferences of the coalition parties, it is better viewed as consisting of two separate, but related, problems. The first is the problem of how the coalition parties can tie each other hands and the second is how the parties can tie the hands of the cabinet ministers. If cabinet ministers are perfect agents of their parties then the two problems are reduced to one. However, there are reasons to doubt that ministers are perfect agents of their parties and a recent body of literature has focused on the tensions that exist between party or government leaders and their ministers (see, e.g., Dewan & Myatt, 2005, 2010). While all cabinet members have a stake in effective management of the cabinet, and its continued survival, cabinet ministers also have private ambitions. As the success of individual cabinet ministers is in large part tied to their management of the portfolio they occupy, they have an incentive to deviate from the Pareto optimal solution. Party leaders are more likely to internalize the costs of such deviations as their success and survival depends to a greater degree on the performance of the cabinet as a whole — in other words, party leaders have more to gain from having the coalition bargain stick. Coalitions, therefore, have to pay attention to how to keep both the coalition parties and individual ministers in line.

Given the difficulty of enforcing mutually advantageous policy compromises, cabinets will naturally seek ways to make compromises stick. Such arrangements include using junior ministers and legislative committees to provide oversight. Another possibility, and the one that is our focus here, is the writing of a coalition agreement. Coalition agreements are intended to move issues away from their ‘rightful’ portfolios to the cabinet level (in the sense that the issue is settled among the coalition parties). In this way coalition agreements aim at undermining ministerial autonomy. The act of writing the policy compromise on paper does not solve the credibility problem by itself — the coalition parties have an incentive to renege on the agreement regardless of whether it is verbal or written. Yet governments frequently make coalition agreements. It is, therefore, worthwhile

considering theoretically how coalition agreements help solve the principal-agent problem and, subsequently, subject the observable implications to empirical scrutiny.

Coalition agreements have attracted greater attention in recent years but our understanding of the role coalition agreements play in coalition policy making remains incomplete. Strøm & Müller (1999, 2008) argue that coalition agreements are commitment devices aimed at solving inter- and intra-party conflict, emphasizing the role of coalition agreements in constraining powerful prime ministers. In contrast, our argument is that coalition agreements have an equally important role in curbing ministerial drift. In an innovative approach, Eichorst et al. (2009) show how the issues that the parties consider salient influence how extensively the agreements deal with those issues.

Delegation & Coalition Agreements

The writing of coalition agreements can be seen as a basic method for helping contain ministerial, or party, drift in cabinets.⁴ This role of coalition agreements is, however, circumscribed by two facts. First, coalition agreements can never address every policy issue that finds its way onto the political agenda. Second, coalition agreements have no legal force and don't bind the hands of the coalition parties on their own. Thus, the appeal of writing a coalition agreement depends on the mechanisms available to the cabinet to monitor and enforce the agreement. If renegeing on the agreement is costly to the coalition parties, it increases the parties' incentives to enforce the agreement while potentially reducing the cost of monitoring by establishing clear guidelines about the coalition's agenda. We begin by discussing in greater detail how coalition agreements play a role in solving the moral hazard problem inherent in parliamentary cabinets in spite of their apparent limitations and, subsequently, we examine whether their characteristics are consistent with what one would expect if they are effective in containing ministerial drift.

As coalition agreements are not legally binding they might be considered cheap talk. If parties and voters share the belief that coalition agreements don't matter then there is no reason to believe that they affect the coalition parties' behavior. However, if that is the case, why then do coalitions bother writing coalition agreements? A plausible working

⁴We use 'ministerial drift' to refer to any policy drift that results from increased ministerial autonomy regardless of whether the minister acts on his personal preferences or as a 'good' agent of his party.

assumption is that voters believe coalition agreements reflect the cabinet's policy agenda.⁵ If that is the case, failing to implement the agreement may open coalition parties up to criticism and reduce their credibility in the eyes of the voters and other parties (Stokes, 2001; Klingemann et al., 1994).⁶ If voters care about whether the coalition's actions reflect its words, reneging on a coalition agreement will carry political costs, e.g., loss of electoral support, that provides the coalition parties with an incentive to honor the agreement.

Whether political parties view coalition agreements in this way is an empirical question. While there is no direct evidence about politicians' views about their role, indirect evidence suggests that coalition agreements matter. Moury (2009) studies the fulfillment of coalition agreements in Belgium, Italy, and the Netherlands and finds that governments do implement most of their agreements. Andeweg (2000) similarly argues that coalition agreements are important in the Netherlands: "The coalition agreement is very important: negotiations of its content is seen as an integral part of the policy-making process in the Netherlands, and cabinet ministers have been known to refer to the document as 'the Holy Bible'."

Coalition agreements have also been found to affect other aspects of cabinet governance. Kim & Loewenberg (2005) find that legislative committees are more likely to be chaired by the party that does not hold the corresponding portfolio when the parties have made a coalition agreement. While this shows that coalition agreements require enforcing, it also suggests that coalition agreements are more than cheap talk — the parties do take the agreement seriously as evidenced by them adopting mechanisms to enforce the agreements.

Timmermans & Moury (2006) argue that coalition agreements play an important role in managing conflict within coalitions and that they help explain cabinet stability in Belgium and the Netherlands, with Saalfeld (2008) providing further evidence using data on cabinet duration in Western Europe. Studies of the fulfillment of election pledges find that the appearance of a coalition party's election pledge in the coalition agreement increases the likelihood that it will be fulfilled (Thomson, 2001; Costello & Thomson, 2008).⁷

⁵Alternatively, politicians may simply believe, rightly or wrongly, that voters hold such beliefs.

⁶This argument assumes that voters pay attention to the content of the coalition agreements in some way or form (or, at least, that the parties believe they do). While it is probably safe to say that most voters have never read a coalition agreement, this is strictly not required — the media can play an important role in directing voters' attention to a coalition's failure to implement its agreement and, presumably, opposition parties have a rich interest in doing so as well.

⁷These studies focus on the Netherlands and Ireland. While the effect is positive and large in both

We see close parallels between coalition agreements and election pledges as both suffer from the same limitations, i.e., they are in and of themselves not credible statements about policy and rely on some external mechanism to lend them credibility. In both cases that mechanism is likely to center on the fear of voters' reaction to the parties' failure to honor their promises.⁸ The fulfillment of elections pledges has attracted far more attention by scholars and, by and large, parties appear not to take their electoral pledges very lightly. Overall, the evidence suggests that politicians do act as if their words have consequences (Pétry & Collette, 2009; Schwarz et al., 2007).

The writing of a coalition agreement involves two related decisions. First, a decision whether to write a coalition agreement or not. Second, a decision about how extensive the coalition agreement should be (conditional on deciding to make one). The two decisions are influenced by two factors: the severity of the moral hazard problem and the costs of negotiating and writing an agreement. The more severe the moral hazard problem the greater the potential value of the coalition agreement. Coalition agreements are best viewed as incomplete contracts as they can only address a subset of the issues the government may have to deal with during its term in office.⁹ Each additional issue addressed in the agreement requires negotiation between the parties and exposes the cabinet parties to additional risk should they fail to implement the policy. The cost of including additional issues becomes progressively more costly. Thus, the optimal length corresponds to the level at which the marginal benefit of including an additional clause no longer outweighs the marginal cost. All coalition cabinets face moral hazard problems, but cabinets are likely to differ with regard to their evaluation of the political risks involved, and this, in turn, influences their incentives to write an agreement. If the potential for policy disagreement is low, the cost of drawing up a coalition agreement may outweigh the potential benefits. If, on the other hand, the potential is high, the parties are willing to take on larger costs

countries it is not statistically significant in Ireland. On a related note, Rallings (1987) and Bara (2005) find that the great majority of pledges in 'speeches from the throne' in the U.K. and Canada — which share the same limitations as coalition agreements — are implemented.

⁸In the case of coalition agreements, one might add the possibility that parties' risk their reputation by failing to honor coalition agreements, making it more difficult for them to form coalitions in the future.

⁹Following Hart's (1988) analysis of incomplete contracts and firms, one might even view cabinets as a solution to the problem that complete contracts are not feasible. If complete contracts were possible, the bureaucracy could simply be charged with implementing the contract.

in drawing up a coalition agreement. Thus, variation in the length of coalition agreements is to be expected.

We argue that the hierarchical organization within the cabinet affects its ability to deal with the moral hazard problem. While policy complexity drives governments to adopt departmental organizational structures, cabinets vary considerably in terms of their organization and the extent of delegation to ministers (Laver & Hunt, 1992; Laver & Shepsle, 1994; Müller & Strøm, 2001). Some prime ministers can draw upon significant institutional and political resources in order to assert their dominance — these prime ministers can typically hire and fire ministers, set the cabinet agenda, and summarize the decisions of cabinet meetings. Cabinets also vary in terms of how important decisions are made. In some cases, they are made by the whole cabinet while in other an inner cabinet or a cabinet committee play an important role.

Cabinet hierarchy matters as it influences the relative importance of the two problems cabinets face: Tying the hands of coalition partners and containing ministerial drift. The implementation of policy in coalition governments can be seen as involving three (groups) of actors: The prime minister, the leadership of the minor party (or parties), and individual ministers. Forming a coalition requires the party leaders to resolve their differences about government policy while the bargaining partners have a common incentives in limiting ministerial drift in order to keep the coalition bargain from unraveling Laver & Shepsle (1996). Cabinet hierarchy affects these two goals in different ways. In hierarchical cabinets, minor cabinet parties have an incentive to press for a coalition agreement as a way of constraining the prime minister (Strøm & Müller, 1999) and the more power is vested in the prime ministers office, the more important a coalition agreement is to the minor coalition partners. An agreement focused on constraining the prime minister is likely to focus on a few issues that are sticking points in forming the coalition. In contrast, an agreement aimed at constraining ministerial drift will have to address a number of issues belonging to various portfolios and that will be especially important when ministers are relatively autonomous. Thus, hierarchical cabinets are more likely to adopt a coalition agreement — to constrain their coalition partners — but are less likely to have to write extensive coalition agreements as ministers lack the autonomy to pose a significant threat to party leaders' policy commitments.

Hypothesis 1 *Cabinets that are characterized by hierarchical organization are more likely to write coalition agreements. Cabinets in which ministers enjoy a greater degree of autonomy are more likely to write extensive coalition agreements.*

If coalition agreements play a role in limiting the damage of moral hazard, then the probability of a coalition agreement being made and how extensive it is should be positively correlated with ideological divisions within the government coalition. There are two reasons why a positive correlation is expected. First, larger ideological differences imply greater ministerial drift, i.e., the policy consequences of leaving ministers unconstrained are more severe. Second, political parties don't only care about getting into government but also about staying in government. Ideological differences within coalitions have been shown to affect government survival. Thus, ideologically dissimilar parties have an added incentive to settle their differences early on in order to avoid destabilizing policy disagreements further down the road.

Hypothesis 2 *Ideologically divided coalitions are more likely to write a coalition agreement and, if written, ideologically divided coalitions are more likely to write extensive coalition agreements.*

Thies (2001) suggests that coalitions use junior ministers to keep tabs on partners. As coalition agreements are not binding they require enforcement in order to be effective. The presence of junior ministers facilitates the enforcement of coalition agreements and they should, therefore, be longer in cabinets where junior ministers keep tabs on partners. This may appear counterintuitive because both coalition agreements and junior ministers are means towards a common goal, i.e., to provide oversight, and could be considered substitutes for one another. However, measures to combat policy drift are adopted on the basis of expected costs and benefits. A coalition party's ability to detect deviations from a coalition agreement is greater when junior ministers are placed in their coalition partners' portfolios as it improves access to information, e.g., about available policy options, costs and benefits, etc. As coalition agreements often contain rather general policy positions, rather than prescriptions of the specific actions to be taken, such information is relevant to enforcing the coalition agreement. In economic parlance, the marginal benefit of coalition agreements increases where adherence to the agreement can be adequately monitored while the marginal cost of writing a longer coalition agreement can be assumed to remain the

same. Accordingly, cabinets will increase their use of coalition agreements up to the point where marginal benefits equal marginal costs again.¹⁰

Cabinets differ in terms of how they employ junior ministers — both in terms of how extensively they are used and the role they play. The more ‘watchdog’ junior ministers there are, relative to the number of ministers, the greater the potential for enforcing the coalition agreement. However, the number of ‘watchdog’ junior ministers may not fully capture the role of junior ministers. In some cabinets, junior ministers are primarily placed in their own party’s portfolios, which suggests that their role is less defined by policing the coalition bargain. Where junior ministers are primarily used to shadow partners’ ministers it is reasonable to assume that their role is seen to be a ‘watchdog’, i.e., that being a junior minister is imbued with the meaning that they should keep a watchful eye on their minister. In line with the argument above, we expect coalition agreements to become longer both as the number of ‘watchdog’ junior minister increases and as their role becomes more likely to be defined by their oversight tasks. It is unclear whether the use of watchdog junior ministers makes a coalition agreement more likely. On one hand, the argument about the greater benefits of a coalition agreement applies. On the other, the presence of ‘watchdog’ junior ministers already provides oversight so the total benefits of making a coalition agreement may not outweigh the cost of making one.¹¹ As the role of junior ministers becomes increasingly focused on shadowing coalition partners’ ministers, the benefits of writing a coalition agreement increase and coalition agreements are more likely to be written.

Hypothesis 3 *Cabinets that use junior ministers more extensively to keep tabs on their partners (share of all ministers) are more likely to write extensive coalition agreements.*

¹⁰Note that our argument does not necessarily imply a causal relationship, i.e., both the number of junior ministers and the coalition bargaining are a part of the coalition bargain that the coalition parties settle on. However, the use of junior ministers to keep tabs on partners tends to exhibit fairly low variation within countries — a few countries don’t use them at all — and, as such, they somewhat resemble a cabinet ‘institution’ that the coalition parties take as given. The bargaining over junior ministers may revolve more around their placement than their numbers. In any event, the results w.r.t. to junior ministers must be interpreted with caution as our data doesn’t allow us to examine the question of causality further.

¹¹This argument is analogous to the theory of the firm in economics. If production takes place, it is at the level at which marginal benefits equal marginal costs. However, the optimal production decision does not guarantee positive profits if the fixed costs are large, in which case the optimal choice is to not produce at all.

Hypothesis 4 *The more commonly junior ministers occupy the role of keeping tabs on partners (share of all junior ministers), the greater the likelihood of a coalition agreement being made and the longer the coalition agreements will be.*

The coalition's majority status influences the incentives to write a coalition agreement if failure to implement the coalition agreement is costly. A minority coalition relies on the support of one or more opposition parties to pass legislation and, thus, faces greater uncertainty about its ability to implement a coalition agreement. Being a riskier proposition, minority coalitions should, therefore, be less likely to make an agreement. However, minority coalitions that rely on support parties — as opposed to building ad hoc coalitions in order to pass each legislation — may use the coalition agreement to commit to the policy compromises demanded by the support party. When that is the case, coalition agreements are likely to be longer because of the asymmetry between the government parties and the support party, i.e., the support party doesn't control any portfolios and lacks access to the oversight mechanisms that membership in the cabinet brings.¹²

Hypothesis 5 *Minority coalitions are less likely to make coalition agreements but when agreements are made they tend to be longer.*

In complex bargaining situation, the parties are more likely to formalize their common understanding of the coalition's tasks and decision-making procedures in a coalition agreement. Cabinets face two sources of complexity. First, bargaining complexity is a function of the number of parties in the coalition. It is reasonable to assume that the number of policy disagreements that need settling increases with the number of parties and, subsequently, coalition agreements should become more likely and more extensive. Second, bargaining complexity increases with policy complexity. The number of portfolios is an indication of the policy complexity that cabinets face. Separate portfolios are likely to be created only when the policies it deals with are considered sufficiently important. By extension, if an issue area is seen as sufficiently important to warrant its own portfolio, it is more likely to be sufficiently important to be addressed in a coalition agreement.¹³

¹²Our theoretical framework does not have clear implication for the behavior of oversized coalitions.

¹³One could argue that there is little variance in policy complexity across cabinets — all governments essentially have to deal with the same set of issues, e.g., health, social services, etc. However, the certain issue areas may vary considerably, e.g., the importance of industrial policy will depend on the variety

Hypothesis 6 *As the number of coalition partners increases, the more likely the coalition is to make a written coalition agreement. Moreover, larger coalitions make more extensive coalition agreements.*

Hypothesis 7 *As the number of portfolios increases, the more likely the coalition is to make a written coalition agreement. Moreover, where the number of portfolios is high coalition agreements will be more extensive.*

Finally, the motives of politicians and parties influence their desire to tie their own hands. Whether one assumes politicians are motivated by office or policy leads, e.g., to very different predictions about patterns of coalition formation. As Laver & Hunt's (1992) data on the relative importance of policy and office suggests, the motivations of politicians vary across contexts. Politicians' motivations have straightforward implications for the decision whether to write a coalition agreement. Politicians that are primarily motivated by policy will favor writing coalition agreements — and writing more detailed coalition agreements — as they help prevent policy outcomes in any given portfolio from departing too far away from their preferences. Office motivated politicians, on the other hand, will place greater stock in their autonomy as their portfolio may provide the means to ensure re-election, e.g., through particularistic allocation of public goods.

Hypothesis 8 *The more politicians are motivated by policy, the more likely the coalition is to make a written coalition agreement. Moreover, where politicians are motivated by policy coalition agreements will be more extensive.*

Empirical Analysis

We test our hypotheses with data on 227 coalition cabinets in 13 Western-European parliamentary democracies in the period 1944-2000.¹⁴ Our dependent variable is whether an agreement was made and, if so, the extent of the coalition agreement. We operationalize

of industrial productivity within a country and a landlocked country may have little use for a fisheries portfolio. Even if such variation is limited, it is important to control for the number of portfolios as the mere existence of a portfolio may lead coalitions to address the portfolio in its agreement.

¹⁴The countries are Austria, Belgium, Denmark, Finland, Germany, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal and Sweden.

the extent of the agreement as the length of the coalition agreement in thousands of words. Our operationalization deserves a few words as the length of a coalition agreement does not necessarily convey how extensive it is. To tie the hands of ministers (or the coalition parties), coalition agreements must be specific, i.e., they must provide limited room for interpretation. Obviously, it is possible to write a long coalition agreement without imposing much of a constraint on the parties. Coalition agreements can, and often do, contain rather vague statements that are, perhaps, aimed at signaling that the coalitions considers an issue salient rather than a promise of implementing a particular solution to a policy problem. This may suggest that focusing on the length of coalition agreements will not capture their significance adequately. While we agree that the measure has its limitations there are reasons why the length of the agreements serves as a useful proxy for their extensiveness.

First, very short agreements cannot represent much of a constraint and, at the extreme, the absence of a coalition agreement offers no constraints. While length is not a perfect measure of the constraints a coalition agreement imposes, longer agreements have a greater potential to impose constraints than shorter ones.¹⁵ Second, short and specific coalition agreements may successfully settle policy disagreement at the time the coalition is formed but coalition agreements also aim at providing constraints with regard to policy issues that will arise in the future and with regard to policy problems whose solutions are not yet known. Short, specific agreements may be more effective as they provide a clear benchmark against which the performance of the coalition parties can be measured. However, uncertainty about the effects of particular policies on actual outcomes may cause parties to prefer general descriptions of their policy goals rather than specific policy measures that may fail to have their intended effects.¹⁶ Specific agreements are also a double-edged sword as the opposition's criticism of the coalition's failure to implement a specific policy may target all the coalition parties, i.e., the same factors that makes a specific agreement effective make them dangerous.¹⁷ Thus, the coalition parties may opt

¹⁵See, e.g., Huber et al. (2001) and Strøm & Müller (2008), who also consider the number of words as a measure of comprehensiveness.

¹⁶A coalition party may, for example, be in favor of greater economic inequality but it may be uncertain about what the best way to achieve that goal is.

¹⁷This is especially relevant when the parties want to revise their positions in light of new information.

to make an agreement that is less specific but allows them to play the role of the arbiter of whether the agreement has been honored.

Third, even vague statements are relevant. For example, a general statement about social services, if not endorsing the status quo, implies that the issue is on the government's agenda. Ignoring the issue may, come election time, raise the question what the government has done about social services. Even vague statements can, thus, constrain cabinet ministers, e.g., by removing the status quo policy from the set of feasible options. Moreover, as political parties rarely cherish the prospects of cutting services, or provide those services at a higher cost, merely raising the issue in a coalition agreement appears likely to imply a change in a particular direction.¹⁸ Fourth, existing research on the content of coalition agreements suggests length is a reasonable indicator of how specific coalition agreements are. Moury (2009) and Timmermans & Moury (2006) code coalition agreements for their precision and completeness (i.e., how many issue areas they address). Both precision and completeness are highly correlated with the length of the agreements (.83 and .68, respectively). In other words, the length of the agreements explains substantial amount of the variation in terms precision and completeness. Importantly, this suggests that long agreements are more than window dressing for the cabinet or cheap talk.

At the end of the day, it is an empirical question whether the length of the agreement reflects how constraining it is. Our theory assumes that coalition agreements constrain the actions of ministers and parties. Our empirical strategy additionally assumes that the length of coalition agreements captures how constraining the agreements are. Our findings, therefore, speak to both of these assumptions, i.e., if either of them fails we should not find support for our hypotheses. The converse is not true, i.e., if we find support for the hypotheses then it does not imply that our assumption are correct — it only implies that our findings are consistent with our assumption but that it may also be consistent with alternative explanations (as is true about any hypotheses testing). It is, therefore, worthwhile to consider briefly what results we should expect under different assumptions

¹⁸Consider, e.g., the following pledge in the coalition agreement of the Conservatives and the Liberal Democrats in 2010 (<http://programmeforgovernment.hmg.gov.uk/files/2010/05/coalition-programme.pdf>): “We will further regulate CCTV.” While it is a fairly vague statement that doesn't provide clear guidelines for how CCTV should be regulated, it seems quite obvious that the context is concern with civil liberties. That is, CCTV regulation that would fail to protect civil liberties is likely to call the government's record of fulfilling its pledges into question.

about the role and nature of coalition agreements.

The main competing assumption about the role of coalition agreements is that they are simply cheap talk. If coalition agreements are cheap talk it is difficult to envision why the probability of an agreement being made or its length is affected by our main explanatory variables; if coalition agreements are truly cheap talk we would expect no relationship between our explanatory variables and the existence or length of the agreements.¹⁹ Of course, the cheap talk assumption is a rather strong assumption as it offers coalition agreements no role, which begs the question why coalitions bother writing them at all. Another explanation, that maintains an aspect of cheap talk, is that coalition agreements serve a public relations role for the cabinet, i.e., to maintain popular support governments must signal effectiveness (Timmermans, 2003). While a plausible explanation, presumably every government faces these same incentives and there is little reason to expect any variation in the length of coalition agreements. Fleshing out the argument that coalition agreements are about public relations, one can argue that coalition agreements will primarily address issues that the parties agree on (or that they don't care much about). Again, the assumption fails to clearly identify what explains variation in how constraining coalition agreements are. The one exception here concerns the ideological differences within the coalition. If this assumption is true, coalition agreements should become shorter, and not longer, as ideological differences within the coalition increase. In sum, alternative explanations of the role of coalition agreements suggest that our explanatory variables should have no, or the opposite, effect on the length on the coalition agreements.

The data on the coalition agreements comes from Müller & Strøm (2001) with additional data collected by the authors. Of the 227 coalitions in our dataset, 118 published a coalition agreement.²⁰ The average length of the coalition agreements was 6.356 words with a standard deviation of 8.177 words. The shortest agreement was a mere 204 words (Finland in 1975) and the longest one was 43.550 words (Belgium in 1988). Table 1 lists the average length of the coalition agreements since 1980 by country. Our measure is based on the

¹⁹Similarly, if the length of the agreements is a poor proxy for how much the agreements constrain ministers, then the explanatory should have no significant effects.

²⁰A change in cabinet is defined by a change in the coalition membership, change in the identity of the prime minister, or an election. We exclude 'new' cabinets that are defined by the second two criteria if the coalition agreement of the previous cabinet is considered to remain in effect.

portions of the coalition agreements that deal with policy as our argument focuses on the policy constraints of coalition agreements.²¹ Coalition agreements deal primarily, on average 91.6% of their length, with policy issues. To account for the possibility that a different number of words may be required to convey the same idea in different languages we adjust the length of the agreements using Huber & Shipan's (2002) verbosity index.²²

Our dependent variable can be seen as the outcome of two decision, i.e., whether to write a coalition agreement or not and, if the answer is yes, how extensive to make the agreement. Ignoring this aspect of the data generation process could result in sample selection bias. Thus, to account for both decisions we adopt a sample selection approach (Heckman, 1979) to explicitly model the decisions of whether to make a coalition agreement and, if one is made, how extensive it should be.²³ The Heckman model estimates the coefficients of two equations; a selection equation (1) and an outcome equation (2). Here, the former refers to the decision to make a coalition agreement while the latter refers to the length of the agreement.²⁴

²¹Excluding non-policy content from the word count also avoids potential endogeneity issues, e.g., with respect to our junior minister variables, which may be addressed in the coalition agreement. Using the total word count as the dependent variable yields substantively the same results.

²²Huber & Shipan's (2002) index of verbosity was created by comparing the length of the same EU legislation translated into different languages. Substantively, the results do not depend on whether the measure is adjusted for verbosity or not.

²³An alternative approach would be to use a Tobit model, which treats the censored dependent variable as a latent variable that is only observed if it exceeds a certain value. The Tobit model assumes that each independent variable has the same effect on the censoring process and the value of the independent variable when it is observed. The Heckman model relaxes this assumption allowing us ask the question whether the two decisions are driven by the same factors. However, because identification in the Heckman model depends on the assumed normal distribution of the error terms unless the selection equation includes some variables the equation of interest (agreement length) does not and as estimation of the model involves estimating quite a few parameters on a fairly small dataset we also estimated logit (for the decision to write a coalition agreement) and Tobit models and found that the models were robust to the choice of model.

²⁴While the Heckman sample selection model is often referred to as a two-step procedure, both equations can be estimated simultaneously (full information maximum likelihood). We use the full information maximum likelihood estimator. Puhani (2000) reports that the two-step limited information maximum likelihood estimator is preferable if collinearity is present. We obtain similar results obtain using the limited information estimator.

$$z_i^* = w_i' \gamma + u_i$$

$$\text{and } z_i = \begin{cases} 1 & \text{if } z_i^* > 0 \\ 0 & \text{else} \end{cases} \quad (1)$$

$$y_i = \begin{cases} x_i' \beta + \varepsilon_i & \text{if } z_i^* = 1 \\ - & \text{else} \end{cases} \quad (2)$$

The error terms (u_i, ε_i) are assumed to be distributed bivariate normal $[0, 0, 1, \sigma_\varepsilon, \rho]$. The expected length of an agreement, when one is made, is $E[y_i | z_i = 1, x_i, w_i] = x_i' \beta + \rho \sigma_\varepsilon \lambda(w_i' \gamma)$, where $\lambda(\cdot) = \phi(\cdot) / \Phi(\cdot)$. Thus, estimating only the outcome equation results in biased estimates unless the error terms are uncorrelated. This implies that interpreting the estimated coefficients is more complicated than in the standard linear regression model. Suppose we are interested in estimating the marginal effect of some independent variable that has a positive effect on the length of the agreement. If that variable also positively affects the likelihood of an agreement being made it implies that the coalition agreements observed will tend to have high values on the independent variable, which implies that the estimated coefficients of the outcome model understate the strength of the relationship. Calculating the marginal effects using $E[y_i | z_i = 1, x_i, w_i]$ ‘corrects’ for this bias.

We hypothesized that coalition agreements are influenced by the degree of hierarchy in the cabinet, i.e., where policy making powers are disproportionately wielded by the highest ranked cabinet ministers — typically the leaders of the coalitions parties — that sometimes are referred to as the ‘core cabinet’ (Heffernan, 2003) or the ‘inner cabinet’ (Müller & Strøm, 2001). To measure cabinet hierarchy we use an expert survey about the importance of ministerial portfolios (Warwick & Druckman, 2006). The survey asked country experts to rate the *relative* importance of ministerial portfolios. If the prime ministerial portfolio is rated highly it implies that the prime minister, or perhaps the ‘inner cabinet’ or a cabinet committee, wields considerable policy making power relative to regular ministers. Our simplest measure takes the score assigned to the prime minister’s portfolio as an

indicator of cabinet hierarchy. However, as we have indicated, hierarchical organization may involve delegation to a subset of the cabinet ministers so we also consider the sum of the importance of the three highest rated portfolios.²⁵ The average prime ministerial portfolio is rated 2.24 (s.e. .22) times more important than the average portfolio and the average of the cumulative rating of the three most important portfolios was 5.40 (s.e. .50). In addition, we consider a measure of the institutional powers of the prime ministers provided by Müller & Strøm (2001).

[Table 1 approximately here]

The use of junior ministers is measured in two ways. Theoretically we are interested in whether the extent to which junior ministers are used to keep tabs on coalition partners influences the length of coalition agreements. Our variables are derived from Manow & Zorn's (2004) data on cabinet composition with the exception of the data for Luxembourg, which was collected by the authors.²⁶ In constructing the variables we first obtain a count of ministers, junior ministers, and junior ministers placed in a portfolio not held by their party ('watchdog junior ministers'). Our first measure, JUNIOR MINISTER USE, is the ratio of watchdog junior ministers over the number of ministers. This measure captures how widely the practice of using junior ministers to keep tabs on partners is applied. The second measure, JUNIOR MINISTER ROLE, is the ratio of watchdog junior ministers over the total number of junior ministers. Unlike the previous measure, JUNIOR MINISTER ROLE is an indicator of the role junior ministers play. In cabinets where junior ministers are primarily placed in their party's portfolios, junior ministers can be assumed to have less of a watchdog role than in cabinets where all junior ministers are placed in coalition

²⁵In most instances these portfolios consist of the prime ministerial portfolio, finance, and foreign affairs. Another intuitive measure of hierarchy is the variance of all the ministers' ratings. However, the number of portfolios varies significantly across countries, which implies that the jurisdiction of some portfolios is very narrowly defined. This opens up the possibility that the portfolio is considered unimportant even if the minister has a high degree of autonomy. Also note that the measures we employ may be affected as a high number of 'unimportant' portfolios will serve to lower the experts' estimate of the 'average' portfolio.

²⁶In constructing the variable, we focus on the composition of the cabinet at its formation. In some instances all appointments to the cabinet are not made immediately upon its formation. We, therefore, consider the thirty day window following its formal formation as it is likely that appointments made within that period reflect uncertainty about who gets appointed rather than whether someone gets appointed. In the few instances in which not all the posts are filled immediately they are filled well within the thirty day window.

partners' portfolios. In other words, the measure captures the norms about what junior ministers should do and how they should behave, e.g., whether they are subordinate to their ministers or if they are, first and foremost, the agents of their own party.

In addition to the ideological differences between the coalition parties, the parties' bargaining power should affect the shape of the agreement. Larger parties tend to have more leverage in the bargaining as they typically have more coalition formation opportunities. A large party's dominant position should be reflected in the coalition agreement — larger parties tend to hold more portfolios and have less to gain from tying its own hands in a coalition agreement. For these reasons, we measure ideological divisions within cabinets with Esteban & Ray's (1994) measure of polarization, which depends on both the ideological positions of the parties and their size — importantly, the polarization measure takes a high value when the coalition parties are equally balanced, which is when we expect the parties' incentives to write extensive coalition agreements to be the greatest.²⁷ Esteban and Ray's polarization index equals: $P = \sum_{i=1}^n \sum_{j=1}^n \pi_i^{\alpha+1} \pi_j |y_i - y_j|$, where n is the number of parties, π_i is the size of party i , and y_i is the ideological location of party i . Thus, $|y_i - y_j|$ is the absolute ideological distance between parties i and j . The parameter α is a free parameter that can take values in the range $(1, \alpha^*)$ where $\alpha^* \simeq 1.6$.²⁸

The polarization index is calculated using a measure of party ideology constructed from expert surveys on party positions (Laver & Hunt, 1992; Benoit & Laver, 2006; Warwick, 2006) and the rank ordering of parties provided in Müller & Strøm (2001).²⁹ Using expert surveys as estimates of the parties' ideological positions is not without problems. Each survey contains only a subset of each country's parties as the surveys have generally focused on the parties that were active at the time the survey was administered. However, taken

²⁷Ideological divisions within the cabinet have typically been measured as simply the ideological distance between the left- and right-most parties in the cabinet. Ideological distances is not well suited to capturing ideological conflict as it only pays attention to the parties at the opposite poles of the cabinet and, furthermore, doesn't factor in the size of the coalition parties. See Indridason (2011) for discussion of the limitations of using ideological distance in research on coalition cabinets and Desmet et al. (2009) and Stanig (2012) on polarization more generally.

²⁸See Theorem 3 in Esteban & Ray (1994). A high value of α indicates a greater sensitivity to polarization. The choice of α has virtually no effect on the results but the results reported here set $\alpha = 1.3$.

²⁹A limitation of using expert surveys is that they offer limited temporal variation. Using the Comparative Manifesto Project to estimate ideological positions offers greater temporal variation but it is not clear, for example, to what degree the measure reflects issue salience rather than issue position.

together, the surveys cited above provide a much improved coverage of the set of parties that have won legislative representation. Laver and Benoit's survey is taken as the baseline — if their survey contains an estimate of a party's ideology, it is used. Because there is not necessarily a one-to-one relationship between the measures, we obtain ideological estimates for the parties missing in Laver and Benoit in two steps. First, we regress Benoit & Laver's measures on Laver & Hunt and Warwick's measures for the parties that were included in all the surveys. We then use the estimated coefficients from the regression to predict the ideological positions of the parties that are missing in Laver and Benoit.³⁰

The data on cabinet composition, the number and the size of the cabinet parties comes from Müller & Strøm (2001) and the authors' data. The portfolio salience data is taken from Warwick & Druckman (2006). The variable measuring politicians' preference for office (OFFICE PREFERENCES), as opposed to policy, comes from Laver & Hunt's (1992) expert survey.³¹ Warwick & Druckman also provide the number of portfolios (NO. PORTFOLIOS). Each portfolio, on average, deals with a more narrowly defined issue area as the number of portfolios increases. With each portfolio dealing with a more narrowly defined area it is possible that each portfolio becomes less important and that the relationship between the number of portfolios and the length of coalition agreements is not linear. We also include the square of the number of portfolios to allow for a non-linear relationship.

As figure 1 makes clear, coalition agreements have become longer over time. This does not mean that there is a general trend towards decreasing ministerial autonomy. Rather, it may indicate a greater effort to contain ministerial drift. We control for the general trend over time with the number of years between cabinet formation and 1944. Where there is evidence of a non-linear relationship we include the square of the variable as a control.

[Figure 1 approximately here]

It is instructive to examine the bivariate relationship between the length of coalition agreement and the rating of the prime minister graphically. The right panel of figure 1 clearly reflects the hypothesized relationship. In the earlier parts of the period there are relatively few (and short) coalition agreements but the relationship between the length of

³⁰An analogous method is used when only one measure of a party's ideological position exists.

³¹It bears noting that Laver & Hunt's (1992) measure of preference for office at a single point in time and the results with regard to this variable should, therefore, be taken with a grain of salt.

the agreement and the importance of the prime ministers is always negative (albeit very weakly so in the early periods). Where prime ministers are strong and ministers have less autonomy, coalition agreements tend to be shorter.

The results of the Heckman models are shown in table 2. Greater hierarchy within the cabinet has strong and statistically significant negative effect on the length of the coalition agreements. In substantive terms the effect of the prime minister's importance is fairly large. A one standard deviation increase in the prime minister's rating predicts a reduction in the length of the agreement of about 3300 to 4800 words (depending on model specification).³² Replacing the rating of the prime ministerial portfolio with the cumulative rating of the three most important portfolios yields essentially the same results and does not improve the fit of the model much, which suggests that the prime minister's importance is the most relevant factor. The results in table 2 also suggest a relationship between the rating of the prime minister and the likelihood of a coalition agreement being made. However, this finding is not robust and is driven by the inclusion of the Netherlands in our sample.³³

[Table 2 approximately here]

The results concerning the effects of junior ministers are interesting. We argued that JUNIOR MINISTER USE had a positive effect on the length of the coalition agreement but that the effect on whether an agreement was made was indeterminate. The hypothesis with regard to the length of the agreement is supported by our results. The predicted increase in the length of a coalition agreement resulting from a standard deviation increase in the JUNIOR MINISTER USE is about 3300-3500 words. JUNIOR MINISTER USE, however, has a negative effect on the likelihood of an agreement being made, suggesting that the value of writing an agreement is fairly marginal when the cabinet is well equipped to exercise oversight, i.e., when many portfolios are shadowed by a coalition partner.³⁴ The results

³²All substantive effects reported are calculated from the results in table 2 and are conditional on a coalition agreement being made. The ranges are based on the different specifications reported in the table.

³³We probe the robustness of the results by considering alternative model specifications and estimating the models excluding individual countries (available in an online appendix along with other robustness tests). The results with regard to the length of the agreement are robust while the estimated effects of hierarchy and junior ministers hinge on the inclusion of, respectively, the Netherlands and Ireland.

³⁴The results for the effect of junior ministers on the decision to make an agreement were not robust to

with respect to JUNIOR MINISTER ROLE are somewhat more ambiguous. In line with our expectations, coalition agreements are more likely to be made when junior ministers are primarily used to keep tabs on partners.

Ideologically polarized coalitions appear no more likely to make coalition agreements but, if made, those agreements tend to be longer. Substantively, a standard deviation increase in government polarization is estimated to add about 1400 words to the length of a coalition agreement. The number of coalition parties does not appear to make a coalition agreement more likely but, if written, the agreements are longer — although the effect is not always statistically significant. An additional cabinet party increases the length of coalition agreements by as much as 1100 words. Minority coalitions are less likely than minimal winning coalitions to make a coalition agreement. Their coalition agreements also appear to be longer although the effect is only statistically significant in one of our models.³⁵

The strength of politicians' preferences for office (as opposed to policy) appears to have a negative effect on the length of coalition agreement but the estimated coefficients just fall short of being statistically significant at the 90% level. Substantively the effect of one standard deviation increase in preference for office reduces the length of coalition agreement by approximately 1000 words. The coefficient in the selection equation also has the expected sign but is far from being statistically significant.³⁶

As hypothesized, coalition agreements are longer where the number of portfolios is high. As the number of portfolios increases, the marginal effect on the length of the agreements decreases (but doesn't become negative in the range of values of NO. OF PORTFOLIOS), possibly reflecting that each portfolio may be relatively important when portfolios are relatively few. When the number of portfolios becomes very high, the importance of an additional portfolio is likely to be relatively small and is, therefore, less likely to necessitate a

the exclusion of Ireland.

³⁵The estimated coefficients for oversized coalitions appear similar to those for minority coalitions but it is important to note that oversized coalitions also include more parties — roughly one more party in our sample — which suggests that minority coalitions are also less likely to make a coalition agreement than oversized parties although the difference is not statistically significant.

³⁶We have excluded OFFICE PREFERENCES from the outcome equation in the results presented here since the effect is not statistically significant and excluding variables from the outcome equation helps with identification of the model.

lengthy treatment in the coalition agreement. The controls for time (YEAR and YEAR²) reflect the trend in figure 1 — coalition agreements have become both more common and grown in length over time.

Finally, as check of robustness we consider another measure of hierarchy within the cabinet that is based on the institutional powers granted to the prime minister (see columns 4 and 5). Although the coefficient for the institutional measure is not statistically significant, the sign of the coefficient is in line with our expectations; coalition agreements grow shorter as hierarchy within the cabinet increases. The specifications in columns 4 and 5 include, respectively, the subjective assessments of the importance of the prime ministerial portfolio and the objective institutional measures. The fact that the coefficients remain statistically significant suggests that the institutional measure does not fully capture the importance of the prime minister's portfolio.³⁷ The subjective measures may be useful in capturing the extra-constitutional means prime minister have in organizing their cabinets while the institutional factors may provide prime ministers with means of advancing their agenda that may escape experts.

Conclusions

Policy making in parliamentary system is to a large degree concentrated within the cabinet and government parties can generally rely on their parties' support when government bills enter the legislative arena. The importance of the cabinet has led scholars to devote considerable attention to coalition governance. However, much of that attention has been devoted to study the formation of government coalitions and their demise — a phenomenon Strøm & Müller term 'the Hollywood bias'. What takes place in between those critical events has attracted far less attention although important advances on this front have been made in recent years. Scholars have, e.g., begun to examine the passage of government legislation in greater detail.³⁸ However, the majority of the scholarship on the working

³⁷Note that the result in the table don't include the institutional measure in the selection equation. In the appendix we show that the institutional powers of the prime minister have a statistically significant effect on whether a coalition agreement is made.

³⁸See, e.g., Bräuning & Debus (2009); Miller & Stecker (2008); Martin & Vanberg (2005, 2004, 2011); Manow & Burkhart (2008).

of coalition governments remains based on case and country studies. While such studies have provided important insights into coalition governance, the generalizability of those insights can be questioned. In this paper, we take a step towards providing a theory of how cabinets manage conflicting interests within the cabinet.

Our basic insight is that government coalitions are composed of a variety of competing interests that include the coalition parties' policy preferences as well their ministers' private interests, whether policy or career related. If these interests are not kept in check, it can result in incoherent policy that may have significant political consequences for the parties in government. Effective cabinets must coordinate their actions in some manner. In some cabinets such coordination is achieved by making the prime minister, or the core executive, the decision making center of the cabinet. In such circumstances, the core executive's active involvement in decision making across portfolios aids policy coordination and helps improve on the Pareto inferior policy outcome that obtains in Laver & Shepsle's (1996) model. That is, a strong core executive alleviates the need to write extensive coalition agreements to constrain ministers. However, when the powers of the core executive are concentrated in the prime minister's office, coalition agreements are an important tool of managing the cabinet but in this instances they are employed as a tool of the minor coalition partners to elicit a credible commitment from prime ministers (see, e.g., Strøm & Müller, 2008). Coalition agreements are, therefore, more likely to be made in contexts where prime ministers are strong. In other cabinets a substantial degree of autonomy is delegated to cabinet ministers, who, personally or as agents of their parties, may have incentives to deviate from the cabinet's collective policy goals. When ministers are relatively autonomous, cabinets are likely to take steps to reduce their discretionary decision making powers by writing more detailed coalition agreements, which address a wide range of issues.³⁹ Thus, in our account coalition agreements are a method for coalition cabinets to combat the moral hazard problem that results from delegation to parties *and* ministers.

The empirical evidence offers clear support for our theory. There is a robust relationship between the degree of hierarchy within cabinets and the length of coalition agreements, i.e., coalition agreements get longer as ministers become more autonomous. This effect is

³⁹Huber & Shipan (2002) make a similar argument about more detailed legislation being an attempt to restrict the discretion afforded to bureaucrats.

found for both subjective measures of prime ministerial influence and a measure based on the institutional power of prime ministers. The empirical evidence also show that the length of coalition agreements increases with factors that are likely to exacerbate the moral problem of coalition governments such as the number of parties in the coalition and their ideological heterogeneity. Perhaps the most interesting result, however, concerns the use of junior ministers in coalition cabinets. We hypothesized that coalition agreements are complements rather than substitutes for the use of junior ministers to keep tabs on partners and, thus, that cabinets have a greater incentive to write coalition agreements when junior ministers can be used to keep tabs on partners. While we hesitate to say that the results firmly support the hypothesis, the findings are suggestive. In particular, we find that coalition agreements tend to be longer where more junior ministers are placed in a portfolio held by a minister of a different party. It may be a little premature to conclude that junior ministers and coalition agreements are complements but the results suggest that junior ministers may play quite different roles across countries and across time and that a closer look at the role of junior ministers is warranted.

While our findings are generally supportive of our theory, it is clear that much remains to be said about the role of coalition agreements in coalition governance. Existing content analysis of coalition agreements and our findings here suggest that the length of coalition agreements is a reasonable proxy for their comprehensiveness.⁴⁰ However, in future research we aim to take a closer look at the actual content of coalition agreements with the aim of further validating our use of the length of the agreement as a measure of their comprehensiveness in addition to examining how they are used to tie the hands of coalition partners, and to what degree they reflect their bargaining power. Unfortunately, these are tasks beyond the scope of this paper if only for the reason that there have been no cross-national efforts to systematically collect and archive coalition agreements.⁴¹

⁴⁰That is, the length of coalition agreements varies in line with our theoretical predictions whereas they contradict alternative explanations of the role of coalition agreements.

⁴¹Coalition agreements were collected and coded in the early days of the Comparative Manifesto Project but appear not to have been archived. Müller & Strøm (2001) only collected information about the length of coalition agreements and what proportion addressed policy and procedural issues.

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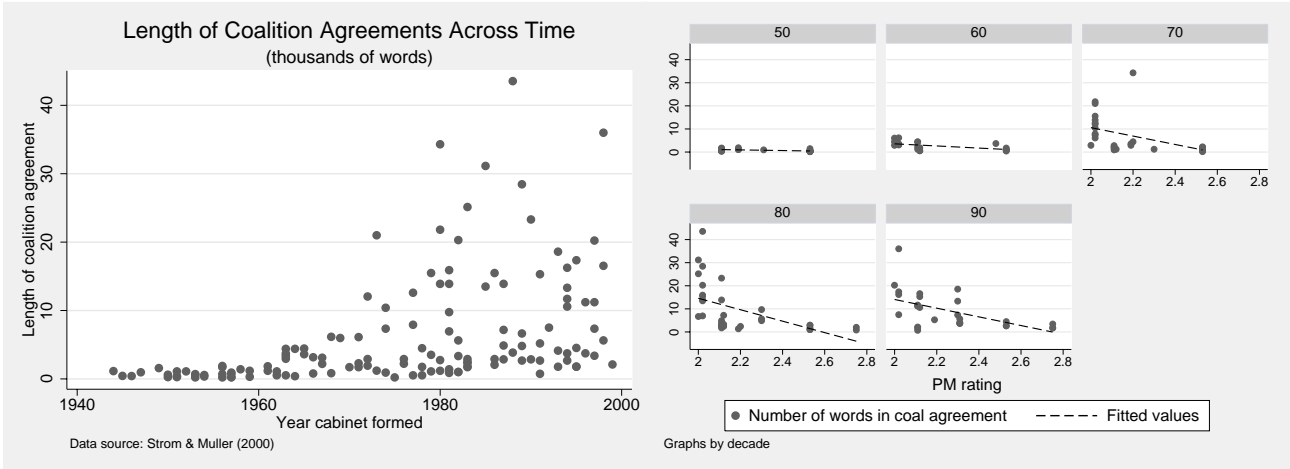


FIGURE 1: THE RELATIONSHIP BETWEEN LENGTH OF COALITION AGREEMENTS AND PM RATING OVER TIME

FIGURE 2: DISTRIBUTION OF AGREEMENT LENGTH

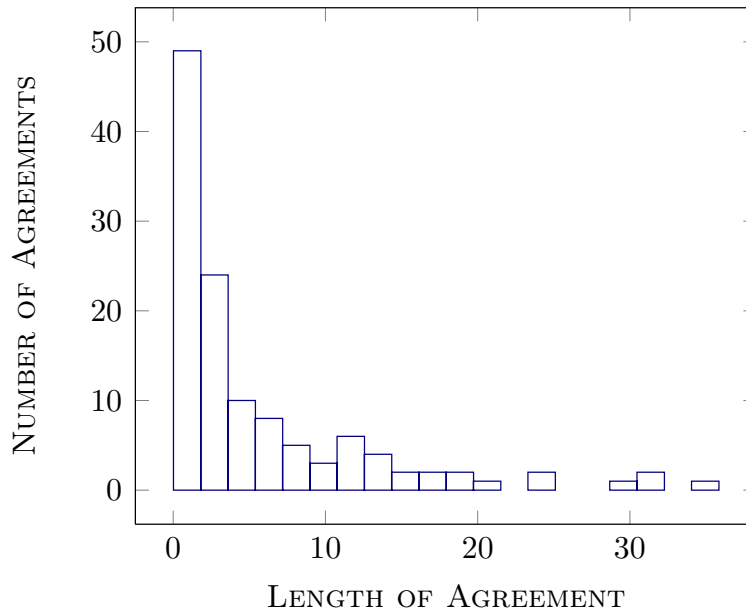


TABLE 1: COALITION AGREEMENTS SINCE 1980 & HIERARCHY IN THE CABINET

	AVERAGE	CASES	PORTFOLIO SALIENCE OF	
	NO. OF WORDS		PRIME MINISTER	TOP THREE PORTFOLIOS
Netherlands	22067	6	2.02	4.92
Norway	20791	4	2.00	5.05
Belgium	17306	8	2.02	4.77
Ireland	9913	6	2.30	5.59
Germany	8069	7	2.12	5.11
Denmark	4296	4	2.31	5.79
Sweden	3300	2	2.19	5.14
Iceland	2569	8	2.11	5.24
Finland	2437	8	2.53	6.32
France	1976	5	2.75	6.30

Source: Müller and Strøm (2001) & authors' data.

TABLE 2: WRITING AN COALITION AGREEMENT
— HECKMAN SELECTION MODEL —

	(1)	(2)	(3)	(4)	(5)	
LENGTH OF AGREEMENT	PM RATING	-20.98*** (3.01)		-21.77*** (3.09)		-21.77*** (3.11)
	TOP THREE PORTF. RATING		-7.47*** (1.08)		-7.86*** (1.10)	
	PM INST'L STRENGTH					-.003 (.33)
	JUNIOR MINISTER USE	8.17*** (2.51)	8.02*** (2.51)	8.73*** (2.61)	8.90*** (2.60)	8.73*** (2.69)
	GOV'T POLARIZATION	3.64** (1.49)	3.75** (1.49)	3.99** (1.61)	4.33*** (1.60)	3.99** (1.63)
	NO. PARTIES IN COALITION	1.04** (.53)	1.14** (.53)	.87 (.66)	1.03 (.66)	.86 (.71)
	MINORITY GOV'T			2.04 (1.47)	2.53* (1.48)	2.04 (1.54)
	OVERSIZED GOV'T			.72 (1.60)	.48 (1.58)	.71 (1.62)
	NO. OF PORTFOLIOS	2.16*** (.73)	2.10*** (.72)	2.02*** (.73)	1.91*** (.72)	2.02*** (.73)
	NO. OF PORTFOLIOS ²	-.04*** (.02)	-.04*** (.02)	-.04** (.02)	-.04** (.02)	-.04** (.02)
	YEAR	-.11 (.14)	-.15 (.14)	-.09 (.14)	-.13 (.14)	-.09 (.14)
	YEAR ²	.005** (.002)	.005** (.002)	.004* (.002)	.005** (.002)	.004* (.002)
	CONSTANT	17.28* (9.62)	12.78 (9.42)	20.18** (9.91)	16.14* (9.60)	20.18** (9.91)
	SELECTION EQUATION	PM RATING	1.59** (.70)	1.59** (.70)	1.98*** (.74)	1.98*** (.74)
JUNIOR MINISTER USE		-2.15*** (.52)	-2.15*** (.52)	-2.20*** (.54)	-2.19*** (.54)	-2.20*** (.54)
JUNIOR MINISTER ROLE		2.53*** (.49)	2.53*** (.49)	2.61*** (.50)	2.61*** (.50)	2.61*** (.50)
GOV'T POLARIZATION		-.007 (.30)	-.006 (.30)	-.06 (.31)	-.06 (.31)	-.06 (.31)
NO. PARTIES IN COALITION		.06 (.11)	.06 (.11)	.23 (.14)	.23 (.14)	.23 (.14)
MINORITY GOV'T				-.69** (.31)	-.69** (.31)	-.69** (.31)
OVERSIZED GOV'T				-.67** (.31)	-.67** (.31)	-.67** (.31)
OFFICE PREFERENCES		-.02 (.09)	-.02 (.09)	-.04 (.09)	-.05 (.09)	-.04 (.09)
NO. OF PORTFOLIOS		-.10*** (.02)	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)
YEAR		.04*** (.007)	.04*** (.007)	.03*** (.007)	.03*** (.007)	.03*** (.007)
CONSTANT		-2.02 (1.58)	-2.01 (1.57)	-2.85* (1.64)	-2.84* (1.64)	-2.85* (1.64)
OBSERVATIONS		227	227	227	227	227
LOG LIKELIHOOD	-460.42	-460.45	-455.81	-455.34	-455.81	
ρ	-.009	.002	-.05	-.06	-.05	

A Appendix

The appendix presents a variety of robustness tests for our results. We anticipate these results being made available as an online appendix on the journal's website (or, alternatively, the author's website) in order to keep the manuscript within reasonable length. We are also happy to include any of these robustness checks in the manuscript itself (in the text or in an appendix).

The models presented in the body of the text excluded a couple of variables from the outcome equation. The reason for excluding these variables is that if all the variables in the selection equation also appear in the outcome equation then identification in the model depends solely on the assumption about the model's error terms. The results in table 3 make clear, the results are substantively the same when the variables are included in the model. As discussed in the text, neither JUNIOR MINISTER ROLE nor OFFICE PREFERENCES has a statistically significant effect on the length of coalition agreements.

Martin & Vanberg (2011), for example, argue that legislative institutions also serve to provide oversight and they may, therefore, also influence the coalition's propensity to write a coalition agreement. We don't have clear theoretical explanations about the effect the strength of legislative institutions. On one hand, their effect may be similar to that of junior ministers, by increasing the effectiveness of coalition agreements. On the other hand, as the legislature is not the agent of the cabinet, and strong legislature may, therefore, threaten to unravel the compromised set forth in the coalition agreement. Table 4 shows that the strength of the legislature, as measured by Martin & Vanberg (2011), reduces the probability of a coalition agreement being made and the length of the agreement (when one is made). Thus, the results suggest that the latter conjecture fits better with reality. We suspect that Martin & Vanberg's (2011) measure may not capture the relevant variation in legislative institution and that it is necessary to distinguish legislative institutions that enhance the government's control of the agenda as opposed to institutions that strengthen the legislature's independence. Thus, we emphasize that these results are preliminary and remain at this stage the subject of future work. Importantly, the results with respect to our independent variables are robust to the inclusion of parliamentary strength in the models.

In table 5 the number of government parties are excluded from our models. These results are primarily of interest because government type and the number of parties in government are correlated as we discuss in the article. Again, the substantive conclusions are not altered by these modifications. In table 6 we replace the polarization measure with the more conventional measure of ideological differences within coalitions, i.e., the largest

difference in ideology between the coalition parties. Using this measure we no longer find a statistically significant effect of ideology, which suggests that accounting for the size and ideological distribution of the coalition parties is important. The findings with regard to the other independent variables are substantively the same.

In table 7 we remove some of the variables that didn't statistically affect the length of the agreement (we leave some in the selection equation of the model to aid with identification). Again, the substantive results survive in these models. In table 8 we demonstrate the results are robust to the exclusion or inclusion of the variables measuring the use and role of junior ministers. While the effect of junior minister use on making of coalition agreement is reduced when junior minister role is excluded, the coefficient remains statistically significant.

Finally, as noted in the body of the paper, in table 9 we display the results of robustness tests in which we drop each country from the analysis. As noted, the results with respect to the decision whether to make a coalition agreement or not turn out to not be as robust as one might have hoped. In particular, the effect of the rating of the prime minister appears to be driven by the inclusion of the data from the Netherlands and the findings with respect to junior ministers appear to be driven by the inclusion of Ireland. The results with respect to the length of the coalition agreement are far more robust — in some instances the estimated coefficients fail to reach statistical significance but that is not unexpected due to smaller sample sizes.

TABLE 3: HECKMAN MODEL
W/JUNIOR MINISTER ROLE & OFFICE PREFERENCES IN OUTCOME EQUATION

	(1)	(2)	(3)	(4)	(5)	
LENGTH OF AGREEMENT	PM RATING	-21.80*** (3.15)		-9.55 (13.80)	-22.32*** (3.19)	
	TOP THREE PORTF. RATING		-7.62*** (1.10)	-4.38 (4.81)		-7.91*** (1.11)
	PM INST'L STRENGTH				-.36 (.38)	-.47 (.38)
	JUNIOR MINISTER USE	10.36*** (3.51)	11.08*** (3.50)	10.81*** (3.52)	10.09*** (3.52)	10.75*** (3.49)
	JUNIOR MINISTER ROLE	-2.56 (2.65)	-3.24 (2.63)	-2.96 (2.66)	-3.17 (2.72)	-4.06 (2.70)
	GOV'T POLARIZATION	3.62** (1.58)	4.07*** (1.57)	3.87** (1.60)	3.19* (1.64)	3.51** (1.63)
	NO. PARTIES IN COALITION	1.19** (.55)	1.22** (.55)	1.22** (.55)	.97 (.60)	.92 (.60)
	OFFICE PREFERENCES	.17 (.53)	-.17 (.52)	-.01 (.57)	.45 (.61)	.20 (.60)
	NO. OF PORTFOLIOS	2.45*** (.95)	2.03** (.92)	2.25** (.97)	2.84*** (1.03)	2.55** (1.01)
	NO. OF PORTFOLIOS ²	-.05** (.02)	-.04* (.02)	-.05** (.02)	-.06** (.02)	-.05** (.02)
	YEAR	-.12 (.14)	-.14 (.14)	-.14 (.14)	-.12 (.14)	-.14 (.14)
	YEAR ²	.005* (.002)	.005** (.002)	.005** (.002)	.005** (.002)	.005** (.002)
	CONSTANT	15.59 (11.02)	15.21 (10.97)	15.54 (10.96)	13.08 (11.29)	11.94 (11.21)
SELECTION EQUATION	PM RATING	1.61** (.70)	1.60** (.70)	1.61** (.70)	1.61** (.70)	1.60** (.70)
	JUNIOR MINISTER USE	-2.17*** (.52)	-2.17*** (.52)	-2.17*** (.52)	-2.17*** (.52)	-2.17*** (.52)
	JUNIOR MINISTER ROLE	2.52*** (.49)	2.52*** (.49)	2.52*** (.49)	2.52*** (.49)	2.52*** (.49)
	GOV'T POLARIZATION	-.01 (.30)	-.009 (.30)	-.01 (.30)	-.01 (.30)	-.01 (.30)
	NO. PARTIES IN COALITION	.07 (.11)	.07 (.11)	.07 (.11)	.07 (.11)	.07 (.11)
	OFFICE PREFERENCES	-.02 (.09)	-.02 (.09)	-.02 (.09)	-.02 (.09)	-.02 (.09)
	NO. OF PORTFOLIOS	-.11*** (.02)	-.11*** (.02)	-.11*** (.02)	-.11*** (.02)	-.11*** (.02)
	YEAR	.04*** (.007)	.04*** (.007)	.04*** (.007)	.04*** (.007)	.04*** (.007)
	CONSTANT	-2.07 (1.57)	-2.05 (1.57)	-2.07 (1.57)	-2.07 (1.58)	-2.05 (1.57)
OBSERVATIONS	227	227	227	227	227	
LOG LIKELIHOOD	-459.9	-459.72	-459.48	-459.45	-458.96	
ρ	-.18	-.22	-.2	-.17	-.21	

TABLE 4: HECKMAN MODEL
W/STRENGTH OF LEGISLATURE

	(1)	(2)	(3)	(4)	(5)	
LENGTH OF AGREEMENT	PM RATING	-21.40*** (3.70)		-12.01 (15.04)	-21.94*** (3.83)	
	TOP THREE PORTF. RATING		-8.08*** (1.40)	-3.67 (5.70)		-8.78*** (1.46)
	PM INST'L STRENGTH				-.53 (.42)	-.85** (.42)
	JUNIOR MINISTER USE	7.62*** (2.71)	7.70*** (2.72)	7.69*** (2.71)	6.98** (2.74)	6.79** (2.70)
	GOV'T POLARIZATION	3.53** (1.67)	3.56** (1.68)	3.54** (1.67)	3.01* (1.71)	2.70 (1.70)
	NO PARTIES IN COALITION	1.19** (.59)	1.31** (.59)	1.26** (.59)	.74 (.69)	.61 (.68)
	NO. OF PORTFOLIOS	1.96 (2.24)	3.49 (2.38)	2.75 (2.55)	3.04 (2.38)	5.64** (2.57)
	NO. OF PORTFOLIOS ²	-.04 (.04)	-.07 (.05)	-.06 (.05)	-.06 (.05)	-.11** (.05)
	YEAR	-.17 (.18)	-.21 (.18)	-.19 (.18)	-.13 (.18)	-.18 (.18)
	YEAR ²	.006** (.003)	.007** (.003)	.006** (.003)	.006** (.003)	.007** (.003)
	LEGISLATURE STRENGTH	-1.09 (.88)	-.74 (.87)	-.95 (.91)	-1.55 (.95)	-1.48 (.93)
	CONSTANT	21.20 (25.73)	-1.18 (26.75)	10.62 (30.48)	10.82 (27.07)	-20.82 (28.04)
SELECTION EQUATION	PM RATING	1.32* (.72)	1.32* (.72)	1.32* (.72)	1.29* (.73)	1.30* (.73)
	JUNIOR MINISTER USE	-1.85*** (.54)	-1.84*** (.54)	-1.85*** (.54)	-1.83*** (.55)	-1.84*** (.54)
	JUNIOR MINISTER ROLE	2.71*** (.52)	2.70*** (.52)	2.70*** (.52)	2.72*** (.51)	2.72*** (.52)
	GOV'T POLARIZATION	.13 (.31)	.13 (.31)	.13 (.31)	.14 (.31)	.13 (.31)
	NO PARTIES IN COALITION	-.02 (.12)	-.01 (.12)	-.02 (.12)	-.02 (.12)	-.02 (.12)
	OFFICE PREFERENCES	-.21 (.14)	-.21 (.14)	-.21 (.14)	-.21 (.14)	-.21 (.14)
	NO. OF PORTFOLIOS	-.05 (.04)	-.05 (.04)	-.05 (.04)	-.05 (.04)	-.05 (.04)
	YEAR	.03*** (.008)	.03*** (.008)	.03*** (.008)	.03*** (.008)	.03*** (.008)
	LEGISLATURE STRENGTH	-.41 (.25)	-.41* (.25)	-.41 (.25)	-.41* (.25)	-.40 (.25)
	CONSTANT	-1.67 (1.69)	-1.68 (1.69)	-1.68 (1.69)	-1.61 (1.72)	-1.62 (1.71)
OBSERVATIONS	205	205	205	205	205	
LOG LIKELIHOOD	-400.7	-400.81	-400.5	-399.91	-398.82	
ρ	-.03	-.07	-.05	.08	.06	

TABLE 5: HECKMAN MODEL
EXCLUDING NO. COALITION PARTIES

	(1)	(2)	(3)	(4)	(5)	
LENGTH OF AGREEMENT	PM RATING	-21.56*** (3.08)		-10.55 (12.79)	-21.34*** (3.13)	
	TOP THREE PORTF. RATING		-7.71*** (1.10)	-4.05 (4.57)		-7.65*** (1.11)
	PM INST'L STRENGTH				-.20 (.31)	-.35 (.31)
	JUNIOR MINISTER USE	9.17*** (2.62)	9.39*** (2.63)	9.31*** (2.62)	8.72*** (2.71)	8.61*** (2.70)
	GOV'T POLARIZATION	3.40** (1.56)	3.63** (1.56)	3.52** (1.57)	3.36** (1.56)	3.55** (1.56)
	MINORITY GOV'T	2.27 (1.45)	2.78* (1.47)	2.57* (1.48)	1.94 (1.54)	2.21 (1.55)
	OVERSIZED GOV'T	1.97 (1.25)	1.96 (1.25)	2.00 (1.25)	1.60 (1.38)	1.31 (1.37)
	NO. OF PORTFOLIOS	1.84** (.72)	1.70** (.72)	1.79** (.72)	1.91*** (.73)	1.84** (.73)
	NO. OF PORTFOLIOS ²	-.04** (.02)	-.03** (.02)	-.04** (.02)	-.04** (.02)	-.04** (.02)
	YEAR	-.05 (.14)	-.08 (.14)	-.07 (.14)	-.05 (.14)	-.08 (.14)
	YEAR ²	.004 (.002)	.004* (.002)	.004* (.002)	.004* (.002)	.004* (.002)
	CONSTANT	23.40** (9.31)	19.80** (9.04)	22.04** (9.40)	22.65** (9.47)	18.89** (9.19)
SELECTION EQUATION	PM RATING	1.89*** (.72)	1.88*** (.72)	1.89*** (.72)	1.89*** (.73)	1.89*** (.73)
	JUNIOR MINISTER USE	-2.10*** (.54)	-2.10*** (.53)	-2.10*** (.53)	-2.10*** (.54)	-2.10*** (.54)
	JUNIOR MINISTER ROLE	2.76*** (.49)	2.76*** (.49)	2.76*** (.49)	2.76*** (.49)	2.76*** (.49)
	GOV'T POLARIZATION	-.11 (.31)	-.11 (.31)	-.11 (.31)	-.10 (.31)	-.10 (.31)
	MINORITY GOV'T	-.60** (.30)	-.60** (.30)	-.60** (.30)	-.60** (.30)	-.60** (.30)
	OVERSIZED GOV'T	-.39 (.25)	-.39 (.25)	-.39 (.25)	-.39 (.25)	-.39 (.25)
	OFFICE PREFERENCES	-.06 (.09)	-.06 (.09)	-.06 (.09)	-.06 (.09)	-.06 (.09)
	NO. OF PORTFOLIOS	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)
	YEAR	.04*** (.007)	.04*** (.007)	.04*** (.007)	.04*** (.007)	.04*** (.007)
	CONSTANT	-2.16 (1.57)	-2.15 (1.57)	-2.16 (1.57)	-2.16 (1.57)	-2.16 (1.57)
	OBSERVATIONS	227	227	227	227	227
LOG LIKELIHOOD	-458.15	-458.09	-457.75	-457.94	-457.44	
ρ	-.06	-.06	-.07	-.02	.003	

TABLE 6: HECKMAN MODEL
W/IDEOLOGICAL DISTANCE INSTEAD OF POLARIZATION

	(1)	(2)	(3)	(4)	(5)	
LENGTH OF AGREEMENT	PM RATING	-20.12*** (3.10)		-11.99 (12.86)	-20.01*** (3.12)	
	TOP THREE PORTF. RATING		-7.15*** (1.11)	-2.99 (4.59)	-7.16*** (1.12)	
	PM INST'L STRENGTH				-.22 (.33)	
	JUNIOR MINISTER USE	8.82*** (2.56)	8.68*** (2.56)	8.79*** (2.55)	8.43*** (2.62)	8.03*** (2.61)
	IDEOLOGICAL DISTANCE	-.32 (.37)	-.31 (.37)	-.31 (.37)	-.31 (.37)	-.28 (.37)
	NO PARTIES IN COALITION	1.01* (.54)	1.09** (.55)	1.05* (.55)	.80 (.62)	.74 (.62)
	NO. OF PORTFOLIOS	1.65** (.73)	1.57** (.72)	1.64** (.72)	1.69** (.73)	1.66** (.72)
	NO. OF PORTFOLIOS ²	-.03** (.02)	-.03** (.02)	-.03** (.02)	-.03** (.02)	-.03** (.02)
	YEAR	-.16 (.14)	-.19 (.15)	-.18 (.15)	-.15 (.15)	-.17 (.15)
	YEAR ²	.005** (.002)	.006** (.002)	.006** (.002)	.005** (.002)	.006** (.002)
CONSTANT	25.30*** (9.13)	21.13** (8.90)	23.99** (9.33)	25.39*** (9.23)	21.54** (9.10)	
SELECTION EQUATION	PM RATING	1.53** (.70)	1.53** (.70)	1.53** (.70)	1.53** (.70)	1.52** (.70)
	JUNIOR MINISTER USE	-2.13*** (.51)	-2.12*** (.51)	-2.13*** (.51)	-2.12*** (.52)	-2.11*** (.52)
	JUNIOR MINISTER ROLE	2.48*** (.48)	2.48*** (.48)	2.48*** (.48)	2.49*** (.48)	2.49*** (.48)
	IDEOLOGICAL DISTANCE	.06 (.08)	.06 (.08)	.06 (.08)	.06 (.08)	.06 (.08)
	NO PARTIES IN COALITION	.04 (.12)	.04 (.12)	.04 (.12)	.03 (.12)	.03 (.12)
	OFFICE PREFERENCES	-.02 (.08)	-.02 (.08)	-.02 (.08)	-.02 (.08)	-.02 (.08)
	NO. OF PORTFOLIOS	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)
	YEAR	.04*** (.007)	.04*** (.007)	.04*** (.007)	.04*** (.007)	.04*** (.007)
	CONSTANT	-2.11 (1.55)	-2.10 (1.55)	-2.11 (1.55)	-2.10 (1.56)	-2.09 (1.56)
	OBSERVATIONS	227	227	227	227	227
LOG LIKELIHOOD	-462.64	-462.87	-462.43	-462.41	-462.21	
ρ	-.06	-.06	-.07	-.03	.005	

TABLE 7: HECKMAN MODEL
EXCLUDING STATISTICALLY INSIGNIFICANT (90%) VARIABLES

	(1)	(2)	(3)	(4)	(5)	
LENGTH OF AGREEMENT	PM RATING	-20.98*** (3.01)	-20.99*** (3.00)	-20.87*** (3.02)	-20.98*** (3.01)	-20.89*** (3.02)
	JUNIOR MINISTER USE	8.17*** (2.51)	8.17*** (2.51)	8.18*** (2.51)	8.17*** (2.51)	8.18*** (2.51)
	GOV'T POLARIZATION	3.64** (1.49)	3.64** (1.49)	3.65** (1.49)	3.64** (1.49)	3.65** (1.49)
	NO PARTIES IN COALITION	1.04** (.53)	1.04** (.53)	1.06** (.52)	1.04** (.53)	1.06** (.52)
	NO. OF PORTFOLIOS	2.16*** (.73)	2.16*** (.72)	2.17*** (.73)	2.16*** (.73)	2.17*** (.72)
	NO. OF PORTFOLIOS ²	-.04*** (.02)	-.04*** (.02)	-.04*** (.02)	-.04*** (.02)	-.04*** (.02)
	YEAR	-.11 (.14)	-.11 (.14)	-.11 (.14)	-.11 (.14)	-.11 (.14)
	YEAR ²	.005** (.002)	.005** (.002)	.005** (.002)	.005** (.002)	.005** (.002)
	CONSTANT	17.28* (9.62)	17.32* (9.56)	16.87* (9.68)	17.27* (9.63)	16.95* (9.58)
	SELECTION EQUATION	PM RATING	1.59** (.70)	1.57** (.69)	1.57** (.70)	1.59** (.70)
JUNIOR MINISTER USE		-2.15*** (.52)	-2.18*** (.49)	-2.11*** (.52)	-2.15*** (.51)	-2.15*** (.49)
JUNIOR MINISTER ROLE		2.53*** (.49)	2.54*** (.48)	2.60*** (.47)	2.53*** (.48)	2.62*** (.46)
GOV'T POLARIZATION		-.007 (.30)	-.03 (.28)	-.01 (.30)		-.04 (.28)
NO PARTIES IN COALITION		.06 (.11)	.06 (.11)		.06 (.11)	
OFFICE PREFERENCES		-.02 (.09)		-.02 (.09)	-.02 (.08)	
NO. OF PORTFOLIOS		-.10*** (.02)	-.11*** (.02)	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)
YEAR		.04*** (.007)	.04*** (.007)	.04*** (.007)	.04*** (.007)	.04*** (.007)
CONSTANT		-2.02 (1.58)	-2.03 (1.57)	-1.84 (1.53)	-2.02 (1.55)	-1.85 (1.53)
OBSERVATIONS		227	227	227	227	227
LOG LIKELIHOOD	-460.42	-460.44	-460.54	-460.42	-460.57	
ρ	-.009	-.01	.02	-.009	.01	

TABLE 8: HECKMAN MODEL
 VARYING WHICH JUNIOR MINISTER VARIABLES ARE INCLUDED

	(1)	(2)	(3)	(4)	(5)	
LENGTH OF AGREEMENT	PM RATING	-20.98*** (3.01)	-21.46*** (2.95)	-21.57*** (2.92)	-21.51*** (2.92)	-20.98*** (3.01)
	JUNIOR MINISTER USE	8.17*** (2.51)	10.55*** (3.46)	8.81*** (2.58)	10.34*** (3.29)	8.17*** (2.51)
	JUNIOR MINISTER ROLE		-2.63 (2.63)		-1.67 (2.22)	
	GOV'T POLARIZATION	3.64** (1.49)	3.78** (1.50)	3.59** (1.50)	3.72** (1.50)	3.64** (1.49)
	NO PARTIES IN COALITION	1.04** (.53)	1.14** (.53)	.87 (.53)	.99* (.55)	1.04** (.53)
	NO. OF PORTFOLIOS	2.16*** (.73)	2.26*** (.73)	2.08*** (.73)	2.17*** (.73)	2.16*** (.73)
	NO. OF PORTFOLIOS ²	-.04*** (.02)	-.04*** (.02)	-.04** (.02)	-.04** (.02)	-.04*** (.02)
	YEAR	-.11 (.14)	-.11 (.14)	-.13 (.14)	-.12 (.14)	-.11 (.14)
	YEAR ²	.005** (.002)	.004* (.002)	.005** (.002)	.004* (.002)	.005** (.002)
	CONSTANT	17.28* (9.62)	17.47* (9.20)	20.24** (9.21)	18.89** (9.36)	17.28* (9.62)
SELECTION EQUATION	PM RATING	1.59** (.70)	1.61** (.70)	1.33** (.61)	1.33** (.61)	1.59** (.70)
	JUNIOR MINISTER USE	-2.15*** (.52)	-2.17*** (.52)	-.90*** (.34)	-.90*** (.34)	-2.15*** (.52)
	JUNIOR MINISTER ROLE	2.53*** (.49)	2.52*** (.49)			2.53*** (.49)
	GOV'T POLARIZATION	-.007 (.30)	-.01 (.30)	.19 (.28)	.19 (.28)	-.007 (.30)
	NO PARTIES IN COALITION	.06 (.11)	.07 (.11)	.25** (.10)	.25** (.10)	.06 (.11)
	OFFICE PREFERENCES	-.02 (.09)	-.01 (.09)	-.10 (.08)	-.10 (.08)	-.02 (.09)
	NO. OF PORTFOLIOS	-.10*** (.02)	-.11*** (.02)	-.10*** (.02)	-.10*** (.02)	-.10*** (.02)
	YEAR	.04*** (.007)	.04*** (.007)	.03*** (.007)	.03*** (.007)	.04*** (.007)
	CONSTANT	-2.02 (1.58)	-2.08 (1.57)	-1.28 (1.40)	-1.29 (1.40)	-2.02 (1.58)
	OBSERVATIONS	227	227	227	227	227
LOG LIKELIHOOD	-460.42	-459.95	-476.41	-476.13	-460.42	
ρ	-.009	-.18	-.25	-.25	-.009	

TABLE 9: HECKMAN MODEL
 EXCLUDING OBSERVATIONS FROM EACH COUNTRY (COUNTRY SHOWN IN TOP ROW)

	AUSTRIA	BELGIUM	DENMARK	FINLAND	GERMANY	ICELAND	IRELAND	LUXEMB.	NETHERL.	NORWAY	PORTUGAL	SWEDEN
PM RATING	-23.48*** (2.93)	-15.80*** (3.47)	-21.04*** (3.19)	-20.99*** (3.18)	-20.24*** (3.78)	-21.29*** (3.10)	-21.48*** (3.14)	-20.90*** (3.08)	-21.98*** (3.31)	-20.22*** (3.15)	-21.29*** (2.65)	-20.98*** (3.07)
JUNIOR MINISTER USE	9.55*** (2.52)	8.15*** (2.42)	8.06*** (2.64)	8.63*** (2.64)	7.63*** (2.73)	7.88*** (2.66)	8.24*** (3.13)	8.17*** (2.52)	7.33*** (2.94)	5.39** (2.52)	9.62*** (2.29)	7.91*** (2.63)
GOV'T POLARIZATION	5.46*** (1.61)	3.45** (1.44)	3.62** (1.55)	2.84 (1.76)	3.75** (1.69)	3.37** (1.58)	3.55** (1.51)	3.66** (1.54)	2.19 (1.60)	3.47** (1.43)	3.71*** (1.38)	3.65** (1.54)
NO PARTIES	.29 (.55)	-.14 (.57)	1.05* (.54)	.79 (.60)	1.17* (.60)	1.17** (.55)	.96* (.52)	1.05** (.53)	1.49** (.62)	1.29** (.54)	.87* (.47)	1.11** (.55)
NO. OF PORTFOLIOS	2.10*** (.71)	3.07*** (.76)	2.14*** (.77)	2.23*** (.75)	2.15 (2.25)	2.10*** (.75)	2.06** (.82)	2.17*** (.73)	2.38*** (.78)	2.34*** (.79)	1.81*** (.66)	2.22*** (.75)
NO. OF PORTFOLIOS ²	-.04** (.02)	-.07*** (.02)	-.04** (.02)	-.05*** (.02)	-.04 (.04)	-.04** (.02)	-.04** (.02)	-.04*** (.02)	-.05*** (.02)	-.05*** (.02)	-.04** (.01)	-.05*** (.02)
YEAR	-.18 (.14)	-.13 (.13)	-.12 (.14)	-.07 (.15)	-.13 (.18)	-.13 (.15)	-.12 (.14)	-.11 (.14)	-.08 (.14)	-.12 (.14)	-.15 (.13)	-.10 (.15)
YEAR ²	.005** (.002)	.005** (.002)	.005** (.002)	.004* (.002)	.006** (.003)	.005** (.002)	.005** (.002)	.005** (.002)	.004* (.002)	.005** (.002)	.005** (.002)	.005* (.002)
CONSTANT	24.47*** (9.11)	2.06 (11.16)	17.69* (10.13)	17.17 (10.51)	15.27 (25.66)	18.70* (9.98)	20.00** (9.36)	16.94 (10.38)	17.63* (9.63)	13.65 (9.66)	22.30** (8.75)	16.49* (9.84)
PM RATING	1.82** (.72)	3.46*** (1.01)	2.19*** (.82)	1.74** (.73)	1.62** (.71)	1.64** (.72)	2.00*** (.76)	1.71** (.70)	-.10 (.96)	2.09*** (.73)	1.64** (.70)	1.52** (.70)
JUNIOR MINISTER USE	-2.06*** (.52)	-1.61*** (.61)	-2.34*** (.56)	-2.25*** (.55)	-2.06*** (.53)	-2.29*** (.55)	.78 (1.22)	-2.14*** (.53)	-1.41** (.66)	-2.57*** (.58)	-2.25*** (.53)	-2.21*** (.52)
JUNIOR MINISTER ROLE	2.21*** (.53)	2.65*** (.60)	2.32*** (.51)	2.50*** (.50)	2.63*** (.51)	2.57*** (.50)	1.04 (.72)	2.29*** (.49)	3.40*** (.59)	2.98*** (.53)	2.48*** (.49)	2.59*** (.49)
GOV'T POLARIZATION	-.18 (.31)	.10 (.33)	.02 (.30)	.24 (.34)	.10 (.31)	-.10 (.30)	-.10 (.32)	.37 (.34)	-.20 (.34)	-.09 (.30)	-.07 (.30)	.01 (.30)
NO PARTIES	.16 (.12)	-.24 (.16)	.09 (.12)	.13 (.12)	.02 (.12)	.08 (.12)	.12 (.13)	-.005 (.12)	.10 (.13)	-.01 (.12)	.09 (.12)	.07 (.11)
OFFICE PREFERENCES	-.04 (.09)	-.20* (.11)	-.09 (.10)	-.02 (.09)	-.07 (.11)	.004 (.09)	.14 (.10)	-.06 (.09)	-.29** (.13)	.09 (.09)	-.0004 (.09)	.01 (.09)
NO. OF PORTFOLIOS	-.12*** (.02)	-.14*** (.03)	-.09*** (.02)	-.10*** (.02)	-.08** (.03)	-.11*** (.02)	-.09*** (.02)	-.09*** (.02)	-.14*** (.02)	-.11*** (.02)	-.11*** (.02)	-.10*** (.02)
YEAR	.04*** (.008)	.03*** (.008)	.04*** (.008)	.03*** (.007)	.04** (.007)	.03*** (.007)	.03*** (.008)	.04*** (.008)	.03*** (.008)	.04*** (.007)	.04*** (.007)	.04*** (.007)
CONSTANT	-2.28 (1.59)	-3.66** (1.84)	-3.33* (1.82)	-2.71 (1.70)	-2.33 (1.65)	-2.13 (1.60)	-3.98** (1.81)	-2.46 (1.60)	4.20* (2.53)	-3.45** (1.67)	-2.15 (1.58)	-2.19 (1.57)
OBSERVATIONS	215	200	211	206	205	217	193	211	205	219	221	221
LOG LIKELIHOOD	-421.97	-384.73	-440.66	-423	-402.85	-435.88	-446.63	-452.57	-401.95	-423.36	-432.52	-442.71
ρ	-.19	.03	-.05	.08	.05	-.01	-.16	.01	.1	.02	-.1	-.03

LENGTH OF AGREEMENT

SELECTION EQUATION