Live for Today, Hope for Tomorrow? Rethinking Gamson's Law

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Abstract

The empirical phenomenon termed Gamson's Law is well known but not least because it lacks firm theoretical foundations. In fact, Gamson's Law is a real puzzle as most models of coalition bargaining suggest that bargaining strength should determine the division of portfolios, which, in turn, suggest that portfolios should rarely be allocated in proportion to the parties' seat share. I propose a theory of portfolio allocation that goes some way towards explaining Gamson's Law. The theory emphasizes the need to maintain, rather than simply to form, coalitions. The desire to maintain the coalition provides the parties with radically different incentives, i.e., instead of maximizing their share in the short run they face a trade-off; taking too much of the pie for oneself means that one's coalition partner can be bought of rather easily. Thus, the problem of forming a stable coalition requires making it sufficiently expensive to buy off each party in the coalition. While this logic is in many respects similar to the logic of the standard coalition bargaining model it differs in important ways as a new coalition may form at any time, i.e., the opposition parties can always propose to form a new coalition. I test hypotheses derived from the model with data on portfolio allocations in coalition cabinets across Europe.

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1 Introduction

Gamson's Law has long been regarded as one of the best established empirical regularities within the field of political science. Indeed, it appears that only two such empirical regularities have been deemed worthy of being termed 'laws'. While the other law, Duverger's Law, has fairly firm theoretical underpinnings — although it has required several refinements (Riker, 1982) — Gamson's Law has no firm theoretical foundations. Indeed, as Warwick & Druckman (2001) note, there is considerable discrepancy between the predictions generated by bargaining theories of coalition formation and the empirically observed proportional allocation of ministerial portfolios among coalition parties.

Most formal models of coalition formation build on Baron & Ferejohn (1989) who extended Rubinstein's (1982) alternating offers model to legislative bargaining. Baron & Ferejohn's (1989) model, as well as other models of coalition formation that build on Baron and Ferejohn's insight, generally predict that the formateur will receive a disproportionally large share of the portfolios. As much of the literature on Gamson's Law has noted, there is little evidence for such formateur advantage and coalition payoffs appear largely proportional — see, e.g., Schofield & Laver (1985), Warwick & Druckman (2001), and Warwick & Druckman (2006). Others, notably Ansolabehere et al. (2005) have countered that the absence of formateur advantage may be due to an empirical misspecification. Coalition payoffs in bargaining models are generally determined by the parties' voting weights rather than their seat shares. Empirical work has generally focussed on the latter, which may have obscured the benefits that stem from being the formateur as Ansolabehere et al. (2005) show.[1]

The equilibrium predictions of the Baron-Ferejohn model have also been considered in several experimental studies (Fréchette et al., 2003, 2005; Diermeier & Morton, 2005). While the studies generally find some evidence of a formateur advantage, this advantage is smaller than that predicted by bargaining models of coalition formation. Some scholars have argued that the failure to find evidence for a formateur advantage of the magnitude predicted by the bargaining models suggests that the standard bargaining framework is inappropriate for modeling government formation. However, if formateurs do reap a disproportionate share, even if smaller than predicted, bargaining models must be considered to contribute to our understanding of coalition formation. After all, most theories only offer predictions about marginal effects.[2]

Recently, a few scholar have sought to provide theoretical accounts that explain the proportional allocation of government portfolios. Morelli (1999) proposes a demand bargaining model in which the parties sequential field demands and a coalition forms if subset of the parties' demands that constitute a majority are compatible. The form of bargaining in Morelli's model may be considered an attractive feature as, on the face of it, it would appear

[1] It should, however, be noted that Ansolabehere et al. (2005) don't consider the possibility that different portfolios carry different weight with the exception of the prime minister's portfolio.

[2] See, e.g., Dowding (2005).

to resemble more closely how coalition bargaining takes place in reality. The data in Müller & Strøm (2001), for example, suggests that formateurs don't make a single take-it-or-leave offer as the Baron-Ferejohn type models assume but rather that the parties shop around.[3] The equilibrium outcome of the demand bargaining model is consistent with Gamson's Law, at least to the extent that the parties' seat shares approximate the parties' ex ante distribution of bargaining power. Morelli (1999) also finds, in line with Browne & Franklin (1973) and Browne & Frendreis (1980), that small parties are overcompensated when the number of parties needed to form a coalition is small.

Carroll & Cox (2007) offer a fundamentally different explanation of Gamson's Law, arguing that the formation of electoral coalitions plays an important role. Carroll & Cox argue that the effort exerted by each party in the electoral coalition is influenced by its expected payoffs from winning the election and that a proportional allocation of portfolios will elicit the greatest campaign effort by the members of the electoral coalition. In line with their argument they find a close fit between the parties' share of seats and portfolios when the parties have been members of an electoral coalition.

Overall, considerable disagreement remains about Gamson's Law although few would deny that a strong correlation exists between parties' share of seats in the legislature and its seats in the cabinet. A part of the problem is that because Gamson's Law lacks firm theoretical foundations it is not clear how it would be shown to be false. A strict interpretation of Gamson's Law would argue that seat and portfolios shares are perfectly proportional, i.e., in a simple regression framework we would expect to estimate the intercept to equal zero and the coefficient for seat shares to equal one. However, most studies of Gamson's Law neglect to test whether the slope coefficient is statistically different from one. A cursory glance at the findings in the literature suggests that more often than not, the slope coefficient is different from one with a high degree of statistical certainty.

This paper begins to explore some ideas that may cast a light on allocation of coalition payoffs. First, we consider a simple bargaining model that helps reconcile the large formateur advantage predicted by the Baron-Ferejohn bargaining models with the relatively proportional outcome that is observed empirically. Second, the examination of portfolio payoffs has largely ignored the role of ideology. This is true of both formal models of coalition bargaining as well as empirical examinations of Gamson's Law. Third, we consider whether there are marked differences in the patterns of coalition payoffs cross-nationally. Differences across countries may offer insights into the factors that shape the proportionality of coalition payoffs.

[3] This is suggested by both formateurs talking with multiple parties and, perhaps less directly, by the fact that in many instances their are multiple formateurs.

2 A Simple Model of Coalition Bargaining

The Baron-Ferejohn model of coalition bargaining has been criticized for making restrictive assumptions about the bargaining process. Warwick & Druckman (2006), e.g., argue that assuming an exogenous order of proposers (presumably, even if probabilistic) and take-it-or-leave-it offers is unrealistic.[4] The focus here is on a different aspect of coalition bargaining. A common feature of coalition bargaining model is that coalition formation is treated as a one-shot game. After a bargain is struck and a coalition is formed, the game ends and the parties realize their payoffs. In reality, the formation of a coalition is not the end of the game but rather the beginning. Most importantly, the benefits of coalition membership are realized over the life of the coalition. To obtain the benefits of office (whether they consist of simply being in office or derive from the ability to influence policy), the coalition must be maintained. That is, the benefits of office accrue over time rather than being realized at the coalition's formation. A crucial feature of parliamentary systems is that the government can fall at any time — either by losing the confidence of the legislature or by the desertion of one or more members of the coalition.

In short, a coalition containing an unhappy coalition partner that suspects that she might improve her lot by forming a different coalition will be unstable. Thus, even if the bargaining is structured along the lines of Baron and Ferejohn's model, with take-it-or-leave-it offers and an exogenous recognition rules, the formateur may prefer the moderate payoff from a stable coalition of content coalition partners to an unstable coalition in which she receives the full formateur advantage. Thus, the need to maintain the government coalition may introduce moderation on part of the formateur as she has an incentive to make her coalition partners expensive to buy off by parties in the opposition.

To clarify the logic of the argument consider a simple, highly stylized two period model of legislative bargaining. The bargaining takes place between three parties and each parties' share of legislative seats is denoted s_i with $s_i < \frac{1}{2}$ for all $i \in N = \{1, 2, 3\}$. That is, no party has sufficient support in the legislature to form a single party coalition but any two parties can form a majority coalition. The parties bargain over a division of government portfolios. The bargaining protocol is the simplest possible — one party is recognized as the formateur in each period. The formateur proposes a division of the portfolios among the three parties. A proposal in period t is a triple $m^t = (m_1^t, m_2^t, m_3^t)$ such that $m_i^t \in [0, 1], \forall i \in N$ and $\sum_{i \in N} m_i^t = 1$, for $t = 1, 2$. The set of feasible proposals is denoted $\mathbf{M}$. Once a proposal is on the table, each party votes to accept or reject the proposal, $v_i^t = \{A, R\}$. Let $V^t = (v_1^t, v_2^t, v_3^t)$ denote the vector of the parties' acceptance decisions in period t. If two parties accept, a coalition is formed and the parties realize their payoff in that period. If the proposal is rejected the portfolios are divided equally between the parties and the game moves on to the next period (or, if in the second period, the portfolios are divided equally and the game

[4] The Baron-Ferejohn model does allow for amendments under open rule so strictly speaking it cannot be characterized as take-it-or-leave-it bargaining.

ends). Let x_i^t denote party i's realized payoff in period t.

If a coalition forms in the first period and doesn't dissolve before the second period then the terms of the coalition agreement, i.e., the division of the portfolios, remains unaltered in the second period. That is, it is assumed that the terms of the coalition agreement can not be renegotiated. At the end of the first period the 'minor' coalition partner, i.e., the non-formateur party can opt to leave the coalition and bargain with the opposition party. In the bargaining between the minor party and the opposition party, the parties' probabilities of being recognized are assumed to be proportional to the parties' legislative seat shares. Thus, if the bargaining takes place between party 2 and party 3, party 2's recognition probability equals $\frac{s_2}{s_2+s_3}$ and party 3's recognition probability equals $\frac{s_3}{s_2+s_3}$. After a party has been recognized as formateur it proposes a division of the portfolios m^2 and a vote is taken on the new coalition.

To sum up, the sequence of the game and the parties' strategies are the following. Without loss of generality, party 1 is assumed to be the formateur in period 1 and its strategy is a mapping $P : S \rightarrow M$.[5] Following party 1's proposal each party votes to accept or reject the proposal. Each party's strategy is a mapping $v_i^1 : S \times M \rightarrow \{A, R\}$ and the vector of the three parties' votes is denoted V^t. If party 1's proposal is accepted then party 1's coalition partner chooses whether to dissolve the coalition or to continue the coalition. The minor party's strategy is then a mapping $D : m_j^1 \times s_2 \times s_3 \rightarrow \{d, c\}$, where $j \in \{2, 3\}$ denotes the minor coalition partner. Note that since only the minor partner and the opposition party bargain in the case of dissolution, the minor partner's strategy only depends on the vote shares of the parties involved in the bargaining and its current share of the portfolios. If the minor party chooses to continue the coalition, the same division of the portfolios is maintained in the second period. If the coalition is dissolved, the formateur is selected in the manner detailed above. The formateur's strategy is a proposal $m^2 \in M$, which the parties vote to accept or reject: $v_i^2 : S \times M \rightarrow \{A, R\}$.

The parties' payoffs are the sum of the parties' share of the portfolios in each period with the second period payoff discounted by δ:[6]

$$u_i(m^1, m^2, V^1, V^2) = x_i^1 + \delta x_i^2. \tag{1}$$

In the subgame perfect equilibrium of the game the possibility of dissolution can induce moderation on part of the formateur in the first period of the game and the formation of a stable coalition. Consider first the second period of the game. If a coalition was formed in the first period and the minor party has chosen to maintain the coalition then the coalition payoffs are simply distributed in the same manner as in the first stage of the game. If the coalition has been dissolved and party i is the formateur then each party's optimal

[5] The simple bargaining protocol implies that the formateur advantage in each period does not depend on the identity of the party.

[6] For simplicity, I suppress the dependence of the payoffs on m^t and V^t.

acceptance strategy is to accept a proposal if the proposal allocates it one-third or more of the portfolios, i.e., the amount the party would receive if the offer is rejected. Moving up to the proposal stage in the second period, party i's optimal strategy is to propose $m_i^2 = \frac{2}{3}$, $m_1^2 = 0$, and $m_j^2 = \frac{1}{3}$, $j \neq 1, i$, which is accepted. The expected payoff to party $i \in \{2, 3\}$ (i.e., the minor party and the opposition party) in the subgame following a dissolution equals $\frac{2}{3}\frac{s_i}{s_2+s_3} + \frac{1}{3}\frac{s_j}{s_2+s_3} = \frac{2s_i+s_j}{3(s_2+s_3)}$.

Following a history in which the first period proposal was rejected each party is selected formateur with probability equal to its legislative seat share. If a party is recognized its optimal proposal allocates two-thirds of the dollar to itself and one-third to one of the other parties. Assuming that the formateur simply flips a coin in deciding which party to include in its proposal, party i's expected payoff in the subgame following a rejected proposal equals $\frac{2s_i}{3} + \frac{1}{2}\frac{1-s_i}{3}$.

Now consider the minor party's decision to dissolve the coalition. The minor party's expected payoff from dissolving the coalition equals $\frac{2s_i+s_j}{3(s_2+s_3)}$ (where i is the minor party). As long as the party's share of the portfolios in the first stage is is greater or equal to the expected share in the second period the minor party will opt to stay in the coalition.

The voting strategies in the first period may appear slightly more complicated than in the second stage as minor party status in a coalition creates a possibility for obtaining greater benefits in the future — it gives the minor party the opportunity to dissolve the coalition, which leads to a bargaining round between only the minor party and the opposition party in which the minor party's probability of becoming the formateur is greater than when the bargaining round involves all three parties. Thus, a party might accept a coalition offer even if it is offered less than the reservation value ($\frac{1}{3}$) but it would only do so because it was intent on dissolving the coalition in order to reap a higher payoff in the second period.[7] It is optimal for party i to accept a proposal if

$$\frac{1}{3} + \delta\left(\frac{2s_i}{3} + \frac{1-s_i}{6}\right) \leq m_i^1 + \delta\frac{2s_i + s_j}{3(si + sj)} \tag{2}$$

or if

$$m_i^1 \geq \frac{2s_i + 2s_j + 3\delta(s_i^2 + s_is_j - s_i) - \delta s_j}{6(s_i + s_j)} \tag{3}$$

Now consider the first period proposal. The formateur's action can lead to three different types of outcomes. First, some proposal will be rejected, which lead to the government formation process to start over in the second period. Second, the formateur offers a proposal that leads to the formation of a stable coalition that stays in office in the second period. This requires offering the minor party a share of the portfolios greater than what it obtains if it chooses to dissolve the coalition in the second period to enter into negotiations with the opposition party. It has been shown above that the minor party must receive $\frac{2s_i+s_j}{3(si+sj)}$ for

[7] To see why this is the case, note that if the minor coalition partner and the opposition parties have the same number of legislative seats then the minor parties expected payoff equals $\frac{1}{2}$.

this to be the case. Third, the formateur can make a proposal that leads to the formation of a coalition that is 'doomed', i.e., the minor coalition partner will accept the proposal but only in order to dissolve the coalition in order to enter into negotiations with the opposition in the second period. The lower bound of a proposal that is acceptable to a minor party is given by equation (3).

The first option facing the formateur is clearly suboptimal as she can construct a proposal that allocates slightly more than one-third of the dollar to one of the parties and the rest to herself, which would be accepted. Thus, the formateur's action depends on which of the two remaining options is more attractive. That is, if

$$(1+\delta)\left(1-\frac{2s_i+s_j}{3(s_i+s_j)}\right) > 1-\frac{2s_i+2s_j+3\delta(s_i^2+s_is_j-s_i)-\delta s_j}{6(s_i+s_j)} \tag{4}$$

then the formateur will prefer to compromise and form a coalition that will stay in place in the second period. Whether this condition holds depends on the discount factor and the legislative seat shares of the non-formateur parties. The importance of the discount factor can easily be seen by considering the payoff from forming a stable coalition (the LHS of equation 4). At the extreme, if the formateur doesn't value the future at all, $\delta = 0$, there is clearly no incentive to form a stable coalition. On the other hand, if the formateur doesn't discount future payoffs building a stable coalition results in a higher payoff. To see why that is the case, note that the offer required to form a stable coalition, $\frac{2s_i+s_j}{3(s_i+s_j)}$, is at most $\frac{1}{2}$ (when $s_i = s_j$), which implies that the formateur's total payoff is at least 1.[8] The maximum payoff from extracting the maximum formateur advantage and forming a 'doomed' coalition can obviously not exceed 1. Equation (4) can be rearranged to reflect the minimum value of the discount factor that leads to a stable coalition and moderation on part of the formateur's demands:

$$\delta > \frac{2s_i}{3s_i^2-s_i+3s_j+3s_is_j} \tag{5}$$

As the formateur can choose which party to include in his coalition, and smaller parties are 'cheaper', i.e., their expected value from dissolving a coalition is smaller, the actors must discount the future rather heavily for the formateur to forego the opportunity to form a stable coalition.[9]

To sum up, if the condition on the discount factor above is satisfied then there exists an equilibrium in the game in which the formateur proposes a coalition that allocates a greater share of the spoils of office to its coalition partner than is necessary to form the coalition. In other words, the allocation of portfolios in the present model will be more proportional than predicted by the standard bargaining models that predict a large formateur advantage.[10]

[8] If the parties' legislative seat shares are unequal, the formateur forms a coalition with the smaller party and receives a higher payoff.

[9] The condition on the discount factor is most restrictive when the non-formateur parties are of similar size and have just enough seats to form a majority coalition. In such circumstance the discount factor must be greater than approximately .57.

[10] It is important to note, however, that the results are not directly comparable as the standard bargaining

Table 1: The Proportionality of the Formateur's Share of Portfolios

—Boldface = Formateur party is larger than coalition partner—

Seat share of coalition partner \ Seat share of opposition party	0.28	0.31	0.34	0.37	0.40	0.43	0.46	0.49
0.01								
0.04								0.70
0.07							0.72	0.72
0.10						0.73	0.75	0.76
0.13					0.75	0.76	0.78	0.80
0.16				0.76	0.78	0.80	0.83	0.85
0.19			0.77	0.79	0.82	0.85	0.88	0.91
0.22		0.78	0.80	0.83	0.87	0.90	0.94	0.99
0.25	0.78	0.81	0.85	0.88	0.92	0.97	1.02	1.09
0.28		0.86	0.90	0.94	0.99	1.05	1.12	1.21
0.31			0.96	1.01	1.08	1.16	1.25	1.37
0.34				1.10	1.19	1.29	1.42	1.59
0.37					1.32	1.46	1.65	1.91
0.40						1.70	1.97	2.40
0.43							2.48	3.26
0.46								5.15

For sufficiently high discount factors, the formateur proposes $m_i^1 = \frac{2s_i+s_j}{3(s_i+s_j)}$ to the smaller non-formateur party and keeps the rest to herself. As the formateur's proposal makes clear the size of the formateur's 'compromise' depends on the size of the non-formateur parties. Differentiating m_i^1 with respect to party i' seat share shows that party i's coalition payoff is increasing, conditional on it being the smaller non-formateur party, in its seat share:

$$\frac{\partial m_i^1}{\partial s_i} = \frac{s_j}{3(s_i+s_j)^2} > 0. \tag{6}$$

Considering how party size influence the proportionality of coalition payoff is not straightforward because the parties' seat shares must sum to one. That is, an increase in party i's seat share must come at some other party's expense. To examine the proportionality of coalition payoffs, table 1 shows the proportionality of the formateur party's payoffs $\left(\frac{\text{share of portfolios}}{\text{share of seats}}\right)$ for different distributions of seats.[11] The boldfaced numbers indicate that the formateur party was the largest party for a particular seat distribution and the empty cells represent cases in which the non-formateur parties don't hold a majority of seats between them or the 'coalition partner' is smaller than the 'opposition' party (in which the forming a coalition with the 'coalition partner' is not an optimal strategy).

The table highlights three interesting aspects of the distribution of coalition payoffs.

model assumes a more involved bargaining protocol. Nevertheless, the results in the present model should carry over to a model in which multiple bargaining rounds can occur in each period in a straightforward manner.

[11]'Share of seats' refers to the formateurs' share of the legislatives seats held by the cabinet parties.

Table 2: The Proportionality of the Formateur's Share of Portfolios in a One Shot Bargaining Model

Boldface = Formateur party is larger than coalition partner

Seat share of coalition partner \ Seat share of opposition party	0.28	0.31	0.34	0.37	0.40	0.43	0.46	0.49
0.01								
0.04								**0.72**
0.07							**0.77**	**0.77**
0.10						**0.81**	**0.82**	**0.83**
0.13					**0.85**	**0.86**	**0.88**	**0.89**
0.16				**0.89**	**0.91**	**0.93**	**0.95**	**0.97**
0.19			**0.94**	**0.95**	**0.98**	**1.00**	**1.03**	**1.06**
0.22		**0.98**	**1.00**	**1.02**	**1.05**	**1.09**	**1.13**	**1.17**
0.25	**1.02**	**1.05**	**1.07**	**1.11**	**1.14**	**1.19**	**1.24**	**1.31**
0.28		**1.12**	**1.16**	**1.20**	**1.25**	**1.31**	1.38	1.48
0.31			**1.26**	**1.31**	1.38	1.46	1.57	1.70
0.34				1.45	1.54	1.65	1.80	2.00
0.37					1.74	1.90	2.12	2.43
0.40						2.24	2.57	3.09
0.43							3.27	4.25
0.46								6.80

First, an increase in the seat share of the coalition partner at the expense of the formateur party (moving down the columns) results in more portfolios for the minor coalition partner and fewer portfolios for the formateur. However, the effect on the proportionality of the outcome is the opposite. While larger minor coalition partners receive a larger share of the portfolios, the change in number of portfolios doesn't keep pace with the increase in the size of the coalition in terms of its legislative majority and, thus, smaller coalition partners receive proportionally a larger share of portfolios. As table 1 shows, that is also true of the formateur party. The smaller the formateur party is, the disproportionally larger its share of portfolios.

Second, an increase in the seat share of the coalition partner at the expense of the opposition party (moving diagonally from top right to bottom left), however, leads to relatively greater representation for the formateur party and, thus, a less favorable outcome to the coalition partner in terms of proportionality. The reason is that although the coalition partner's share of the portfolios increases as it becomes larger, its share doesn't increase fast enough in relation to the total number of legislative seats behind the coalition to maintain the more disproportional outcomes that occur when the party is smaller.

Third, the formateur is disadvantaged in a number of seat distributions. In particular, the formateur tends to receive fewer portfolios than proportional allocation would imply when the formateur party is the largest party. When the formateur party is the largest party (boldfaced numbers), its share is generally smaller than proportional allocation produces.

Thus, the results suggest a small party bias consistent with the findings in the literature, see, e.g., Browne & Frendreis (1980).

Finally, the table shows that what determines the distribution of payoffs is the relative seat shares of the non-formateur parties. This can be seen most clearly as we move from left to right in the table (whether we hold the formateur's size constant or not).

To get a sense of whether the possibility of dissolution influences portfolio allocation the outcomes in table 1 need to be compared to what the portfolio allocation would be if dissolution could not occur, i.e., as in the standard bargaining models where the game ends after a bargain has been struck. Table 2 shows the proportionality of the formateur's payoff in such a 'one shot' bargaining model. That is, we consider the outcomes in the model presented above when there is only one time period. Comparison of the two tables shows clearly how the possibility of dissolution influences the allocation of portfolios. Table 2 shows that the formateur's share of portfolios is always higher than in table 1 for any distribution of legislatives seats. The possibility of dissolution clearly disadvantages the formateur. Whether or not the results suggest that we should find a formateur advantage, or disadvantage, empirically is difficult to say. As can be seen in the table the predicted proportionality varies greatly — the question is whether all the seat distributions can be considered equally plausible. It has been shown that the likelihood of becoming a formateur is a function of party size (Diermeier & Merlo, 2004) so the cases in which the formateur is the largest party is perhaps a natural focus of attention. Restricting our attention to those cases, it can be seen that when dissolution is possible hardly ever leads to a formateur advantage whereas the 'one shot' bargaining model suggest that there are many instances in which the formateur gains from his position.

3 Empirical Analysis

The consensus in the literature appears to be that Gamson's Law holds and that portfolios are distributed proportionally among coalition partners. The standard method of testing Gamson's Law is by running a simple regression of the parties' seat share (within the coalition) on their share of portfolios but the conclusion that Gamson's Law holds is, at least in part, based on imprecise interpretation of the results. Before testing the implications of the model presented above, I demonstrate that Gamson's Law in its strict interpretation, i.e., that the allocation of portfolios is exactly proportional to the cabinet parties' legislative seat shares, must be rejected when using the standard OLS model to evaluate Gamson's Law. More importantly, I show that the observed deviations from Gamson's Law are systematic across countries and that cabinet portfolios could have been allocated in a more proportional manner in the great majority of cases.

3.1 Does Gamson's Law Really Hold?

I begin by analyzing Warwick & Druckman's (2006) data which covers West European parliamentary systems in the period 1945-2000.[12] The results of the simple regression of seat shares on portfolio shares are shown in Table 3. Gamson's Law implies specific coefficient values in this model, i.e., perfect proportionality of payoffs implies that the coefficient for seat share should equal one and the intercept should equal zero. However, as table 3 shows, the intercept is .084 with a standard error of .005 and can, therefore, be considered to be highly unlikely to equal zero.

The coefficient for seat share clearly indicates a strong positive relationship with portfolio share but it falls somewhat short of unity. There is, however, a tendency in the literature to simply note that the relationship is strong and that coefficient is 'statistically significant'. The tests reported generally assume that the null hypothesis is that the coefficient is equal to zero, which may not be of particular interest. If our interest is in verifying whether Gamson's Law holds or not then the questions we should be asking is how likely it is that the coefficient is equal one. A quick glance at the standard error of the slope coefficient in table 3 should suffice to verify that the probability of the coefficient equaling one is vanishingly small.[13] Leaving the question of the appropriateness of the model aside for the moment, it is difficult to conclude from this that Gamson's Law holds. This does, however, does not obviate the fact that there is strong positive relationship between seat and portfolio shares.

Table 3: Regressing Seat Share on Portfolio Share

	All Countries
Constant	.084***
	(.005)
Party Seat Share	.756***
	(.011)
Observations	608
R^2	.892

Another question of interest is whether there is any variation cross-nationally in how well Gamson's Law describes the allocation of portfolios. A 'law' implies an absolute description of how things work. If Gamson's Law is really a law it would imply that there is minimal cross-national variation — other than perhaps that the size of the cabinet places limitations on how proportional the division of portfolios is. Moreover, cross-national differences would suggest that institutional differences play a role in determining the allocation of portfolios. In other words, cross-national differences suggest that we should be looking for a theory of portfolio allocation that can explain such variation rather than a

[12] The countries included are Austria, Belgium, Denmark, Germany, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, and Sweden. I have excluded two countries, Finland and France, that are in Warwick & Druckman's (2006) dataset as they are semi-presidential systems. Including these countries doesn't change the results in any appreciable fashion.

[13] The F-statistic for the null hypothesis that the seat share coefficient equals one is 440.22 and the associated p-value is less than .0001. Warwick & Druckman (2006) and others report coefficients that are closer to one but not sufficiently so to avoid the conclusion that the allocation of portfolios is not strictly proportional. Carroll & Cox's (2007) results for parties that have formed electoral alliances may prove an exception but their model contains an interaction term and the standard error for the effect of seat share for this subset of parties is not reported.

theory that rationalizes the point prediction embedded in Gamson's Law.

Table 4 and figure 1 show the results of regressing seat shares on portfolio shares for each of the countries in the sample. It would be a stretch to say that there is a lot of variation across the countries but it would also be wrong to argue that there is none. The standard errors are generally fairly small, making it unlikely that portfolio allocations are generated by the same process across the countries. Note, however, that for each of the countries (save Portugal) we reach the same conclusion as when all the countries were pooled. The true value of the intercept is unlikely to be zero and the probability of the true slope equaling one is very low.[14] The range of the estimated coefficients is non-negligible. The intercept ranges from .04 to .20 and the slope coefficient from .52 to .90. Another intriguing aspect of the results is that there is that the deviations from proportionality are consist across the countries. The nature of the discrepancy between the data and Gamson's Law is evident in figure 1. Smaller parties tend to be overrepresented while large parties are underrepresented. If the true underlying parameters are those described by Gamson's Law then one would not expect such consistency in the deviations from proportionality.

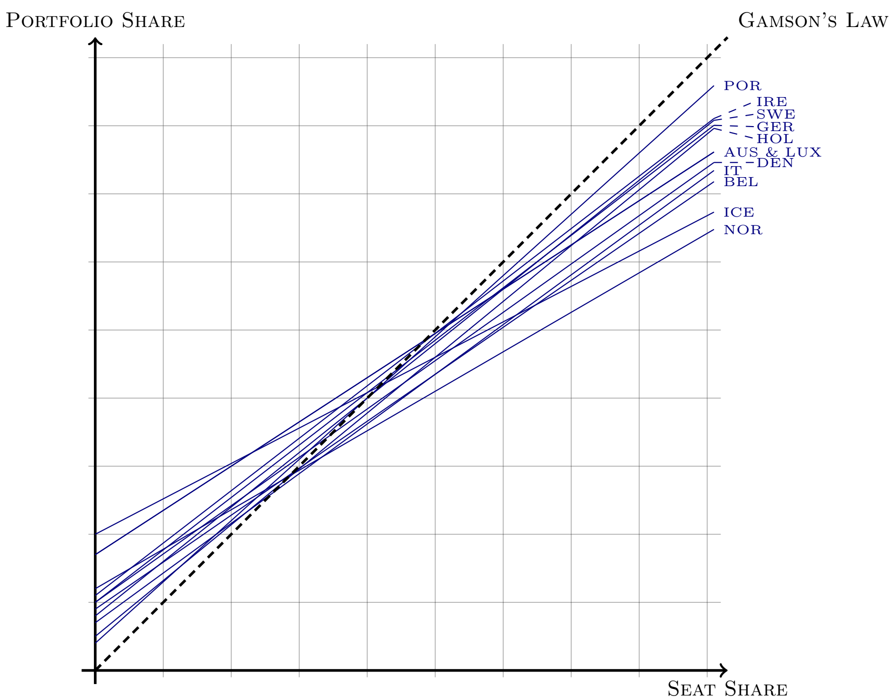
Table 4: Gamson's Law by Country

	AUS	BEL	DEN	ICE	IRE	ITA	LUX	HOL	NOR	POR	SWE	GER
Seat Share	0.65**	0.69**	0.71**	0.52**	0.77**	0.73**	0.65**	0.82**	0.58**	0.90**	0.80**	0.77**
	(0.06)	(0.05)	(0.03)	(0.08)	(0.04)	(0.01)	(0.08)	(0.04)	(0.07)	(0.08)	(0.04)	(0.02)
Const.	0.17**	0.086**	0.099**	0.20**	0.11**	0.071**	0.17**	0.053**	0.12**	0.043	0.077**	0.10**
	(0.03)	(0.01)	(0.01)	(0.03)	(0.02)	(0.005)	(0.04)	(0.01)	(0.02)	(0.04)	(0.02)	(0.01)
Obs.	35	100	49	49	20	141	38	67	24	14	18	53
R^2	0.76	0.71	0.92	0.49	0.95	0.96	0.62	0.88	0.77	0.91	0.96	0.97

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$

[14]The coefficients for Portugal (.04 and .9) come closest to Gamson's Law but Portugal also has the smallest number of observations and, subsequently, relatively large standard errors.

Figure 1: Gamson's Law by Country



The fact that each portfolio must be allocated to a single party may limit the degree of proportionality that can be achieved. The effect of this on disproportionality is generally larger, the smaller the number of portfolios to be allocated. To see why, simply note that doubling the size of the cabinet can never decrease, but may increase, the proportionality of the outcome. If discreteness is the source of the observed deviations from Gamson's Law, the fit ought to be better for large cabinets. The results in table 5 suggest that the discreteness issue does play some role. Table 5 displays the results of regressions where the sample has been split in two on the basis of cabinet size. Cabinets that contain fewer than 20 portfolios are considered small. The coefficients are somewhat closer to the expectations established by Gamson's Law for the larger cabinets but the differences are not big.[15] More importantly, even when we focus on large cabinets we reach the same conclusion as before: Gamson's Law is not a good description of the actual distribution of portfolios.

[15]When the model is estimated with an interaction between large cabinets and seat shares instead of splitting the sample, the coefficient of the interaction term has a p-value of .047. Considering a subsample of even larger cabinets, with 30 or more portfolios, we move still closer to Gamson's Law but are still fairly far off with a slope coefficient of .81 and standard error of .023.

Table 5: Gamson's Law by Cabinet Size

	Small Cabinets	Large Cabinets
Constant	.102***	.070***
	(.008)	(.005)
Party Seat Share	.732***	.767***
	(.017)	(.013)
Observations	323	285
R^2	.855	.926

The fact that the size of the cabinet does not make that much difference does, of course, not rule discreteness of portfolios out as a source of the discrepancies between reality and Gamson's Law. It could simply the case that cabinets need to be even bigger in order for proportionality to be a possibility. A more direct way of considering whether discreteness is at fault, is to consider whether there exists an alternative distribution of the portfolios that achieves a greater level of proportionality. If Gamson's Law is indeed true, and portfolios are allocated in proportion to seat shares, then the observed distribution of portfolios should minimize the disproportionality of the outcome.[16]

Figuring out whether the observed distribution of portfolios is the most proportional one achievable is a simple matter. For each coalition a measure of disproportionality was calculated as a measure of over/underrepresentiona for each party. Using this information, a single portfolio was transferred from the most overrepresented party to the most underrepresented party in the cabinet and the measure of disproportionality was recalculated and compared with disproportionality in the original cabinet.

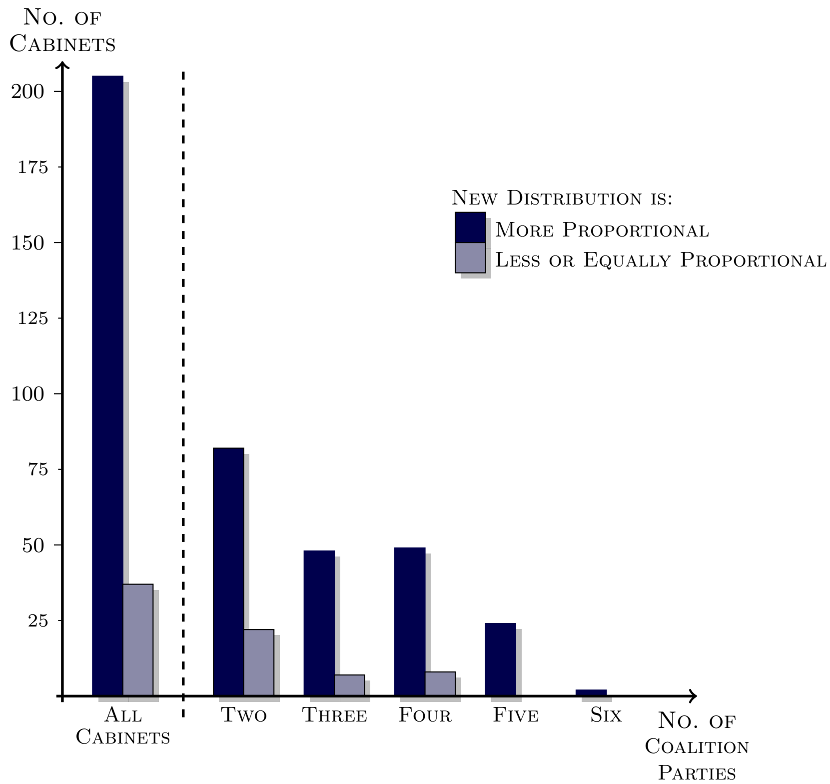
The results, shown in figure 2, show that it was possible to achieve a more proportional distribution of portfolios in an overwhelming majority (84.7%) of the cases. This is a clear suggestion that the discreteness of the portfolio distribution is not responsible for the observed deviations from perfect proportionality. Of course, smaller parties tend to be overrepresented and minimizing disproportionality may demand that very small parties receive no portfolios. Thus, instances in which small government parties receive a single portfolio would appear 'reasonable' deviations from proportionality — parties may be reluctant to join a coalition if they receive no government portfolios.[17] One might even argue that party leaders would find it difficult to convince its members to join a coalition if they are the only ones who stand to receive a seat in the cabinet. It turns out that neither of these exceptions are particularly relevant. Out of the 242 cabinets in the dataset, in only three cases did the most overrepresented party only hold one portfolio and in 16 cases did it hold two portfolios. In four out of these 19 cases did the reallocation of a portfolio not result in less disproportionality. Even allowing for these exceptions to the proportional distributions of portfolios, a more proportional outcome could be obtained in 78.5% of the cases.[18]

[16] It is, of course, a little difficult to make a statement such as this when Gamson's Law lacks theoretical underpinnings.

[17] There are, of course, plenty of example in which parties outside the governing coalition lend the government its support.

[18] Note that there might still exist a reallocation of portfolios, i.e., from the second most overrepresented

Figure 2: Redistributing Portfolios to Achieve Greater Proportionality



The results above use OLS to evaluate Gamson's Law because this has been the dominant approach in the literature and to drive home the point that the failure to reject Gamson's Law is due to imprecise interpretation of the results rather than model specification. There are, however, certain methodological issues associate with using OLS to evaluating Gamson's Law. I now turn to considering these methodological issues and, subsequently, testing the hypotheses derived from the formal model using more appropriate statistical methods.

3.2 Estimating Models of Cabinet Composition

The statistical analysis of how portfolios are divided between coalition parties is complicated by two factors. First, the data are bounded, i.e., no party can receive less than 0% or more than 100% of the portfolios (or, alternatively, less than zero portfolios or more than k portfolios where k is the total number of portfolios). Using OLS regression to estimate models of portfolio allocation data can result in estimates that predict portfolio shares that

party to the most underrepresented party, in those 15 cases that reduced disproportionality.

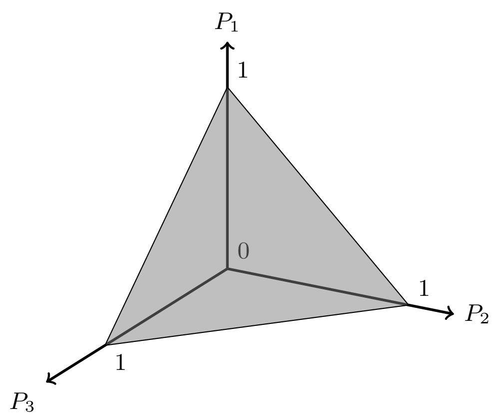
lie outside the bounds of possible values.[19] Second, as the number of portfolios is fixed, an increase in the number of portfolios allocated to one party necessarily reduces the number of portfolios allocated to some other party. The implication of this is that the errors for parties belonging to the same coalition are correlated.

In more general terms, data on portfolio allocation is *compositional* data (Aitchison, 1982). Each cabinet can be described as a vector of portfolio allocations where each component of the vector refers to a parties' share of the portfolios or its number of portfolios. The defining characteristic of compositional data is that the sum of the components equals some constant, which implies that if we observe $n-1$ components of a portfolio allocation vector for cabinet of n parties, then we also know the n^{th} party's allocation. Thus, the components of the vector cannot be treated as being drawn from an n-dimensional Euclidean space. Instead, the sample space is a subset of the n dimensional Euclidean space that can be represented as the unit $(n-1)$-simplex. For two party coalitions, the unit simplex is a line segment while the unit simplex for three party coalitions is a triangle (see figure 3). The unit simplex is defined as $S^{n-1} = \left\{(p_1, p_2, \ldots, p_n) \in \mathbb{R}^n | \sum_i p_i = 1 \text{ and } p_i \geq 0 \text{ for all } i\right\}$. In simpler terms, the unit simplex is simple the set of (positive) coordinates in the Euclidean space which sum to one. Representing the sample space as a $(n-1)$-simplex highlights a third issue with estimating a standard OLS regression model. Including observations for all the n parties amounts to assuming that the data contains more information than it really does because the allocation to $n-1$ parties completely characterizes the allocation. Thus, estimating an OLS model with observations for all the cabinet parties has the effect of artificially shrinking the standard errors of the estimates.[20]

[19]The problem of bounded dependent variables is often described as a mere annoyance, i.e., that the predicted values may lie outside the bounds of the variable, while the fact that it often results in biased estimates is mentioned relatively rarely.

[20]The models presented above were estimated using all the cabinet parties but the conclusions are unaltered when one observation (party) is dropped from each cabinet.

Figure 3: Three Party Cabinet: The Unit Simplex



Although compositional data is quite common in political science — e.g., party vote shares, allocation of campaign expenditures, division of a budget, etc. — the special nature of these data is rarely recognized. Katz & King's (1999) work on multiparty district-level data is about the only publication in the political science literature that uses a statistical model that incorporates the special features of compositional data. Tomz et al. (2002) offer a simple alternative to Katz and King's method. Like Katz & King (1999), they transform the data using additive logratio transformation, making the data unbounded, but to account for the fact that the seat shares must sum to one they advocate the use of seemingly unrelated regressions (SUR).[21]

While these approaches might appear to be directly applicable to analyzing the allocation of cabinet portfolios, this is not the case. Statistical models of compositional data have primarily been developed to deal with the effects of contextual factors on the size of the composites, e.g., when working with district level electoral results one can model the effects of district level socio-economic factors. In the context of cabinet portfolios, the primary explanatory variables are not contextual but composite specific, e.g., the party's vote share or its formateur status. Models to deal with composite specific effects have not been developed extensively. SUR-type methods are not particularly useful as SUR require the number of composites (parties) to be the same across observations (cabinets). This is clearly violated in our cabinet data where the size of cabinets ranges from two to six. Another problem for portfolio allocation data, common to both approaches, is that one composite must be used as a 'reference' composite (e.g., the Labour party when analyzing election results in

[21] The additive logratio transformation, suggested by Aitchison (1982), represents the seat share as the log of the ratio of each party's seat share to the seat share of one of the parties. That is, the additive logratio transformation is applied to each cabinet so that for the n party cabinet $\mathbf{p} = (p_1, p_2, \dots, p_n)$, we obtain $\mathrm{alr}(\mathbf{p}) = \left(\log(\frac{p_1}{p_n}), \log(\frac{p_2}{p_n}), \dots, \log(\frac{p_{n-1}}{p_n})\right)$.

the U.K.). When working with cross-national data, or data where the composites are not constant across observations, it is not clear what should guide the selection of the 'reference' composite.

While the literature on Gamson's Law has not ignored the composition nature of portfolio data, the problems have not been addressed comprehensively. Fréchette et al. (2005) and Carroll & Cox (2007), e.g., drop one party from each cabinet in recognition of the data's compositional nature. However, this only addresses the problem that the degrees of freedom in compositional data are less than the number of parties, i.e., including all the parties inflates the number of observations without adding any information. Dropping a party neither solves the problem of correlated errors (except in the case of two party cabinets) nor the problem of the data being bounded. In contrast, Warwick & Druckman (2006) adopt a different approach by allowing for clustered standard errors. Clustering standard errors by cabinet goes some way towards addressing the problem of correlated errors but the estimated standard errors remain incorrect as the number of observations is greater than the pieces of information contained in it. Again, the problem of the dependent variable being bounded is not solved.

While methods for estimating composite specific effects have not been developed, the three problems highlighted above could be addressed, albeit not perfectly, using existing methods. One could simply combine the different 'fixes' that have been adopted by the various scholar, i.e., by sticking with the OLS framework while transforming the data using the additive logratio to address the boundedness of the data and the 'excess' number of observations and then clustering the standard errors by cabinet to take the interdependency in the allocation of portfolios within cabinets into account. However, as indicated above, the estimated coefficients depend on the choice of a party to use as the denominator in the logratio transformation.

A more appropriate way to model the allocation of portfolios is to use a Dirichlet-multinomial regression. The support of the Dirichlet distribution is the set of allocations that add up to one as shown in Figure 3. Guimarães & Lindrooth (2007, p. 444) show that a Dirichlet-multinomial regression can be estimated using fixed effects count models with a Poisson or a negative binomial specification.[22] Modeling the allocation of portfolios as a Poisson regression with fixed effects also makes certain intuition sense, i.e., the dependent variable is the number of portfolios allocated to a given party. Treating the number of portfolios allocated to a party as count data takes account of the fact that the data is bounded below. When viewed as count data, rather than compositional data, it is not clear that the data is bounded above since the number of portfolios varies from cabinet to cabinet within and across countries. However, the inclusion of fixed effects for cabinets accounts for the the fact that cabinets vary in size and, thus, the coefficients for parliamentary seat share

[22] More generally, Guimarães & Lindrooth (2007) show the connection between the grouped conditional logit model, the Poisson count model, and the Dirichlet-multinomial model. They also point out that the negative binomial specification suffers from an incidental parameters problem.

and formateur status are estimated from the differences in party characteristics within each coalition.

It bears noting that both the approaches mentioned above come at a cost when the objective is to evaluate Gamson's Law. Gamson's Law posits a linear relationship between seat and portfolio share — neither the logratio transformation nor a Poisson regression allow us to estimate coefficients that are directly interpretable as the marginal effect of seat share on portfolio share. Thus, adopting a model that accounts for the compositional structure of the data implies a sacrifice in terms of ease of interpretation.[23]

The formal model presented above offered clear predictions about the allocation of cabinet portfolios. In line with the literature, the share of portfolios is expected to increase with the size of the party's legislative representation. Showing that this is the case empirically would be consistent with the formal model but also with most other theoretical arguments about portfolio allocation. The model does, however, suggests a hypothesis that is not implied by other theories. As can, e.g., be seen in table 1, the formateur party's share of the portfolios depends on its size. When the size of the formateur party decreases (moving right or down in the table) the formateur party's relative portfolio share increases. Thus, while formateurs can be either over- or under-represented in the cabinet, the model clearly predicts that larger formateur parties should receive a proportionally smaller share of portfolios. To test the hypotheses, the model specifications include parliamentary seat share, formateur status, as well as an interaction between the two variables.

While the perceived robustness of Gamson's Law appears to have discouraged efforts to consider whether portfolio allocation is influenced by other factors,[24] I consider whether the results are robust to the inclusion of additional controls. In particular, I consider whether ideological factors affect the allocation of portfolios. There is strong evidence to suggest that both office and policy influence the formation of coalitions — and there are, therefore, good reasons to think that the ideological preferences of parties affect the allocation of portfolios. In particular, a party's ideological position may influence its bargaining strength; centrist parties can look to ideologically proximate parties on both its left and its right in forming coalitions whereas parties on the extremes will generally have fewer options. To control for how bargaining strength is influenced by the parties' ideological positions I include an indicator variable for whether the party is the median party on the left-right ideological

[23] I focus on the Poisson regression model as the results of the OLS regression, above, suggested that Gamson's Law did not hold and that more proportional outcomes could be obtained by reallocating cabinet portfolios. If Gamson's Law is not supported by the more easily interpretable model, and since those estimates are potentially biased, there is little reason to stick with a model that is known to have methodological limitations. In other words, even if we reject Gamson's Law on the basis of these results, we cannot reasonably argue Gamson's Law is incorrect because our confidence in these results is reduced by the fact that the estimates are methodologically unsound. As it happens, the choice of a model does not alter the substantive conclusions appreciably as can be seen in the appendix which presents the results from OLS models using both untransformed and logratio transformed data.

[24] There are some exceptions. Carroll & Cox (2007) consider the effects of pre-electoral coalitions, Falcó-Gimeno & Indridason (2013) consider bargaining uncertainty, and Ansolabehere et al. (2005) consider voting weights.

dimension. Focusing on the median party in the legislature is warranted as neither the parties on the right nor the left can form a (connected) majority coalition.[25] Apart from serving as a control variable, considering the effect of ideological factors is also of substantive interest in terms of assessing Gamson's Law. A strict interpretation of Gamson's Law as law is that *only* the parties' vote shares should influence portfolio allocation. Thus, if other factors influence the allocation it can be seen as further evidence against Gamson's Law.

The data employed here are the same as in the previous section with the addition of data on the parties' policy platform derived from the Comparative Manifesto Project using Laver & Budge's (1992) method. The parties' ideological positions and their seat shares are used to identify the median party in the legislature.

Table 6: Portfolio Allocation
—Poisson Regression w/Fixed Effects—

	(1)	(2)	(3)	(4)
Party Seat Share	2.18***	2.99***	2.93***	3.03***
	(0.10)	(0.17)	(0.18)	(0.19)
Formateur	-0.12**	0.67***	0.65***	0.61***
	(0.048)	(0.14)	(0.14)	(0.14)
Formateur×Seat Share		-1.79***	-1.75***	-1.67***
		(0.30)	(0.30)	(0.30)
Median			0.058	0.25*
			(0.045)	(0.13)
Median×Seat Share				-0.40
				(0.26)
Observations	608	608	608	608
Log likelihood	-699.1	-680.8	-680.0	-678.7

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The results of the Poisson regressions are shown in table 6. Similar results, included in an appendix, obtain when analogous models are estimated using OLS (with and without the additive logratio transformation). The first thing to note is that, as one might expect, party seat share exerts strong influence on portfolio shares. The first model suggests that the there is no formateur advantage — in fact, the results suggest a statistically significant formateur *disadvantage*. However, one of the main implications of the formal model is that the formateur advantage may depend on the size of the party. This is supported by the results as shown in models 2-4 — small formateur parties, holding less than about 40% of the cabinet's seats in in the legislature, reap benefits from their position while larger formateur parties are worse off. Another way to look at the result is to note that the marginal effect of

[25] The ideological distance from the median party was also considered. The results are substantively similar and are reported in an appendix.

seat share on $X\beta$ is more than twice as large for non-formateur parties than for formateur parties. Thus, larger formateur parties are less advantaged in the coalition negotiations than small formateur parties. Other things equal larger formateur parties have smaller coalition partners, which can be bought off cheaply by the opposition if they are only allocated portfolios in proportion to their seat share. Thus, the larger the formateur and the smaller its coalition partner, the strong the incentives to over-compensate the minor coalition partner to make it a less attractive coalition partner for the opposition parties.

The results on the effect of ideology are, at best, suggestive. Model 3 indicates, in line with expectations, that being the median party in the legislature has a positive, but statistically insignificant, effect on the number of portfolios received by the party. Similarly, model 4 suggests the benefit of being the median party is confined to small median party. More importantly, in the present context, the results with regard to legislative seat share and formateur status are not affected by the inclusion of the ideological variable.

3.3 The Threat of Dissolution

The theoretical argument presented above focused on the incentives to form stable coalitions and how those incentives induce formateurs to make more generous offers to their coalition partners in order to prevent an early dissolution of the coalition. The most direct test of the theory would, therefore, involve comparing systems that allow early coalition dissolution to system where such dissolution is not possible. This, of course, is challenging as parliamentary systems are defined by the dependence of the executive on the confidence of the legislature and the possibility of dissolution is, therefore, a key feature of any parliamentary system. It is important to note, however, that government dissolution is not costly in itself to coalition parties. Rather, dissolution is costly because the parties face the possibility of not being included in future government coalitions. The source of the parties' aversion to dissolution suggests that patterns of coalition formation ought to differ across parliamentary and presidential systems as there is not question as to the identity of the formateur in the latter.

While presidential systems represent a constitutional form in which the position of the executive does not depend on the confidence of the legislature, scholars have noted that presidential executives are not immune from coalition politics (Cheibub & Limongi, 2002; Cheibub et al., 2004). Presidents still depend on the legislature to enact legislation and, therefore, face incentives similar incentive to those that exist in parliamentary systems to build legislative coalitions. Thus, coalition cabinets are not uncommon in presidential systems when the president's party does not control a legislative majority. While the incentive to build coalitions is present in presidential systems, it does not follow that these incentives result in similar outcomes as in parliamentary systems. Indeed, presidential system differ in one significant regard — unlike parliamentary, the membership in the cabinet is not completely endogenous to legislative and party politics, i.e., it is the president's cabinet. In the context of the theory presented above, this implies that while cabinet dissolution may be costly or inconvenient in many ways it poses a more limited threat to the executive than it does in parliamentary systems where dissolution may mean that any cabinet party may find itself on the opposition benches. In contrast, when a cabinet coalition dissolves, a president retains her position as a formateur and can form a new coalition. Coalition formation in presidential systems, therefore, resembles more the model without dissolution in which the composition of the cabinet is less responsive to the size of the parties and, in particular, the size of the formateur advantage should be larger and not depend on the legislative support of the president's party.

To examine whether cabinet formation in presidential systems is consistent with the theoretical argument I examine presidential cabinets in the Americas.[26] The data covers coalition cabinets in eleven countries over roughly 30 year period. A new cabinet is defined by a change in the partisan composition of the cabinet and the data set consists a total of 359 cabinets and 1059 cabinet parties. The independent variables considered here are the same as above. By definition, the Formateur Party is always the president's party.

Table 7: Portfolio Allocation: Presidential Systems
—OLS & Poisson Regression Models—

	(1) OLS	(2) OLS	(3) Poisson	(4) Poisson
Seat Share	0.54***	0.52***	1.23***	1.13***
	(0.04)	(0.05)	(0.1)	(0.2)
Formateur	0.28***	0.27***	1.01***	0.91***
	(0.01)	(0.02)	(0.04)	(0.1)
Formateur×Seat Share		0.024		0.23
		(0.06)		(0.3)
Constant	0.093***	0.097***		
	(0.01)	(0.01)		
Observations	700	700	1059	1059
R^2	0.76	0.76	–	–
Log Likelihood	–	–	-1051.0	-1050.7

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
OLS: One party dropped per cabinet, SEs clustered by cabinet.

Table 7 presents the results of the OLS and Poisson regression models. The results are in line with expectations. Portfolio allocation in presidential cabinets is less sensitive the size of the cabinet parties and there is a significant formateur advantage. Moreover, in contrast with parliamentary systems, where the size of the formateur advantage declines in the size of the formateur party, the coefficient for the interaction term has a small positive value.

[26]The data come from Amorim Neto (2006) and Martínez-Gallardo (2014).

4 Conclusion

In this paper I have considered a simple model of government formation that casts a light on why empirical studies of portfolio allocation have had a difficult time finding the formateur advantage predicted by the standard bargaining models of coalition formation. The model considered departs from the standard bargaining model in that it takes into account the fact that coalitions must be maintained, i.e., the benefits of forming a coalition are not all reaped at the moment it is formed. The implication of this is that taking a full advantage of one's position as a formateur can lead to the formation of coalition that is unstable. If the parties value the future enough, the will be willing to pay a premium, in the form of additional portfolios for its coalition partner, for forming a coalition that is stable. A coalition partner that receives a substantial share of the government portfolios is less likely to take the initiative to leave the coalition or be susceptible to being bought off by opposition partners. In equilibrium the formateur, therefore, avoids extracting the maximum formateur advantage possible and picks a more moderate allocation. For a number of possible seat distribution this has the effect of wiping out the formateur advantage and bias the results in favor of its (smaller) coalition partner.

The model offers several additional predictions about the allocation of portfolios. Perhaps most importantly it clearly shows that the allocation of portfolios is not simply a matter of the legislative seat shares of the government parties (except to the extent that they are a sufficient statistic for the seat distribution) but depend on the relative seat shares of the coalition partner and the opposition partner. That is, the model suggest that the formateur advantage depends on the size of the formateur party and, in particular, that it should decline with its size. This helps explain the difficulty of finding evidence of a formateur advantage as larger parties are typically more likely to be selected as formateurs (Bäck et al., 2011).

Further evidence supporting the idea that the shadow of the future affects portfolio allocation is provided by Golder & Thomas (2014) who build on a similar idea and examine coalition formation in the French regions where there is no vote of no confidence. They find, that with the threat of early government termination eliminated, the allocation of portfolios departs further away from proportionality and that there is a significant formateur advantage. The literature on coalition formation in multiparty presidential systems, where government dissolution is, again, not an option, the allocation of portfolios also tends to be highly skewed in favor of the president's party.

In the second half of the paper I took a look at the evidence in support of Gamson's Law and the methods used to study portfolio allocation data. My conclusion is that Gamson's Law — as a law — is a myth. Examining the data, I find that Gamson's Law is highly unlikely to be true. This is in line with the results in the existing results — but perhaps not the interpretation of the evidence. I also consider the possibility that deviations from perfectly proportional division of portfolios are due to the discrete nature, or the lumpiness, of the data and find that while disproportionality decreases as the size of the cabinet increases, more proportional outcomes were possible in an overwhelming majority of the cases.

None of this is to suggest that there isn't a very strong relationship between seat shares and portfolio shares. There clearly is. It suggests, however, that the focus on proportionality is misplaced and that there should be greater emphasis on the development of theories that offer an insight into what factors, besides seat shares, influence portfolio allocation. The emphasis on perfect proportionality also places too much emphasis on evaluating theories in terms of their point predictions. While we would, of course, like our theories to provide such predictions, most non-formal theories in political science do not offer point predictions but simply statements about comparative statics. By their nature, formal theories often produce point predictions but that is not necessarily where their value lies. Formal models are also, necessarily, abstractions of reality, centering on the aspects of a given subject that we consider the most relevant. While the models may be abstractions, they may provide useful insights in terms of comparative statics — even if the needed abstraction renders the point prediction implausible. Thus, in evaluating theories we ought to pay attention to all of their implications — the failure to provide an accurate point prediction suggests that their is room for improvement but that doesn't necessitate throwing the baby out with the bath water. In the context of portfolio allocation, this means that one should not dismiss bargaining models too easily. After all, the standard bargaining model suggest that a party's share of portfolios will depend on it seat share (or voting weight) — which is what the data shows.

References

Aitchison, J. (1982). A statistical analysis of compositional data. *Journal of the Royal Statistical Society*, *44*(2), 139–177.

Amorim Neto, O. (2006). The presidential calculus: Executive policy making and cabinet formation in the Americas. *Comparative Political Studies*, *39*(4), 415–440.

Ansolabehere, S., Snyder, J. M., Strauss, A. B., & Ting, M. M. (2005). Voting weights and formateur advantages in the formation of coalition governments. *American Journal of Political Science*, *49*(3), 550–563.

Bäck, H., Debus, M., & Dumont, P. (2011). Who gets what in coalition governments? Predictors of portfolio allocation in parliamentary democracies. *European Journal of Political Research*, *50*(4), 441–478. Wiley.

Baron, D. P. & Ferejohn, J. A. (1989). Bargaining in legislatures. *American Political Science Review*, *83*(4), 1181–1206. Jstor.

Browne, E. C. & Franklin, M. (1973). Aspects of coalition payoffs in European parliamentary democracies. *American Political Science Review*, *24*(4), 453–469.

Browne, E. C. & Frendreis, J. P. (1980). Allocating coalition payoffs by conventional norms: Assessment of the evidence for cabinet coalition situations. *American Journal of Political Science*, *24*, 753–768.

Carroll, R. & Cox, G. W. (2007). The logic of Gamson's Law: Pre-election coalitions and portfolio allocations. *American Journal of Political Science*, *51*(2), 300–313.

Cheibub, J. A. & Limongi, F. (2002). Democratic institutions and regime survival: Parliamentary and presidential democracies reconsidered. *Annual Review of Political Science*, *5*, 151–179.

Cheibub, J. A., Przeworski, A., & Saiegh, S. M. (2004). Government coalitions and legislative success under presidentialism and parliamentarism. *British Journal of Political Science*, *34*(4), 565–587. CUP.

Diermeier, D. & Merlo, A. (2004). An empirical investigation of coalition bargaining procedures. *Journal of Public Economics*, *88*(3), 783–797.

Diermeier, D. & Morton, R. (2005). Experiments in majoritarian bargaining. In D. Austen-Smith & J. Duggan (Eds.), *Social Choice and Strategic Decisions: Essays in Honor of Jeffrey S. Banks* (pp. 201–226). Berlin: Springer Verlag.

Dowding, K. (2005). Is it rational to vote? Five types of answer and a suggestion. *British Journal of Politics and International Relations*, *7*, 442–459. WILEY.

Falcó-Gimeno, A. & Indridason, I. H. (2013). Uncertainty, complexity, and Gamson's law. *West European Politics*, *36*(1), 221–247. T&F.

Fréchette, G. R., Kagel, J. H., & Lehrer, S. F. (2003). Bargaining in legislatures: An experimental investigation of open versus closed amendment rules. *American Political Science Review*, *97*(2), 221–232.

Fréchette, G. R., Kagel, J. H., & Morelli, M. (2005). Nominal bargaining power, selection protocol, and discounting in legislative bargaining. *Journal of Public Economics*, *89*(8), 1497–1517.

Golder, S. N. & Thomas, J. A. (2014). Portfolio allocation and the vote of no confidence. *British Journal of Political Science*, *44*(1), 29–39. CUP.

Guimarães, P. & Lindrooth, R. C. (2007). Controlling for overdispersion in grouped conditional logit models: A computationally simple application of dirichlet-multinomial regression. *Econometrics Journla*, *10*, 439–452. Wiley.

Katz, J. N. & King, G. (1999). A statistical model for multiparty electoral data. *American Political Science Review*, *93*(1), 15–32.

Laver, M. J. & Budge, I. (1992). *Party Policy and Government Coalitions*. New York, NY: St. Martin's Press.

Martínez-Gallardo, C. (2014). Designing cabinets: Presidential politics and ministerial instability. *Journal of Politics in Latin America*, *6*(2), 3–38. Giga.

Morelli, M. (1999). Demand competition and policy compromise in legislative bargaining. *American Political Science Review*, *93*(4), 809–820.

Müller, W. C. & Strøm, K. (2001). Coalition governance in Western Europe: An introduction. In W. C. Müller & K. Strøm (Eds.), *Coalition Governments in Western Europe* (pp. 1–32). Oxford: Oxford University Press.

Riker, W. H. (1982). The two-party system and Duverger's Law: An essay on the history of political science. *American Political Science Review*, *76*, 754–766. Jstor.

Rubinstein, A. (1982). Perfect equilibrium in a bargaining model. *Econometrica*, *50*(1), 99–109.

Schofield, N. & Laver, M. (1985). Bargaining theory and portfolio payoffs in European coalition governments, 1945-1983. *British Journal of Political Science*, *15*(2), 143–164.

Tomz, M., Tucker, J. A., & Wittenberg, J. (2002). An easy and accurate regression model for multiparty electoral data. *Political Analysis*, *10*(1), 66–83.

Warwick, P. V. & Druckman, J. N. (2001). Portfolio salience and the proportionality of payoffs in coalition governments. *British Journal of Political Science*, *31*(4), 627–649.

Warwick, P. V. & Druckman, J. N. (2006). The portfolio allocation paradox: An investigation into the nature of a very strong but puzzling relationship. *European Journal of Political Research*, *45*(4), 635–665.

A Caretaker Government: Proportional Allocation

In the model above it was assumed that the spoils are divided equally among the parties when they fail to form a government and a caretaker government takes office. Another possibility is that a caretaker government divides the spoils in proportion to the parties' seat shares. That is, the allocation of spoils equals $m^1 = \{s_1, s_2, s_3\}$ if a caretaker government takes office.

Assuming proportional allocation of spoils complicates the analysis slightly because the formateur is no longer indifferent about which party it forms a coalition with in the second time period following a failed bargaining attempt in the first period. One must, therefore, pay closer attention to the parties' sizes and from here on party labels will be assigned so that $s_1 > s_2 > s_3$.

Starting with the one period version of the model, the equilibrium of the game is straightforward. The formateur offers the smaller of the two possible coalition partners a share equal to its size and keeps the rest for herself. Thus, if parties 1 or 2 are formateurs the offer s_3 to Party 3 and keep $1 - s_3$ for herself. If Party 3 is formateur it offers s_2 to Party 2 and keeps $1 - s_2$ for herself.

Turning to the two period game with dissolution, consider first the subgame following a dissolution. The formateur party, i, offers s_j to its bargaining partner and keeps $1 - s_j$ for itself. The expected second period payoff to the parties involved in the bargaining after dissolution then equals $\frac{s_i}{s_i+s_j}(1 - s_j) + \frac{sj}{s_i+s_j} s_i = \frac{s_i}{s_i+s_j}$.

Consider the expected payoff from rejecting a proposal in the first period. If a proposal is rejected, each party receives a share proportional to their seats in the first period, s_i, in addition to the expected payoff that results from bargaining in the second period. The bargaining in the second period is equivalent to the one period model, i.e., the formateur forms a coalition with the smaller of the possible coalition partners. Party 1's expected payoff is then $s_1 + \delta s_1(1 - s_3)$ as it is only a member of the second period coalition if it is selected formateur. Party 2's expected payoff is $s_2 + \delta s_2(1 - s_3) + \delta s_3 s_2 = (1 + \delta)s_2$ as it is a member of the second period coalition if it or Party 3 is selected formateur. Party 3's expected payoff is $s_3 + \delta s_3(1 - s_2) + \delta(s_1 + s_2)s_3 = s_3 + \delta s_3(1 + s_1)$ as it will always be a member of the second period coalition.

Now consider the parties' strategies for accepting an offer from Party i in the first period. After accepting an offer in the first period the coalition partner, Party j, has two options: i) The party chooses not to dissolve the coalition, in which case the party's total payoff equals $(1+\delta)m^1_j$, or ii) the party chooses to dissolve the coalition formation and bargaining with the opposition party, in which case the party's total payoff is $m^1_j + \delta \frac{s_j}{s_j+s_k}$. Thus, the coalition will be stable if $m^1_j \geq \delta \frac{s_j}{s_j+s_k}$. Party j may, however, accept an offer $m^1_j < \delta \frac{s_j}{s_j+s_k}$ because accepting the offer gives the party an opportunity to dissolve the coalition, which gives the party an expected payoff of $\frac{s_j}{s_j+s_k}$ in the second period whereas rejecting the offer the expected payoffs are those listed in the previous paragraphs. Taking the parties in turn, it is optimal for Party 1 to accept if $m_1^1 \geq s_1 + \delta s_1(1-s_3) - \delta \frac{s_1}{s_1+s_k}$ when Party i is the formateur and Party k is not a member of the proposed coalition. For Party 2 it is optimal to accept if $m_2^1 \geq (1+\delta)s_2 - \delta \frac{s_2}{s_2+s_k}$ and for Party 3 it is optimal if $m_3^1 \geq s_3 + \delta s_3(1+s_1) - \delta \frac{s_3}{s_3+s_k}$.

Suppose Party i is appointed formateur at the beginning of the first time period. It has three options: i) To form an unstable coalition, i.e., a coalition is formed in the first period but is subsequently dissolved, ii) to form a stable coalition that survives through the two periods, and iii) to make a proposal that is rejected and results in a caretaker government.

Start by considering the possibility that Party i opts to form an unstable coalition. As in the model considered in the paper this is possible because the party that dissolves the coalition gains an advantage by dissolving the coalition — it is more likely to be selected formateur in the second time period. In pursuing an unstable coalition the optimal strategy for Party i is to make the smallest offer acceptable to one of its bargaining partners and to make it to the party whose acceptance threshold is lower. Thus, Party i would choose m_j^1 such that the condition for accepting a first period offer holds with equality. Party 1 prefers to make an offer to Party 3 if $(1+\delta)s_2 - \delta \frac{s_2}{s_2+s_3} > (1+\delta)s_3 + \delta s_1 s_3 - \delta \frac{s_3}{s_2+s_3}$ and to Party 2 otherwise.[27] It can be shown that the condition holds for some parameters but not others. If $\delta = 0$ then the condition reduces to $s_2 > s_3$, which is true by definition and Party 3 receives the offer. If $\delta = 1$ and $s_2 = s_3 + \epsilon$ the condition for preferring Party 3 reduces to $0 > \delta s_1 s_3$ as $\epsilon \to 0$ and Party 2 receives the offer. Party 2 prefers to make an offer to Party 3 if $s_1 + \delta(1-s_3) - \delta \frac{s_1}{s_1+s_3} > (1+\delta)s_3 + \delta s_1 s_3 - \delta \frac{s_3}{s_1+s_3}$. By $s_1 > s_2 > s_3$, the inequality always holds. Finally, Party 3 prefers to make an offer to Party 2 as the inequality $s_1 + \delta(1-s_3) - \delta \frac{s_1}{s_1+s_2} > (1+\delta)s_2 - \delta \frac{s_2}{s_1+s_2}$ always hold by $s_1 > s_2 > s_3$. Thus, the formateur's payoff in the first period equals $1 - m_j^1$ where j is determined as discussed above, and its payoff is zero in the second period.

Second, Party i can make a proposal that results in a stable coalition. This requires offering the chosen coalition partner a share that makes it at least indifferent between dissolving the coalition and sticking with the coalition. As the expected second period payoff to party j from dissolving a coalition equals $\frac{s_j}{s_j+s_k}$, Party i would maximize its payoff in a stable coalition by forming a coalition with the smaller of the two parties. Thus, parties 1 and 2 would form a stable coalition with Party 3 while Party 3 would propose a coalition with Party 2. If pursing a stable coalition Party i would propose:

$$m_i^1 = \begin{cases} (1 - \frac{s_3}{s_2+s_3}, 0, \frac{s_3}{s_2+s_3}) & \text{if } i = 1, \\ (0, 1 - \frac{s_3}{s_1+s_3}, \frac{s_3}{s_1+s_3}) & \text{if } i = 2, \\ (0, \frac{s_2}{s_1+s_2}, 1 - \frac{s_2}{s_1+s_2}) & \text{if } i = 3 \end{cases} \tag{7}$$

Party i's total payoff from pursuing the strategy of a stable coalition then equals:

[27] Party 1 is, of course, indifferent if the two sides of the inequality are equal.

$$u_i = \begin{cases} (1+\delta)(1-\frac{s_3}{s_2+s_3}) & \text{if } i=1, \\ (1+\delta)(1-\frac{s_3}{s_1+s_3}) & \text{if } i=2, \\ (1+\delta)(1-\frac{s_2}{s_1+s_2}) & \text{if } i=3 \end{cases} \tag{8}$$

Finally, to make a proposal that will be rejected and results in a caretaker government. Doing so yields Party i an expected utility of:

$$E(u_i) = \begin{cases} s_1 + \delta s_1(1-s_3) & \text{if } i=1, \\ s_2 + \delta(s_2(1-s_3)+s_3 s_2) = (1+\delta)s_2 & \text{if } i=2, \\ s_3 + \delta(s_3(1-s_2)+(s_1+s_2)s_3) = s_3 + \delta s_3(1+s_1) & \text{if } i=3 \end{cases} \tag{9}$$

As in the model presented in the paper, the aim is to show that the formateur may have an incentives to offer its coalition partner more than a proportional allocation of government portfolios, i.e., that the formateur has an incentive to form a stable coalition. It is clear that when the actors value future payoffs very little, e.g., when $\delta = 0$, then any such incentive will be absent. For simplicity, therefore, I focus on the case where the parties value the future as much as the present, i.e., $\delta = 1$. Deriving the equilibria is slightly more tedious when payoffs are proportional under caretaker coalitions — the difference in payoffs resulting from proportional payoffs imply that the incentives to build a stable coalition vary across parties. Each of the parties must, thus, be considered in turn.

Starting with when Party 1 acts as a formateur, suppose the parameters are such that it prefers to form a coalition with Party 3 when pursuing a strategy of forming an unstable coalition. The payoff from forming an unstable coalition then equals $1-(2s_3+s_1s_3+\frac{s_3}{s_2+s_3})$. The payoff from pursing a stable coalition equals $2(1-\frac{s_3}{s_2+s_3})$ while the payoff from making an offer that will be rejected is $2s_1 - s_1s_3$. Forming a stable coalition is preferred to an unstable coalition if $2(1-\frac{s_3}{s_2+s_3}) > 1-(2s_3+s_1s_3+\frac{s_3}{s_2+s_3})$, which simplifies to $1-2\frac{s_3}{s_2+s_3} > -(2s_3+s_1s_3+\frac{s_3}{s_2+s_3})$, which always holds as $\frac{s_3}{s_2+s_3} < \frac{1}{2}$ by $s_2 > s_3$. Forming a stable coalition is preferred to making an offer that is rejected if $2-2\frac{s_3}{s_2+s_3} > 2s_1 - s_1s_3$, which is always true as the left hand side of the inequality is never less than one (by $s_2 > s_3$ and the right hand side is never larger than one (by the fact that no party has a majority, i.e., $s_1 < \frac{1}{2}$.

Now suppose Party 2 is the formateur. Party 2 prefers making an offer that results in a stable coalition to making an offer that is rejected as $2s_2 < 2(1-\frac{s_3}{s_2+s_3})$ since $\frac{s_3}{s_2+s_3} < \frac{1}{2}$ by $s2 > s_3$. Thus, $2(1-\frac{s_3}{s_2+s_3}) > 1 > 2s_2$ as $s_2 < \frac{1}{2}$. Party 2 also prefers a stable coalition to an unstable one by $2(1-\frac{s_3}{s_2+s_3}) > 1-(2s_3+s_1s_3-\frac{s_3}{s_2+s_3})$. The inequality can be rewritten:

$$1 + 2s_3 + s_1s_3 - \frac{3s_3}{s_2+s_3} \quad > \quad 0$$

Using the fact that $s_1 = 1 - s_2 - s_3$:

$$\begin{aligned} 1 - s_1 + 2s_3 - 2s_1s_3 + s_1s_3 - s_1^2s_3 - 3s_3 &> 0 \\ 1 - s_1 - s_3 - s_1s_3 - s_1^2s_3 &> 0 \\ 1 - s_1 - s_3 - (1 - s_2 - s_3)s_3 - s_1^2s_3 &> 0 \\ 1 - s_1 - 2s_3 + s_3(s_2 + s_3 - s_1^2) &> 0 \end{aligned}$$

The inequality always holds as the sum of the first three terms is always positive, i.e., $1 - s_1 - 2s_3 > 0$ as is the last term as $s_2 + s_3 - s_1^2 > 0$.

Finally, suppose Party 3 is the formateur. Party 3 always prefers forming a stable coalition to making a proposal that is rejected, i.e.,

$$\begin{aligned} 2(1 - \frac{s_2}{s_2 + s_3}) &> 2s_3 + s_1s_3 \\ 2s_s + 2s_3 &> 2s_2s_3 + 2s_3^2 + s_1s_2s_3 + s_1s_3 + 2s_2 \\ 1 &> \frac{s_1 - s_1^2}{2} + s_2 + s_3, \end{aligned}$$

which holds as $s_1 + s_2 + s_3 = 1$. Whether Party 3 prefers a stable coalition to an unstable one depends on the sizes of the parties. For example, Party 3 prefers a stable coalition when vector of seat shares is $\left(\frac{15}{32}, \frac{11}{32}, \frac{6}{32}\right)$ but an unstable one when it is $\left(\frac{15}{32}, \frac{13}{32}, \frac{4}{32}\right)$. These examples demonstrate that, depending on the seat distribution, stable and unstable equilibria are possible when Party 3 is the formateur. It is possible to solve explicitly for the conditions under which a stable coalition is the equilibrium but they are fairly complex.[28] Generally, holding the size of Party 1 fixed, a stable coalition becomes more attractive as Party 3 increases in size (at the expense of Party 2), e.g., when parties 2 and 3 are close in size. Intuitively this is the case because Party 3 can extract a large share from Party 2 when Party 2 expected gains following a dissolution are large, i.e., when Party 2 is likely to be selected formateur in the second period.

To summarize, when the parties don't discount the future, forming a stable coalition in which the formateur is more generous than she need be, is the equilibrium except when i) Party 3 is the formateur *and* ii) Party 3 is relatively small. That is, the only circumstance in which a stable coalition fails to form is in circumstances which are the most unlikely both empirically speaking and also under the model's assumption about formateur selection. As in the model presented in the body of the paper, it is clear that the incentives to form a stable coalition are smaller if the parties don't value the future as much.

[28] I omit the conditions here but they are, of course, available upon request.

B Alternative Model Specifications

The additive logratio transformation is applied to each cabinet so that for the n party cabinet $\mathbf{p} = (p_1, p_2, \ldots, p_n)$, we obtain $\text{alr}(\mathbf{p}) = \left(\log(\frac{p_1}{p_n}), \log(\frac{p_2}{p_n}), \ldots, \log(\frac{p_{n-1}}{p_n})\right)$ where party n is the party receiving the largest share of portfolios. The same transformation is applied to the parties' legislative seat shares as we know that there is a strong linear relationship between portfolio and seat shares.

— on data: and to calculate each parties' (absolute) ideological distance from the median party

Table 8: Portfolio Allocation: OLS Regression
—One Party Dropped from each Cabinet, SEs Clustered by Cabinet—

	(1)	(2)	(3)	(4)
Party Seat Share	0.82***	0.86***	0.86***	0.87***
	(0.02)	(0.02)	(0.02)	(0.03)
Formateur	-0.059***	0.014	0.016	0.0083
	(0.009)	(0.02)	(0.02)	(0.02)
Formateur×Seat Share		-0.21***	-0.21***	-0.18***
		(0.07)	(0.07)	(0.05)
Median			0.016	0.068***
			(0.01)	(0.02)
Median×Seat Share				-0.20**
				(0.09)
Constant	0.074***	0.066***	0.066***	0.062***
	(0.005)	(0.005)	(0.005)	(0.005)
Observations	399	399	399	399
R^2	0.79	0.80	0.80	0.80

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Portfolio Allocation: OLS Regression
—Additive Log-Ratio Transformation, SEs Clustered by Cabinet—

	(1)	(2)	(3)	(4)
alr(Party Seat Share)	0.63***	0.64***	0.64***	0.64***
	(0.02)	(0.02)	(0.02)	(0.02)
Formateur	-0.14***	-0.18***	-0.18***	-0.15***
	(0.04)	(0.05)	(0.05)	(0.04)
Formateur×alr(Seat Share)		-0.14***	-0.14***	-0.12***
		(0.05)	(0.05)	(0.05)
Median			0.071	-0.087
			(0.06)	(0.07)
Median×alr(Seat Share)				-0.19***
				(0.07)
Constant	-0.11***	-0.087**	-0.099***	-0.095***
	(0.03)	(0.03)	(0.04)	(0.04)
Observations	399	399	399	399
R^2	0.78	0.78	0.78	0.79

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Weighed Portfolio Allocation: OLS Regression
—One Party Dropped from each Cabinet, SEs Clustered by Cabinet—

	(1)	(2)	(3)	(4)
Party Seat Share	0.81***	0.84***	0.83***	0.84***
	(0.02)	(0.02)	(0.02)	(0.02)
Formateur	-0.0031	0.041**	0.045**	0.036**
	(0.009)	(0.02)	(0.02)	(0.02)
Formateur×Seat Share		-0.12**	-0.13**	-0.100**
		(0.06)	(0.06)	(0.05)
Median			0.023*	0.078***
			(0.01)	(0.03)
Median×Seat Share				-0.21**
				(0.08)
Constant	0.061***	0.056***	0.055***	0.051***
	(0.005)	(0.005)	(0.005)	(0.005)
Observations	399	399	399	399
R^2	0.82	0.82	0.82	0.83

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Weighted Portfolio Allocation: OLS Regression
—Additive Log-Ration Transformation, SEs Clustered by Cabinet—

	(1)	(2)	(3)	(4)
alr(Party Seat Share)	0.63***	0.64***	0.63***	0.64***
	(0.02)	(0.02)	(0.02)	(0.02)
Formateur	-0.0094	-0.037	-0.047	-0.011
	(0.04)	(0.05)	(0.05)	(0.04)
Formateur×alr(Seat Share)		-0.090*	-0.10*	-0.081*
		(0.05)	(0.05)	(0.05)
Median			0.12**	0.0042
			(0.05)	(0.06)
Median×alr(Seat Share)				-0.16**
				(0.07)
Constant	-0.15***	-0.14***	-0.16***	-0.16***
	(0.03)	(0.03)	(0.04)	(0.04)
N	399	399	399	399
R^2	0.80	0.80	0.80	0.80

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$