



The majoritarian and proportional visions and democratic responsiveness[☆]



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ABSTRACT

Although previous research demonstrates that proportionality positively impacts the congruence between the positions of the government and the public after elections, recent work argues and shows that proportionality dampens policy responsiveness in between elections. Why this is true is unclear, however. This paper considers how proportionality matters for policy responsiveness, focusing on two primary suspects: (1) the friction associated with coalitions in proportional systems and (2) the comparatively weaker electoral incentives in those systems. In this paper we first assess the general effect of electoral systems, showing that results are robust across measures, and also that the impact of electoral systems increases exponentially alongside party fragmentation. We then examine two alternative mechanisms at work in proportional systems, and preliminary results point towards the potential importance of government fractionalization in accounting for weakened inter-election responsiveness. In the concluding section we consider implications for our understanding of democratic representation, and also for future research on opinion-policy congruence.

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A growing body of literature addresses the influence of electoral institutions on the political representation of public opinion. Most of this research focuses on differences between majoritarian and proportional “visions,” using Powell’s (2000) language. Research by Powell and others finds that proportional representation tends to produce greater congruence between the positions of the government and the public; specifically, the general ideological disposition of the government that emerges after an election and the ideological bent of the electorate tended to match up better in

proportional systems (Lijphart, 1999; Powell, 2000; also see Miller et al., 1999).

Recent work has challenged these findings (Blais and Bodet, 2006; Golder and Stramski, 2010; Dalton et al., 2012). We discuss this research further below; here, it is worth noting just that current work is increasingly divided on what have seemed to be the representational advantages of proportional systems.

Even if proportional systems do provide greater ideological congruence in the wake of elections, it is not at all clear that they provide greater representation in between elections. Indeed, there are reasons to expect governments in majoritarian systems to be more responsive to opinion change throughout the electoral cycle (Soroka and Wlezien, 2010), and empirical research supports the conjecture (see Wlezien and Soroka, 2012). This paper assesses the robustness of that connection and attempts to take the next step, establishing exactly how proportionality matters for policy responsiveness.

We begin by reviewing expectations regarding the effect of electoral systems on dynamic policy representation and then turn to empirics. Our first set of analyses re-test the possibility that proportional systems actually produce less dynamic representation than majoritarian systems. This provides stronger and more detailed evidence in support of the claim. Subsequent analyses then

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turn to understanding precisely why proportional systems are less responsive. We consider two mechanisms: coalitional friction and electoral incentives (We also consider differences in electoral accountability associated with single-party and coalition governments). The results of these analyses indicate that electoral incentives (and electoral accountability) have little impact but that friction might. We view this as an important step towards understanding not just *whether* but also *how* proportional versus majoritarian systems matter for policy representation.

1. Representation after and between elections

Public opinion can influence government policy in two well-known ways. The first way is indirect, through elections, where the public can elect governments that share their opinions, who undertake corresponding policy change. This sometimes is referred to as “congruence.” The second way is direct, in between elections, where policymakers (may) adjust policy in response to changing public opinion. This can be thought of as “covariational congruence,” following Weissberg (1976). Research on the effects of electoral institutions has focused almost entirely on the former.

Lijphart (1984) provides the first statement on indirect representation. He distinguishes between “consensual” democracies – characterized by, most notably, proportional representation, multiparty systems, and coalition governments – and “majoritarian” systems – characterized by simple plurality election rules, a two-party system, and single-party government. He then suggests that consensual democracies provide better general policy congruence than do majoritarian systems.

Powell (2000) provides further theory and empirical support, focusing specifically on the differences between majoritarian and proportional election rules and their implications for representation. Powell argues and finds that proportional representation tends to produce greater congruence between the government and the public; specifically, the general ideological disposition of government and the ideological bent of the electorate tend to match up better in proportional systems. For Powell, this reflects the greater, direct participation of constituencies the vision affords (also see Miller et al., 1999). In effect, coalition governments tend to include ideological centrist parties, which brings the average orientation of coalition parties closer to that of the median voter.

This logic is compelling, although it is challenged in some recent research. Blais and Bodet (2006) argue that, while proportional systems encourage coalition governments, thus pulling the government more to the center, they also encourage a greater number and diversity of parties in the first place, which promotes representation of more extreme positions (Their analysis reveals little difference in the congruence between citizens and governments in proportional and majoritarian systems). Golder and Stramski (2010) show much the same.¹ Powell's (2011) own recent analysis, which encompasses a broader period than his original work, also demonstrates little difference between electoral systems.

Even accepting Powell's original (2000) results, they pertain to the period just after elections. What about in the periods between elections? We have argued in previous work that there is reason to think that governments in majoritarian systems are more responsive to opinion change (Wlezien and Soroka, 2007; also see Wlezien and Soroka N.d.). There are two main explanations.

First, it presumably is easier for a single party to respond to change than a multi-party coalition, as coordination in the latter is more costly and difficult. This reflects increased transaction costs

when multiple parties are involved but also the constraints posed by coalition agreements (Muller and Strom, 2010), which limit the room for the government to maneuver. In effect, coalitions introduce “friction” into the policymaking process (e.g., Jones et al., 2009; Tsebelis, 2002).²

Second, majoritarian governments have more of an incentive to respond to opinion change owing to the larger seats-to-votes ratios in those systems. Since a shift in electoral sentiment has bigger consequences on Election Day in majoritarian systems, governments there are likely to pay especially close attention to the ebb and flow of opinion. This possibility generalizes Rogowski and Kayser's (2002) argument about the sensitivity of governments to consumers in majoritarian systems.

There thus are strong organizational and electoral reasons for governments in proportional systems to be less responsive than majoritarian governments to changing public opinion in between elections. Note that this contrasts with Powell's expectation. Of course, it ultimately may be that proportional and majoritarian systems may work to serve representation but in different ways, where the former provide better indirect representation via elections and the latter provide better direct representation in between elections. What is important for us is that taking account of this inter-election period leads to rather different expectations about the impact of electoral systems. Let us empirically assess those expectations.

2. Toward an analysis of spending

Building on past work by Wlezien and Soroka (e.g., Wlezien, 1995, 1996, 2004; Soroka and Wlezien, 2010; Wlezien and Soroka, 2012), our tests rely on a dynamic model of policy representation. The crux of the model is relatively simple. If policymakers are responsive, policy change (ΔP_t) will be a function of relative preferences for policy (R_{t-1}), which reflect support for policy change. Other things also may matter for policy, of course, including the partisan control of government (G_{t-1}). Still other things, including economic conditions and fiscal constraints (O_{t-1}) may matter as well. Note that the independent variables are lagged so as to reflect preferences and party control when budgetary policy, the focus of our empirical analysis, is made.³ For any particular domain, the equation is:

$$\Delta P_t = \rho + \gamma_1 R_{t-1} + \gamma_2 G_{t-1} + \gamma_3 O_{t-1} + \mu_t, \quad (1)$$

Where ρ and μ_t represent the intercept and the error term, respectively. This equation captures both indirect and direct representation. The former — representation through election results and subsequent partisan composition of government — is captured by γ_2 , and the latter — adjustments to policy reflecting shifts in preferences — is captured by γ_1 .

Recall however that we are interested in assessing whether and how electoral systems impact policy responsiveness to public opinion. This too can be assessed directly, by extending equation (1) across countries k as follows:

² A compounding factor is that parties in a coalition may respond differently to a change in opinion, where some prefer to not respond at all or even move in a different policy direction (see Calvo et al., 2013).

³ This dovetails with thermostatic public responsiveness to spending (Wlezien, 1995; Soroka and Wlezien, 2010). Public opinion in year t reacts (negatively) to policy for year t and policymakers adjust policy (positively) in year $t + 1$ based on current (year t) opinion. Now, if studying policy that, unlike budgetary policy, is not lagged, then policy change could represent year t public opinion, which in turn responds to lagged (year $t - 1$) policy. That is, the model can be adjusted to reflect the reality of the policy process.

¹ They do, however, show that proportional systems produce more representative legislatures.

$$\Delta P_{kt} = \rho_k + \gamma_1 R_{kt-1} + \gamma_2 E_{kt-1} + \gamma_3 E^* R_{kt-1} + \gamma_4 G_{kt-1} + \gamma_5 O_{kt-1} + \mu_{kt}, \quad (2)$$

Where E taps the electoral system's proportionality. We are especially interested in the coefficients γ_1 and γ_3 , which capture the direct and interactive effects of opinion (R). If there is representation and it varies negatively with proportionality, then γ_1 will be greater than 0 and γ_3 will be less than 0. This would tell us that preferences positively influence policy, but that the relationship declines as proportionality increases. That is, we would find that governments are more representative in the US and UK than in France. Of course, it may be that proportional systems are more responsive to opinion change, as some might infer from Powell and Lijphart.⁴ If so, then both γ_1 and γ_3 will be greater than 0 — the sum of γ_1 and $\gamma_3 \cdot E$ will increase as E increases. We can settle the issue empirically.

What makes such analyses possible is the availability of public preferences for spending data from the four Role of Government waves of the International Social Survey Program (ISSP). We combine these data with measures of government spending from OECD spending datasets. For the analysis, we focus on total government spending. Doing so across a wider range of countries means that we can explicitly test existing theories about the proportionality of electoral systems as well as other political institutions, e.g., the executive-legislative balance of power.

3. Data

To measure government spending, we rely mainly on OECDStat "Table 11. Government expenditure by function." This source lacks data for Australia, so we add those from the Australian Bureau of Statistics, "5204.0 Australian System of National Accounts, Table 35. Government Final Consumption Expenditure, by Level of government and purpose." All data were initially recorded in national currency units (NCUs) at current prices. We convert them to constant NCUs using inflation (average consumer prices, 2000 = 100) available from the International Monetary Fund's (IMF) World Economic Outlook Database (2010). Spending data present a particular difficulty in these time-series cross-sectional models, since NCUs vary considerably both in level and in variance.⁵ To deal with the issue, we use a percentage change measure of spending.

The measure of relative public preferences — the variable R in the equations from above — is critical. For this, we rely on the International Social Survey Program "Role of Government I–IV cumulative file," combining results from the four years in which the survey has included a battery of questions on government policies, namely, 1985, 1990, 1996 and 2006.⁶ The surveys include questions about spending in a number of different policy domains. While we intend to address these in subsequent work, we begin by focusing on a single measure of relative preferences (R), namely, a question about government spending in general: "Here are some things the government might do for the economy. Please show which actions you are in favor of and which you are against: Cuts in government spending (strongly in favor, in favor, neither in favor nor against,

against, strong against)."⁷ This allows measures in 17 countries over the period.

We produce a net support for spending measure by taking the (weighted) average of responses, where responses are scored strongly in favor (–100), in favor (–50), neither in favor nor against (0), against (+50), strongly against (+100). The measure ranges in theory from –100, meaning that all respondents strongly favor spending cuts, to +100, meaning that all respondents oppose spending cuts. Of course, the actual results do not have quite this range; indeed, the net support measure tends to be negative, meaning that on average respondents are more likely to agree to cuts than to oppose them.

All opinion data are adjusted to account for the fact that the ISSP is not fielded at exactly the same time in all countries. For waves 1 through 3, one or two countries fielded the survey one year late; for wave 4, field dates range from 2005 to 2008. We make the appropriate adjustments, so that opinion data are used here in the year in which they were actually measured.

There are other independent variables, including fiscal constraints. For this, we rely on measures of GDP and government debt from OECDStat. We use the percent change in inflation-adjusted values, which provides direct compatibility with our dependent variable.

Political institutions also may matter. The proportionality of systems clearly is of special importance to us here, but let us first consider government institutions. We have hypothesized elsewhere (Wlezien and Soroka, 2007; Soroka and Wlezien, 2010) that the executive-legislative balance of power should tutor policy responsiveness. Specifically, we expect that executive dominance dampens responsiveness because it is difficult to either counter or correct the behavior of the government in such systems. To capture executive-legislative balance, we use Lijphart's (1999) measure of executive dominance, which is available for 14 of the 17 countries.

3.1. Measuring the effects of electoral institutions

That leaves proportionality. Our general interest is in how fragmented or "fractionalized" support is among different parties.⁸ There are numerous ways to conceive of and measure this. Rae (1967) first proposed measures for both votes and seats. He relies on a Herfindahl index that sums the squared fractional shares of each party and subtracts it from 1—thus, the higher the score, the higher the fractionalization. Laakso and Taagepera (1979) use the same information to create the very well-known measures of the effective number of parties (ENP), also for votes and seats.⁹ There is value in both the Rae and Laakso and Taagepera approaches to measuring fractionalization, and it is difficult to settle on one a priori, so we consider both in the empirical analysis. The data are for national elections from 1985 to 2000; Rae's measures are drawn from the Comparative Political Data Set (CPDS) III,¹⁰ while the

⁷ Note that the question used here is about "cuts" rather than "spending" ("more," "less," or "about the same"), the latter of which is the focus of our own past work. The ISSP asks questions about spending "more" or "less" in various specific policy domains (e.g., health, defense), but the only question capturing overall spending preferences asks about "cuts." Results for the question used here nevertheless move alongside the average across all eight domain-specific "spending" questions.

⁸ That is, we are not interested in the "disproportionality" of systems *per se*, which registers how far the distribution of seats across parties differs from the distribution of votes (For the purposes of full information, we still consider such possibilities below).

⁹ The measures equal: $1/(1 - \text{Rae's fractionalization score})$. The relationship between the Rae and Laakso and Taagepera measures thus is nonlinear.

¹⁰ Klaus Armingeon, Romana Careja, David Weisstanner, Sarah Engler, Panajotis Potolidis, Marlène Gerber, Philipp Leimgruber. Comparative Political Data Set III 1990–2009, Institute of Political Science, University of Berne 2011.

⁴ Recall that Powell and Lijphart focus on the congruence between the median voter and government position in the wake of elections, not the responsiveness of governments to opinion shocks in between elections.

⁵ Converting to a constant currency, such as US dollars, presents other difficulties; namely, it means that trends in spending will be affected by shifts in exchange rates.

⁶ The file is distributed by GESIS, ZA file #4747/4748.

Laakso and Taagepera measures are from Matt Golder's *Democratic Electoral Systems Around the World, 1946–2000* (Golder, 2005).

Recall that we have two hypotheses about the effects of electoral systems, a “governmental” one in which coalitions in proportional systems introduce friction, which dampens the opportunity to respond, and an “electoral” one in which governments in majoritarian systems have greater willingness, or incentive, to respond.

The first hypothesis, regarding government friction, implies that characteristics of the actual coalition itself are of primary importance. That is, while the fractionalization of both votes and seats is important, to test this hypothesis we need to measure the fractionalization of government coalitions and cabinets themselves. There surely is a relationship between the fractionalization of voters and seats and legislatures. They are not one and the same, however.

We rely here on three different measures of government fractionalization. The first is a three-category variable capturing the ideological heterogeneity of governments, based on a measure designed by Schmidt (1992), and extended in the CPDS dataset. The original variable has five categories, from left hegemony to right hegemony. Here, we are not concerned about the partisanship of government so much as the ideological heterogeneity, so we use the following categories: (1) hegemony of right- or left-wing (and center) parties, (2) dominance of right- or left-wing (and center) parties, and (3) balance of power between left- and right-wing (and center) parties.

Our second measure of government fractionalization ignores ideological variance and focuses entirely on what we might call compositional fractionalization. It is a simple Herfindahl index, based on party proportions within government, with the sign reversed so that 0 is the value for single-party governments, and increasing values reflect increasing fractionalization. This measure is drawn from another dataset, the Database of Political Institutions (DPI), available from the World Bank.¹¹

The third measure of government fractionalization is intended to combine, at least partly, ideological and compositional fractionalization. It is another Herfindahl index, again with the sign reversed, based not on all individual parties but rather the proportion of cabinet seats allocated to three major party groups — left, center and right. The measure is our own, but the proportion of cabinet posts given to left, center and right parties are drawn from the CPDS dataset.

Note that our first and third measures capture fractionalization in the cabinet while the second measure focuses on government parties more broadly. The difference may matter. Blau (2008) examines measures based on all government members versus cabinet portfolios, and makes clear that, while over-time trends in the two measures are roughly parallel, there can be some important differences as well. Ideally, then, we would test each of the three government fractionalization measures using both government members and cabinet portfolios. Unfortunately, the measures are not readily available, so for now we focus on the combination of measures listed above.

Table 1 shows bivariate correlations between our measures of system and government fractionalization — Rae's indices, the corresponding ENP variables, and the three measures of government fractionalization — across elections and countries (Mean values for all institutional measures for each country are in Appendix A). All of the measures are positively correlated, but the degree of association varies tremendously. The highest correlations are between (and among) the indicators of electoral and legislative fractionalization. Even here, there are real differences and none are highly corrected with the measures of government fractionalization, which themselves are only modestly correlated with each other.

¹¹ Philip Keefer, Development Research Branch, The World Bank. DPI2010: Database of Political Institutions.

Clearly, the various measures capture different things and this may make a difference to our results.

Now, our second hypothesis regards electoral incentives, and this pertains to the translation of votes into seats. That is, governments are expected to be more responsive in systems where a change in votes has a bigger impact in seats. This is truer in plurality systems, though not equally so, as plurality (and proportional) systems vary substantially. The most general measure is the actual seats-votes ratio, which directly captures the elasticity. Specifically, it taps the ratio between the percentage change in seats and the percentage change in votes at the previous election. For estimation, we follow King (1990) and run a conditional logit of the log of seats on votes. Given that the parties differ from election to election, a conditional logit via Poisson approximation is necessary, and this produces estimates that are identical to King's.¹²

4. An analysis of direct representation

4.1. A general analysis

To begin with, let us consider general differences across electoral systems. Table 2 shows results from our previous work introducing the effects of political institutions — both governmental and electoral — into models of policy responsiveness (Wlezien and Soroka, 2012).¹³ The first column includes executive–legislative balance, using Lijphart's (1999) measure. As for proportionality (see equation 2), we estimate both a direct impact and an interactive effect with preferences, though the latter is of special interest to us. In the table we can see that the preferences coefficient is positive and significant and the interactive coefficient is negative, implying that there is responsiveness but that it decreases as executive power increases. The direct effect of executive balance on representation is not quite statistically significant ($p = .07$), so we stop short of crediting the relationship.

In the second column of the table, we see a similar set of results for proportionality, using Golder's (2005) ENPP measure.¹⁴ The coefficient is negative, suggesting that responsiveness decreases with proportionality, though the effect is not significant. Although proportional systems do not reliably dampen the representation of public preferences over time, it is fairly clear that they do not enhance the connection.

The third column of Table 2 shows the effects of incorporating both institutional variables in the same model.¹⁵ Here we see much more definitive evidence, as the additive effect of preferences remains positive and significant and both the interactive coefficients are negative and significant ($p < .05$). The results imply that there is policy representation but that high levels of executive power and electoral system proportionality decrease it.¹⁶ This is exactly as we hypothesized—governments in proportional systems are less responsive to

¹² See Guimaraes 2004 for a discussion of the Poisson transformation. See, e.g., Calvo and Micozzi 2005 for an example of comparative research using a similar measure. We are indebted to Ernesto Calvo for his tutorial, instructions and actual programming.

¹³ Note that this model relies on 16 countries — Poland is excluded from models of representation because the field date for the final ISSP survey was late, in 2008, and our spending data end in that year.

¹⁴ These first models use the mean ENPP over the time period for each country; that is, each country has just one ENPP value. This differs from our new estimates, which use annual ENPP, thus allowing for within-country variance. As we shall see, this (slightly) improves the results.

¹⁵ Again, some countries are excluded due to missing data: in addition to Poland, Hungary, Japan and Slovenia.

¹⁶ The US is an extreme case on both dimensions, and so it is worth noting that the effects are larger and much more reliable when it is excluded from the analysis. Also note that the patterns are robust to the exclusion of each country with replacement, i.e., jackknife tests.

Table 1
Correlations among institutional measures.

	1	2	3	4	5	6
1	Rae's electoral fract					
2	Rae's legislative fract	.84				
3	ENEP	.68	.58			
4	ENPP	.68	.76	.87		
5	Non-hegemony	.36	.43	.50		
6	Govt fractionalization (all parties)	.52	.59	.38	.55	.43
7	Govt fractionalization (3 groups)	.46	.52	.52	.51	.72
					.62	.56

Note: Based on annual data, across countries; N = 348 to 493.

Table 2
Policy responsiveness moderated by electoral system. Proportionality and executive dominance, as in Wlezien and Soroka (2012).

	DV: %Δ total govt spending _{kt}		
Net preferences _{kt-1}	.136* (.072)	.053 (.103)	.504** (.166)
Executive dominance _{kt-1}	-1.318* (.740)		-2.913** (.869)
Prefs _{kt-1} * executive dominance _{kt-1}	-.022 (.015)		-.043** (.015)
ENPP _{kt-1}		-.471 (1.573)	-5.248** (2.023)
Prefs _{kt-1} * ENPP _{kt-1}		-.005 (.034)	-.099** (.043)
%ΔGDP(deflated NCUs) _{kt-1}	.515** (.234)	.565** (.251)	.555** (.210)
%ΔDebt(deflated NCUs) _{kt-1}	-.064 (.058)	-.078 (.058)	-.044 (.052)
Constant	7.893** (3.743)	3.486 (4.524)	28.747** (8.560)
Sigma u	–	–	.000 (.790)
Sigma e	2.292** (.306)	2.610** (.321)	2.021** (.270)
N	28	33	28
N (panels)	13	16	13
LR Chi2	17.265	12.728	24.332

*p < .10; **p < .05. Cells contain MLE coefficients with standard errors in parentheses. ENPP is the effective number of parliamentary parties from Golder (2005), and executive dominance is from Lijphart (1999).

public opinion changes in between elections. To get a sense for how much institutions matter, see Wlezien and Soroka (2012).¹⁷

The models in Table 2 also include indicators of fiscal capacity—the percent change in GDP, and the percent change in debt, both measured in the previous year. Our expectation is that an expanding economy will tend to increase spending and that growing public debt will tend to decrease it.¹⁸ The coefficients for the variables are in the expected direction here, though only GDP is significant in the final model. That debt is not indicates that economic growth is what really constrains policymakers, which challenges conventional interpretations of the current global fiscal crisis. The models do not include measures of party control, which have trivial, statistically insignificant effects.¹⁹

Before assessing the effects of other measures of

fractionalization, we consider two other general measures of electoral system proportionality. The first is a coarse, dichotomous measure that differentiates plurality and proportional systems from Golder (2005). The second is a measure of median district magnitude, also from Golder, which is an important determinant of proportionality and party fragmentation (see, e.g., Taagepera and Shugart 1989; Cox, 1997).²⁰ The results of substituting these measures for ENPP in our model are shown in Table 3. In column A, we can see that the general difference between plurality and proportional systems does not reliably influence policy responsiveness. The interactive coefficient, while appropriately negatively-signed, is not statistically significant. The result implies that what matters to responsiveness is not whether a system is proportional or not, but the degree of proportionality. The results of using median district magnitude in column B of Table 3 are confirming; that is, the interactive coefficient is negative and significant (p < .10, two-tailed). The degree of proportionality really seems to matter.

The foregoing analysis only begins to assess the effects of proportionality. Most notably, Table 2 relies on the effective number of parliamentary parties (ENPP), a measure that focuses on legislative seats. As discussed above, we do not have strong expectations that ENPP will be better than alternative measures of fractionalization of seats (or votes). To assess possible differences, we estimate the full model of spending change using the three other measures introduced earlier: Rae's measure of vote fractionalization, Rae's measure of seat fractionalization, and the effective number of electoral parties (ENEP). In contrast with Table 2, we use annual values of the variables; we thus re-estimate the ENPP equation including annual values in place of means.²¹

The results in Table 4 reveal significant differences across measures. First, we can see that the effective number of parties (ENP) measures in columns E and F clearly outperform Rae's fractionalization measures in C and D. The coefficients for the interactive variables in all four of the equations are in the expected (negative) direction. The effects for Rae's measures are not significant, however, whereas the ENP measures are highly reliable. This suggests that the latter, in being more sensitive to increasing fractionalization, better capture the relevant differences across systems. Second, we also can see in Table 4 that the measure pertaining to seats (ENPP) slightly outperforms the measure pertaining to votes (ENEP)—this is clear from the reliability of the coefficients and the overall model performance. Though the difference suggests that legislative fractionalization matters more than electoral fractionalization for policy representation, we caution that it is not highly reliable. All that we really can conclude from the analysis is that party fractionalization of the system, broadly defined, matters and that it matters at an increasing rate. This can be seen in Fig. 1, which depicts the direct,

¹⁷ They show that electoral proportionality matters more than executive dominance.

¹⁸ This would be in line with past work, including, e.g., Blais et al. (1996) and Soroka and Wlezien (2004).

¹⁹ See Wlezien and Soroka (2012). This implies that opinion representation is mostly direct.

²⁰ The electoral formula also appears to play an important structuring role.

²¹ Also see note 14.

Table 3
Policy representation and electoral incentives: electoral systems and policy representation.

	DV: %Δ total govt spending _{kt}	
	A	B
Net preferences _{kt-1}	.204** (.097)	.242** (.086)
Executive dominance _{kt-1}	-2.092** (.932)	-2.174** (.822)
Prefs _{kt-1} * executive dominance _{kt-1}	-.036** (.017)	-.038** (.016)
Proportionality _{kt-1}	-2.950 (2.632)	-.573* (.307)
Prefs _{kt-1} * proportionality _{kt-1}	-.030 (.057)	-.011* (.006)
%ΔGDP(deflated NCUs) _{kt-1}	.618** (.235)	.512** (.226)
%ΔDebt(deflated NCUs) _{kt-1}	-.064 (.055)	-.050 (.055)
Constant	11.953** (5.129)	13.432** (4.511)
Sigma u	.000 (1.200)	.000 (.803)
Sigma e	2.192** (.293)	2.148** (.287)
N	28	28
N (panels)	13	13
LR Chi2	19.772	20.912

*p < .10; **p < .05. Cells contain MLE coefficients with standard errors in parentheses. Proportionality is measured as follows:

Model A: A dichotomous variable where "1" indicates a proportional or mixed system and "0" designates a majoritarian system (from Golder, 2005).

Model B: An interval-level variable measuring the median district magnitude (from Golder, 2005).

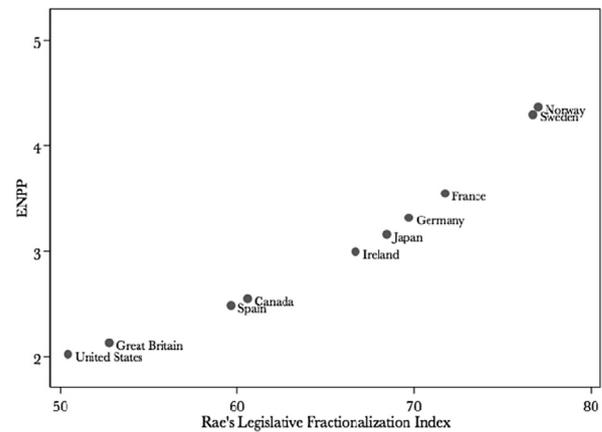


Fig. 1. Nonlinearity in measures of fractionalization.

nonlinear relationship between Rae's legislative index and the corresponding ENPP measure, keeping in mind that only the latter reliably impacts policy responsiveness in Table 4. The nonlinearity evidently matters.

4.2. Mechanisms

Thus far we have provided only a general characterization of the relationship between electoral systems and policy responsiveness. What is it about proportional systems that disposes them to be less responsive to public opinion in between elections? Recall that we have two specific hypotheses, one of which relates to coalitional friction and the other of which to electoral incentives.

First, let us test the effects of friction. Our initial step is to consider the basic difference between one-party and coalition government. This will tell us whether there is something

Table 4
Policy representation: alternative models using party-based measures of fractionalization.

	DV: %Δ total govt spending _{kt}			
	C	D	E	F
Net preferences _{kt-1}	.290 (.265)	.233 (.211)	.290** (.107)	.475** (.132)
Executive dominance _{kt-1}	-1.702** (.706)	-2.324** (.764)	-1.710** (.726)	-2.789** (.782)
Prefs _{kt-1} * executive dominance _{kt-1}	-.034** (.016)	-.044** (.015)	-.022 (.014)	-.040** (.014)
Party fractionalization _{kt-1}	-.195 (.177)	-.152 (.140)	-2.252* (1.172)	-4.999** (1.601)
Prefs _{kt-1} * fractionalization _{kt-1}	-.001 (.004)	-.000 (.003)	-.040* (.022)	-.094** (.032)
%ΔGDP(deflated NCUs) _{kt-1}	.631** (.231)	.606** (.210)	.581** (.233)	.627** (.207)
%ΔDebt(deflated NCUs) _{kt-1}	-.049 (.055)	-.037 (.050)	-.048 (.056)	-.047 (.050)
Constant	22.927* (13.139)	21.289** (10.539)	17.396** (6.081)	27.151** (6.962)
Sigma u	—	.000 (1.518)	—	.000 (1.109)
Sigma e	2.124** (.289)	1.962** (.267)	2.154** (.288)	1.956** (.261)
N	27	27	28	28
N (panels)	12	12	13	13
LR Chi2	21.381	25.654	20.739	26.147

*p < .10; **p < .05. Cells contain MLE coefficients with standard errors in parentheses. Party fractionalization is as follows:

Model C: Rae's index of electoral fractionalization of the party-system (annual values).

Model D: Rae's index of legislative fractionalization of the party-system (annual values).

Model E: Golder's (2005) ENPP (annual values).

Model F: Golder's (2005) ENPP (annual values).

fundamentally different about the responsiveness of these two general types, specifically, whether clear electoral accountability matters (Franklin et al., 2014). Results of estimating our model using a dummy variable that takes the value “1” for coalition governments (and “0” for all single party governments) are in the first column (G) of Table 5. These indicate that the difference in systems is not due solely to coalition government *per se*; the interactive coefficient actually is incorrectly, positively-signed, though not close too statistically significant. This implies that the differences across countries mostly reflect differences among countries with coalition governments. To assess these differences, we need to explore whether and how the characteristics of governments matter.

We earlier introduced a number of measures of government fractionalization. Although incomplete, they do allow us to at least begin to assess whether and how government coalitions impact policy responsiveness. The results of including these variables in our model are shown in the last three columns in Table 5. Column H shows results from a model that uses our measure of non-hegemony in cabinet, column I uses party fractionalization in Government, and column J uses fractionalization in cabinet, focusing just on the three main party groupings.

The coefficients for interactions between preferences and fractionalization in Table 5 are positive but smaller than their standard errors in the first two cases. In models I and J, the interactions are in the expected (negatively-signed) direction, and moving towards – though not quite achieving – statistical significance. The interval-level measures of fractionalization thus appear to perform better

Table 5
Policy representation and government friction.

	DV: %Δ total govt spending _{kt}			
	G	H	I	J
Net preferences _{kt-1}	.088 (.085)	.096 (.091)	.220** (.105)	.249** (.108)
Executive dominance _{kt-1}	-.766 (.809)	-1.337* (.723)	-1.478** (.748)	-1.325* (.692)
Prefs _{kt-1} * executive Dominance _{kt-1}	-.007 (.016)	-.022 (.015)	-.023 (.015)	-.020 (.014)
Government friction _{kt-1}	2.530 (2.257)	.532 (1.478)	-2.434 (2.512)	-6.163* (3.264)
Prefs _{kt-1} * friction _{kt-1}	.007 (.051)	.034 (.034)	-.061 (.057)	-.105 (.072)
%ΔGDP(deflated NCUs) _{kt-1}	.350 (.228)	.558** (.240)	.507** (.248)	.695** (.248)
%ΔDebt(deflated NCUs) _{kt-1}	-.055 (.053)	-.060 (.058)	-.064 (.057)	-.051 (.056)
Constant	5.374 (4.438)	7.251* (4.384)	11.566** (5.188)	14.606** (5.070)
Sigma u	–	–	–	–
Sigma e	2.109** (.282)	2.213** (.301)	2.246** (.300)	2.128** (.290)
N	28	27	28	27
N (panels)	13	12	13	12
LR Chi2	21.926	19.151	18.418	21.282

*p < .10; **p < .05. Cells contain MLE coefficients with standard errors in parentheses.

Government friction is measured as follows:

Model G: A binary variable where 1 = any non-single party government.

Model H: Non-hegemony (1 = hegemony of right or left-wing parties, 2 = dominance of right or left-wing parties, 3 = coalition across right and left wing parties).

Model I: Fractionalization of government (1/Herfindahl index, so that 0 = single party government).

Model J: Fractionalization of government (1/Herfindahl index, where index is based on just three groups, % right, % left, and % centre, so that 0 = single party government).

than the categorical measures. That said, and while there is strong intuition for the effect and hints of a relationship as we incorporate the degree of ideological span, these results are too unreliable to credit. Our results do not provide clear evidence that government fractionalization actually impacts policy responsiveness.

What about the impact of electoral incentives? We explicitly consider these in Table 6, first using the measure of seat-vote elasticity introduced earlier – in essence, the impact of a one-percentage point shift in votes on the number of seats a party receives (Note that we multiply the measure by –1 here, so that a larger numbers indicate greater proportionality, in line with the preceding analyses). The measure directly captures the sensitivity of party fortunes to swings in the vote; as we have discussed, there is reason to think that this will influence the behavior of parties and governments (especially see Rogowski and Kayser, 2002). The analysis in the first column of Table 6 suggests that it does not matter, however, at least not in a consistent way. The coefficient for the interactive variable is correctly negatively signed but far from significant. We thus cannot infer that differences in electoral incentives matter and drive the differences across electoral systems.

There are other ways to measure disproportionality, of course. Perhaps the most common is Gallagher's index of disproportionality, which taps the difference between the proportion of votes parties receive in elections and the proportion of seats they receive in the legislature. The results of using it (as above, multiplied by –1) in place of seats-votes ratios are shown in the second column of Table 6. Here again, we see that the interactive coefficient is negative and insignificant (The same is true using two alternative measures of disproportionality; see Appendix Table B1).

There is, in sum, little escaping the conclusion that electoral systems do not directly, through electoral incentives, impact government responsiveness. We also have not found clear evidence

Table 6
Policy representation and electoral incentives.

	DV: %Δ total govt spending _{kt}	
	K	L
Net preferences _{kt-1}	.213** (.105)	.211** (.078)
Executive dominance _{kt-1}	-2.608** (1.093)	-2.706** (1.342)
Prefs _{kt-1} * executive dominance _{kt-1}	-.050** (.021)	-.044* (.025)
Electoral incentives _{kt-1}	-4.259 (3.735)	-.309 (.305)
Prefs _{kt-1} * incentives _{kt-1}	-.025 (.074)	-.002 (.005)
%ΔGDP(deflated NCUs) _{kt-1}	.577** (.223)	.501** (.228)
%ΔDebt(deflated NCUs) _{kt-1}	-.065 (.054)	-.048 (.056)
Constant	6.367 (4.522)	10.804** (3.910)
Sigma u	–	–
Sigma e	2.097** (.285)	2.169** (.295)
N	27	27
N (panels)	12	12
LR Chi2	22.066	20.250
Rho	.000	.000

*p < .10; **p < .05. Cells contain MLE coefficients with standard errors in parentheses. Electoral incentives are measured as follows:

Model K: seat-vote elasticity, multiplied by –1.

Model L: Gallagher's index of disproportionality, multiplied by –1.

that the electoral systems matter indirectly, through government fractionalization. There is a strong hint of a connection, we believe, but it is too unreliable to credit. It thus may be that the electoral system matters not at all, and that the analyses using the ENP measures are deceiving.

There are (at least) two other possibilities. First, it may be that ENP measures accurately capture the principal means by which electoral systems matter – through their impact on the number of parties, particularly the number of parties in the legislature. Our results certainly point to the potential importance of the number of parties, at least where the likelihood of policy representation is concerned. Second, and relatedly, it may be that government fractionalization really is the primary mechanism and that measurement error and the small number of cases prevent us from revealing a significant effect. Both possibilities point to the need for additional research.²²

5. Discussion

Political institutions matter for representation. This is not a groundbreaking statement, admittedly; but it remains the case that political scientists only partly understand the ways in which various political institutions increase (or decrease) the likelihood that governments produce policies in line with public preferences.

Our recent work has explored some possibilities, first the vertical division of powers (Soroka and Wlezien, 2010) and then the horizontal division of powers and electoral systems as well (Wlezien and Soroka, 2012). That analysis demonstrated that proportional systems tend to dampen policy responsiveness in between elections, in seeming contrast to what Powell's (2000) classic work predicts after elections. Our analyses here in demonstrate further that the effect is robust across measures, and also that it increases at an increasing rate as party fragmentation increases. The paper also takes the next step, however, and begins to focus on how exactly proportionality matters. We posit two means by which proportionality may dampen dynamic representation: one relating to how coalition government reduces the opportunity to respond, by making it more difficult,²³ and the other relating to the willingness to do so, by reducing the electoral incentive to do so. We then put them to the test. Our analyses are mixed. It is clear that electoral incentives, however measured, do not impact government responsiveness. It also is clear that electoral accountability, particularly the difference between single-party and coalition governments, does not matter. This negative evidence is important, as it rules out possible suspects and indicates that the differences among coalition governments is critical. The problem is that we do not have strong positive evidence that any particular mechanism is at work. There is a strong hint that government friction is what matters, but it is not highly reliable. Precisely how proportional systems dampen representation between elections remains unsettled.

There may be other related institutional factors that are more consequential. Recent work by Powell (2011) and Dalton et al. (2012)

²² There is a third possibility, namely, that both friction and electoral incentives matter, but in combination rather than separately. We have considered only independent effects above. What about a measure that combines the two variables? Additional analyses using interactions of the two measures do produce significant effects but the model performance is only marginally better, and it not better than what we get including the two variables separately in the same equation. We thus stop short of inferring that there is effective substitutability of the two effects.

²³ Though recall that it may be that responsiveness is more difficult in coalitions or that the collective interest in responding to a shock in opinion is divided – coalition partners may move in different policy directions (Calvo et al. 2013). We cannot easily distinguish one from the other here, however.

emphasizes the importance of ideological polarization (amongst parties) in widening the differences between governments and publics. Indeed, as noted at different points above, we might expect polarization to moderate the impact of ENPP – the electoral system may matter differently when polarization is low (or high).

Finally, we – and other scholars researching institutions and representation – have to more explicitly consider the ways in which institutions impact representation. Recall that we earlier posited that the two general types of electoral systems might work to serve representation but in different ways, where proportional systems provide better indirect representation via elections and majoritarian systems better direct representation in between elections. If proportional systems provide better indirect representation, as Powell argues, then we should find greater congruence between the public's preferred levels of policy and policy itself after elections in those systems. If they provide less direct representation, we might find that the gap between the public's preferred level of policy and policy in proportional systems would widen over time. Leading up to an election, therefore, the level of congruence in the two systems would be less than we would observe after elections. Even if the mean congruence does not differ, we would expect the variance in pre-election congruence to be greater in proportional systems (for details see Wlezien and Soroka N.d.). This is not to say that majoritarian systems are better for representation, however, as that evaluation requires us to take into account how electoral systems impact both indirect representation after elections, and direct representation in between elections.

Capturing all of this empirically is difficult, but doing so is an important task for future work. Too much research on institutions has taken for granted that electoral proportionality offers clear and incontrovertible advantages for political representation. Results in our previous work and here in raise questions about this assumption.

Appendix A

Descriptive Statistics for institutional measures and for measures of opinion are included in Appendix Tables A1 and 2.

Table A1
Institutional measures.

	Rae's electoral fract	Rae's legislative fract	ENEP	ENPP	Non-hegemony	Govt fract (all parties)	Govt fract (3 groups)
Australia	67.35	58.50	3.15	2.42	1.10	.16	.03
Canada	70.37	58.42	3.70	2.55	1.00	.00	.05
Czech Republic	79.30	71.91	5.03	3.93	1.94	.21	
Germany	72.71	70.17	3.76	3.31	1.41	.41	.28
Spain	70.61	61.44	3.49	2.75	1.14	.03	.04
France	80.02	64.79	5.57	3.34	1.48	.31	.36
Great Britain	68.47	54.62	3.03	2.19	1.07	.00	.02
Hungary	75.09	65.53	6.59	3.59	1.95	.20	
Ireland	71.52	66.61	3.67	3.08	1.62	.22	.21
Israel			6.37	5.77		.59	
Italy	81.21	78.76	6.45	5.87	2.36	.25	.57
Japan	72.86	64.72	3.84	3.01	1.14	.14	.15
Norway	78.34	74.63	4.57	3.93	1.41	.34	.26
Poland	81.95	73.02	9.42	5.90	1.83	.29	
Sweden	75.13	73.48	4.00	3.81	1.14	.34	.17
Slovenia	81.58	78.95	6.59	5.56	2.50	.58	
United States	52.82	49.13	2.10	1.96	1.00	.00	.04

Table A2
Opinion measures.

	Net preferences				P*			
	t1	t2	t3	t4	t1	t2	t3	t4
Australia	-47.95	-45.33	-37.25	-12.84	37.13	26.83	32.78	41.70
Canada			-56.94	-42.42			31.17	39.25
Czech Republic			-26.14	-34.14			45.94	33.86
Germany	-52.96	-51.81	-67.54	-54.93	39.78	40.96	42.74	39.31
Spain			-55.98	-16.98			74.32	67.09
France			-82.82	-74.41			54.02	50.11
Great Britain	-1.47	-7.88	-12.80	-4.49	62.03	55.35	52.22	41.55
Hungary		-63.33	-67.16	-63.37		55.62	51.81	56.22
Ireland			-44.57	3.36			61.00	61.45
Israel		-73.02	-70.34	-51.46		53.58	57.67	59.11
Italy	-44.91	-42.21	-43.48		66.04	59.20	57.92	
Japan			-60.21	-63.66			39.04	28.21
Norway		-40.80	-36.42	-30.23		53.97	54.69	54.57
Poland			-43.75	-68.57			58.16	61.17
Sweden			-26.64	-23.60			50.36	42.63
Slovenia			-64.25	-55.47			67.91	63.72
United States	-55.72	-53.64	-58.55	-36.10	16.37	23.61	22.48	36.07

Appendix B

Table 6 tests one measure of disproportionality; we include two alternative measures in Table B1. The two columns show results using the index of absolute disproportionality and the index of relative disproportionality, respectively.²⁴ As in Table 6, we multiply the variables by -1; results here are roughly similar to those in Table 6.

Table B1
Policy representation: alternative models, using measures of disproportionality.

	DV: %Δ total govt spending _{kt}	
	B1	B2
Net preferences _{kt-1}	.153** (.074)	.177** (.071)
Executive dominance _{kt-1}	-1.649* (.955)	-2.989** (1.093)
Prefs _{kt-1} * executive dominance _{kt-1}	-.026 (.019)	-.047** (.021)
Disproportionality _{kt-1}	-1.809 (3.611)	-27.718* (15.633)
Prefs _{kt-1} * disproportionality _{kt-1}	-.016 (.052)	-.312 (.262)
%ΔGDP(deflated NCUs) _{kt-1}	.422* (.251)	.358 (.227)
%ΔDebt(deflated NCUs) _{kt-1}	-.054 (.059)	-.039 (.055)
Constant	8.411** (3.809)	9.290** (3.570)
Sigma u	.000 (.000)	.000 (4.426)
Sigma e	2.288** (.311)	2.107** (.287)
N	27	27
N (panels)	12	12
LR Chi2	17.361	21.804
Rho	.000	.000

*p < .10; **p < .05. Cells contain MLE coefficients with standard errors in parentheses.

Fractionalization is as follows.

Model B1: Index of absolute disproportionality multiplied by -1.

Model B2: Index of relative disproportionality multiplied by -1.

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²⁴ Absolute proportionality is the difference between ENEP and ENPP and relative disproportionality is this difference divided by ENEP.