

**Preference Representation and the
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An Almost Ideal Empirical Test**

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Preference Representation and the Influence of Political
Parties in Majoritarian vs. Proportional Systems: An Almost Ideal
Empirical Test[#]

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Abstract

Electoral systems determine the role party affiliations play in political representation. According to conventional expectations, politicians' party affiliations should influence political representation when they are elected by proportional representation. In contrast, majoritarian systems force politicians to converge to the median position of their constituents, and party affiliation should play no or at least a much smaller role. We test these predictions with unique quasi-experimental data within a common party system by matching referenda decisions of constituents with voting behavior of their representatives, who are elected either by a majoritarian system or proportional representation.

Key words: Constituents' Preferences, Party Influence, Median Voter Model, Political Economy.

JEL Classification: D7, H7.

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1 Introduction

The way individual politicians represent their constituents depends on the electoral system in place. To get elected under proportional representation, individual politicians may focus on relatively small groups of voters from all over the political spectrum. The party affiliation of politicians determines which part of the political spectrum they represent (see, among others, Downs 1957; Cox 1990, 1997; Dow 2001; Persson and Tabellini 2002; Grofman 2004; Gagliarducci et al. 2011; Portmann et al. 2012). In contrast, majoritarian electoral systems force individual politicians to shift towards the center independently of their party affiliation. As a consequence, politicians elected under majority systems should represent the preferences of the majority of their constituents independently of their personal party affiliations.

These two theoretical predictions are central to electoral theory and political economy. An ideal test to identify the influence of party affiliation on preference representation in majoritarian vs. proportional systems must fulfill four conditions: First, it must rely on a direct measure for congruence between the voting behavior of politicians in parliament and the revealed preferences of their constituent's majority. Second, it must include two groups of politicians from the same constituency, but with one elected under proportional rule and the other under majoritarian rule. Third, both groups of politicians must decide on the very same issues. Fourth, despite being elected under different electoral rules, the two groups of politicians have to affiliate with exactly the same political parties in order to determine how representation by members of the same parties depends on electoral rules. Obviously, these four conditions are difficult to fulfill, and we know of no empirical study that does so.¹ In Switzerland, though the constitutional setting has basically been modeled according to the United States, all of these requirements are met.

While the literature mostly approximates congruence between legislators and their constituency with "ideology scores" or election survey data (e.g. Kenny and Lotfinia 2005; or López and Ramírez 2008; Blais and Bodet 2006) our approach to elicit voter preferences is closely related to the sparse literature focusing on referenda (e.g. Hersch and McDougall 1988; Garret 1999; Brunner et al. 2011; Stadelmann et al. 2012). Swiss parliamentarians vote on laws, changes to laws, and constitutional amendments. However, proposals accepted by the parliament do not turn directly into law. Citizens may demand a popular referendum on

¹ Dow (2001) and Grofman (2004) provide excellent reviews of the literature on party competition.

parliamentary decisions before laws are enacted, a referendum is mandatory for constitutional changes, and citizens may also propose constitutional amendments by demanding an initiative. Referenda permit constituents to judge different policies and rank them against the status quo (e.g. Schneider et al. 1981, Frey 1994, Besley and Coate 2008). We match referenda results with legislators' roll call votes in parliament on the same issues with identical wording. Thus, we are able to analyze congruence between members of parliament and their constituents decision by decision. Congruence between parliamentarians and the majority of their constituents naturally occurs in our setting if the former decided in parliament as the latter did in corresponding referendum. We analyze all roll call votes from 2007 to 2010 that were also presented to constituents in referenda taking place from 2008 to 2011.² The effect that party affiliation of legislators has on congruence under different electoral systems has never before been evaluated with such a direct measure for revealed preferences of constituents and legislators' decisions.

Most importantly, we can analyze the behavior of members of parliament within exactly the same common party system, but for two different electoral systems. Switzerland has a bicameral parliament in which the lower house is elected under proportional voting and the upper house by majority voting. Parliamentarians from the *very same parties* are present in *both chambers*. Moreover, the electoral districts for both chambers coincide. Thus, district politicians in both chambers represent the same constituencies. As a further advantage, our research focuses on differences within the electoral system of a single country, consequently avoiding problems common to cross-country research.

Results strongly confirm the basic theoretical arguments and allow additional insight into representation of constituents' preferences: (1) Parties matter for representation of the majority's preferences in a constituency under proportional systems. Under a proportional system, members of left and right parties deviate significantly more from their constituency's preferences than parliamentarians from the center. (2) Parties do not matter under majority systems, i.e., congruence between members of parliament and their constituency's preferences does not depend on party affiliation. (3) The individual congruence with their constituency's preferences is lower for all parliamentarians elected under a proportional voting system than for parliamentarians elected under a majority voting system. Even right and left wing legislators elected by majority elections have a higher congruence with their

² Roll calls of the members of the lower house are available through an electronic voting system. Roll calls for the upper house are not registered electronically, but the upper house's sessions are recorded by a camera which allows us to identify individual voting behavior.

constituency's preferences than center parliamentarians elected under proportional representation.

The remainder of this paper is structured as follows: Section 2 presents our setting, the data, and explains the congruence measure between legislators' behavior in parliament and constituents' preferences in referenda. Empirical results for the influence of party affiliations for all members of parliament from both chambers are presented in Section 3, and Section 4 concludes.

2 Measuring constituents' preferences and identification

2.1 Matching representatives' decision with constituents' preferences

Switzerland's federal constitution, which dates back to 1848, established a bicameral parliament. The parliament is made up of two chambers, the National Council ("Nationalrat" in German; comparable to US House of Representatives apart from the electoral rule) and the Council of States ("Ständerat" in German; comparable to US Senate). Members of both the National Council and the Council of States serve four-year terms. The 26 Swiss cantons (sub-national jurisdictions) form the national parliament's electoral districts.

The National Council has 200 members who are elected under a proportional electoral system. Population size and, thus, the number of seats in parliament differ between cantons. The Council of States has 46 senators elected under a majority system.³ For purely historical reasons, there are 20 "full cantons" and six "half cantons", making a total of 23 so-called "Stände".⁴ Parliamentary proposals are adopted as new laws or as constitutional amendments if both chambers approve them by majority decision in roll call votes. Roll call votes are most proximate to the adoption of governmental policies (see Krehbiel 1993). Roll calls of the members of the National Council are recorded by an electronic voting system. In contrast, there is no electronic voting system in the Council of States. However, since winter 2006, a

³ The only exception is the Canton of Jura where the two senators are elected by proportional voting. Omitting them does not change the results. Citizens of the Canton of Neuchâtel voted in favor of changing the electoral system from majority voting to proportional representation on September 26, 2011; all parliamentary decisions in our sample took place before this date.

⁴ There is no important difference between full and half cantons except that the latter have only one member in the Council of States and are counted with only half of the weight of a full canton when the majority of states ("Ständemehr") has to be determined.

camera records the Council's sessions. We have analyzed the video streams and identified the individual voting behavior of senators.⁵

Switzerland features a system of direct democracy involving referenda through which citizens may challenge parliamentary decisions. Thus, proposals adopted by parliament do not necessarily turn into law. If citizens collect at least 50,000 signatures out of approximately 4.9 million registered voters within 100 days, a referendum is held. Any new law or law change proposed by parliament can be rejected if 50% of the voters decide against it. Constitutional amendments by parliament are always subject to a mandatory referendum. Acceptance requires a majority of all voters nationwide as well as the majority of voters in eleven and a half cantons ("Ständemehr" in German). Finally, by collecting 100,000 signatures citizens may initiate a referendum on a constitutional amendment drafted by them. Although members of parliament cannot change the wording of an initiative, they are required to vote on the proposal. Their vote serves as a parliamentary recommendation for voters.⁶

We analyze the full available sample of 26 referenda from 2007 to 2011. Out of the total of 26 referenda 50% have been accepted. Referenda results determine policy outcomes and are at the same time revealed preferences of citizens for these outcomes. More precisely, referenda permit the majority to rank policy outcomes induced by the proposed laws against the status quo, as already argued by Schneider et al. (1981) and Matsusaka (2010).

The law or constitutional texts presented to the voters in the referenda are word-for-word identical to the texts on which members of parliament decided in their roll call votes. Thus, we obtain a unique measure of representation regarding a constituency's preferences by matching members of parliament's roll call votes with referenda results from their electoral districts; either a member of parliament matches the majority decision of her constituents or she does not. The use of such a direct measure of congruence has recently also been suggested by Matsusaka (2010) for the United States. Brunner et al. (2011) apply it to Californian data and advocate that results may generalize to other US states.⁷

⁵ In a small number of cases the camera position does not allow identification of individual votes. Our analysis includes all roll call votes on final votes since footage from the cameras in the Senate's meeting room is available.

⁶ Parliament can formulate new legislation and put it as a counter-proposal to an initiative at the same time as a referendum. Counter-proposals are usually designed to be a compromise between the current status quo and the demands in the initiative.

⁷ In thematically completely different contributions we also discuss how this congruence measure generalizes (see Stadelmann et al. 2011, 2012).

2.2 Identification strategy

The identification strategy naturally follows from the data. Our observed congruence measure directly identifies whether members of parliament from both chambers match the preferences of their constituency. Thus, as dependent variables we employ an indicator variable, $MP=Constituents$. The indicator takes the value of one if a member of parliament votes, in the final roll call vote, in line with the majority of her constituents in the relevant referendum, and zero if she does not vote like the majority.

Theory predicts that parties should influence the match between a parliamentarian's vote and her constituency under a proportional electoral system, since under a proportional system candidates only need a relatively small number of votes to become elected. Thus, they may stand for party positions that are spread all over the political spectrum. In contrast, theory suggests that under majority elections members of parliament need to cater to the majority of voters independently of their respective party affiliation, as they would otherwise not become elected. The parties present in the Swiss Council of States are also present in the National Council. This fact yields an ideal setting for identification and allows us to answer the question of whether members of parliament from the same parties represent their constituents' revealed preferences differently depending on the electoral system.

We use the following general logistic specifications to estimate the effect of party affiliation on representation under the two electoral systems:

$$P(MP=Constituents) = \Lambda \left(\frac{\alpha_1(NationalCouncil) + \alpha_2(CenterParty) + \alpha_3(NationalCouncil * CenterParty) + \alpha_4(LeftParty) + \alpha_5(NationalCouncil * LeftParty) + \sum_j \alpha_j x_j + \varepsilon}{\sum_j \alpha_j x_j + \varepsilon} \right).$$

Λ denotes the logistic function $\Lambda(X) = e^X / (1 + e^X)$ (with X a design matrix). α_1 captures the difference in congruence for members of the National Council and the Council of States, i.e., *NationalCouncil* is a binary variable indicating whether a representative belongs to the National Council instead of the Council of States. α_2 and α_4 give the influence of center and left parties in the Council of States, i.e., when the variable *NationalCouncil* is zero. Right parties form the omitted category. Since senators in the Council of States are elected by majority voting, theory suggests that α_2 and α_4 are not significant, which would indicate that party affiliations do not influence the way senators represent the majority of their constituents. Party affiliation should, however, play a role under a proportional electoral

system, which is captured by the coefficients for the interaction terms α_3 and α_5 .⁸ α_3 measures the effect of center parties with respect to right parties under proportional voting in terms of the way members of the National Council represent their constituency's preferences, while α_5 measures the effect of left parties. Finally, x_j stand for other controls and ε represents the error term. Table A1 in the Appendix offers descriptive statistics on all variables.

3 Empirical results

3.1 Baseline results

We test the literature's theoretical predictions with unique quasi-experimental data and thereby take advantage of the Swiss institutional setting. Figure 1 illustrates the central motivation and confirms the central hypotheses of the literature.

< Figure 1 here >

The figure groups individual members of parliament according to their party affiliation from left to right for the National Council (proportional electoral system), and the Council of States (majority electoral system). We make three observations: Firstly, individual matches with a constituency's preferences are always lower for all members of the National Council than they are for the Council of States. Thus, majority elected legislators seem to more closely match the preferences of the majority of their constituents (see Carey and Hix 2011 for a refinement where congruence levels depend on district size). Secondly, National Councilors from the left and from the right deviate significantly⁹ more from constituents' preferences than representatives from the center, i.e., the center in the National Council naturally represents the majority's position more effectively (see Golder and Stramsky 2010) and parties matter under proportional voting. Finally, in the Council of States there are only minor and insignificant differences in the voter-senator congruence between senators of different parties. Only the point estimates for the congruence level of members from center and right parties lie slightly below the congruence level for members of left parties, but the differences are not significant. Thus, legislators elected under a majority system represent their constituencies more closely than legislators elected in a system of proportional representation. Most importantly, party affiliation matters under a proportional system while

⁸ We estimate discrete effects and their standard errors of interaction effects correctly as suggested by Ai and Norton (2003).

⁹ We performed t-tests when comparing different party groups.

it generally plays no role under a majority system with respect to the representation of a constituency's preferences.

Taking into account the electoral system, Table 1 estimates the influence of party affiliation on individual members of parliament's accordance with their constituents' preferences. First, we analyze the influence of party affiliation in separate estimates for the National Council and the Council of States. We then estimate the interaction model outlined above. Our specifications always include fixed effects for referendum type and an intercept. We estimate robust clustered standard errors for individual legislators.

< Table 1 here >

Specification (1) focuses on members of the National Council only. National Councilors from center and left parties represent their constituents' preferences significantly differently than members from right parties. Thus, party affiliation plays a significant role in explaining whether the decisions of individual representatives match with the majority of their constituents under a proportional electoral system. Members from center and left parties better match the preferences of the majority of their constituents than members from right parties. Moreover, Wald-tests (not shown here) indicate that members from center parties correspond even more to the majority of their constituents than members from left parties, which shows that the effects are not only driven by a poor match between members of right parties and the constituents' majority. The row next to the coefficients reports discrete effects; specifically, it shows the effect of a change in party affiliation of individual National Councilors, from right to either center or left, on the probability of matching the majority's preferences. The probability that National Councilors from the center correspond to the majority of their constituents' preferences is 14.5 percentage points higher than for members of right parties. Divergence, at 11.1 percentage points, is significant but less pronounced for members of left parties, as can already be seen from Figure 1.¹⁰

Party affiliation does not matter for the representation of a constituency's preferences under a majority electoral system. This is confirmed in specification (2) for members of the Council of States who are elected under majority voting. Senators with left or right party affiliations do not deviate significantly more from constituents' preferences than senators with center party affiliations. Also, the discrete effects are of only small magnitude and are always statistically insignificant.

¹⁰ This pattern of divergence may partly explain why the right people's party (SVP) has lost seats to the center in the last election.

Specification (3) reports the results of an interaction model combining data from both chambers. We introduce an identifier of whether a representative is a member of the National Council. As expected, National Councilors who are elected under a proportional system tend to deviate more from citizens' preferences by approximately 16.1 percentage points on average for right parties. We control for party affiliation and interact party affiliation with the identifier for the National Council.¹¹ The non-interacted party affiliation variables give the base effect of different party affiliations for members of the Council of States, i.e., for a majority electoral system. We observe that senators from center and left parties do not represent the preferences of the majority of their constituents differently than members from right parties who form the omitted category. Thus, under a majority voting system, we do not observe an influence of parties on representation by individual senators. The picture is very different under a proportional voting system. The interaction terms between the identifiers for members of the National Council are both significant. Therefore, parties have an influence on individual politicians' behavior when representing their constituency under proportional voting. Under a proportional system the effect of center and left party affiliation relative to right party affiliation is given by the base effect plus the interaction term. The discrete effects are presented in italics next to the interaction terms and take into account both variables, i.e., they describe the total effect of being a national councilor with either center or left party affiliation compared to right party affiliation. The base effects taken together with interaction terms result in a significant party effect for the National Council in terms of representation. National Councilors from center parties match the preferences of their constituency 14.6 percentage points better than National Councilors from right parties. For members of left parties in the National Council the discrete effect is 11.2 percentage points higher than for members of right parties.¹²

In summary, all evidence is supportive of traditional theory. Parties play a role in the representation of a constituency's preferences under a proportional electoral system, but have no direct influence on representation by individual politicians elected under a majority system.

¹¹ This interaction model is different from specifications (1) and (2) because the identifier for members of the National Council is not interacted with all controls, but only with party affiliations.

¹² Calculating the effect of a change from a senator of a center (left) party to a National Councilor of a center (left) party results in a 2.8 % (6.9 %) lower match with their constituency's preferences.

3.2 Robustness

Table 2 reports a number of robustness tests using additional control variables. We continue to use the interaction model. The discrete effect next to the party coefficients and the interaction terms always describe the absolute influence of parties on congruence of individual parliamentarians under the different electoral systems, and with respect to right party affiliation.

< Table 2 here >

For members of the National Council elected under proportional voting, we still observe that parties play a major role. For senators, parties do not matter for representation of constituents' preferences.

Specification (1) includes district control variables such as GDP per capita, population density, and whether the district is French- or Italian-speaking as opposed to German-speaking. The additional controls do not have any effect on the influence of party affiliation for members of either chamber, thus indicating that the results remain robust. Party affiliation has an influence on representation of constituents' preferences by individual politicians in the National Council but no influence in the Council of States.

Referendum-specific variables are included in specification (2). Firstly, high voter turnout may reflect the fact that the issue in question in the referendum is considered important, and a higher vote margin, i.e., the log of absolute number of yes votes in a referendum minus 50%, reflects how controversial the issue is. Higher district voter turnout translates into a lower likelihood of representatives aligning with a constituency's preferences, while a more clear-cut referendum result, as measured by a larger vote margin, increases congruence. The effects of party affiliation remain highly robust, i.e., party affiliation matters for members elected under proportional voting but there is no effect for majority elected senators. More specifically, members of left and right parties in the National Council deviate significantly more from their constituents than members of center parties, while there is no significant difference between members of different parties the Council of States.

In specification (3) we control for an individual politician's age, marital status, and gender. These personal characteristics do not affect the influence of party affiliation under a proportional system. Moreover, the influence of parties under a majority system remains insignificant. Thus, all results remain highly robust with respect not only to statistical significance but also to their magnitudes.

< Table 3 here >

Finally, instead of controlling for party blocks we introduce different parties directly in Table 3. As before, we split the sample into the National Council and the Council of States in Table 3. Specification (1) indicates that party affiliation of individual National Councilors plays a significant role for congruence. All party identifiers are significantly different from zero and, thus, they are different from the right SVP (Swiss People's Party) which forms the omitted category. Again, the effects are not only due to a single party. National Councilors from the center CVP (Christian Democratic Party) also systematically match their constituency better than members of other parties including the FDP (Liberals) and the left SP (Socialists).

On the other hand, specification (2) shows that parties do not influence representation of constituents' preferences under the majority system for members of the Council of States. There, SVP affiliation of senators does not influence representation of the majority's preferences any differently than affiliation to the CVP, the FDP and the SP.¹³

When focusing once again on the effect of parties on representation by individual National Councilors in column (3), we always find significant party effects similar to column (1) even when controlling for additional variables. Similarly, with respect to individual senators, parties do not affect representation of the majority of their constituents under a majority system, as reconfirmed in column (4).

We conducted further sensitivity analyses with district fixed effects. The results are reported in Table A2 of the Appendix. They suggest that our conclusions are also highly robust with respect to the magnitudes of the calculated effects; in other words, personal party affiliation systematically influences representation of a constituency's preferences under a proportional electoral system, but there is no discernible effect under a majority system on how politicians represent their constituency's preferences.

4 Conclusions

Theory predicts that parties should not influence how members of parliament represent the majority of their constituents' preferences if they are elected under a majority electoral system. This is because, independently of their party affiliation, they need to appease the center in order to become elected. However, under a proportional electoral system the

¹³ The effect of small party affiliation (Greens and Green Liberals) is only marginally significant for the discrete effect but insignificant for the coefficient.

situation is different, as politicians may represent a fraction of the electoral spectrum and still become elected. Party membership then indicates which part of the electoral spectrum is represented by the politicians and it should thus influence their representation of the majority's preferences.

We confirm these theoretical predictions with quasi-experimental data that fulfill central requirements for a thorough test of the influence of party affiliation on representation of constituents' preferences under different electoral systems. Constituents in Switzerland regularly reveal their preferences for legislative proposals in popular referenda. Members of parliament vote on exactly the same legislative proposals with the very same wording that constituents vote on in referenda. By matching roll call votes of members of parliament and district referenda results, we pursue a unique way of identifying how politicians represent the majority of their constituents. The Swiss Parliament has two chambers. Members of the National Council are elected under proportional voting while members of the Council of States are elected under majority voting; and electoral districts are the same for members of both chambers. Finally and importantly, parliamentarians from the very same political parties are present in both chambers, which allows us to analyze how the same party affiliations influence the behavior of politicians elected under different electoral systems.

Indeed, as predicted by theory, party affiliation does not matter under a majority voting system, but it does matter if members of parliament are elected under proportional voting. Party affiliation always influences individual congruence between constituents and members of parliament who are elected under a proportional system. The influence of party affiliation is also important in its magnitude. Conversely, party affiliation does not play a role for members of parliament elected by majority rule. Finally, our results show that members of parliament elected under a majority system tend to more closely represent citizens' preferences, independently of their party affiliation, than members of parliament elected under proportional representation.

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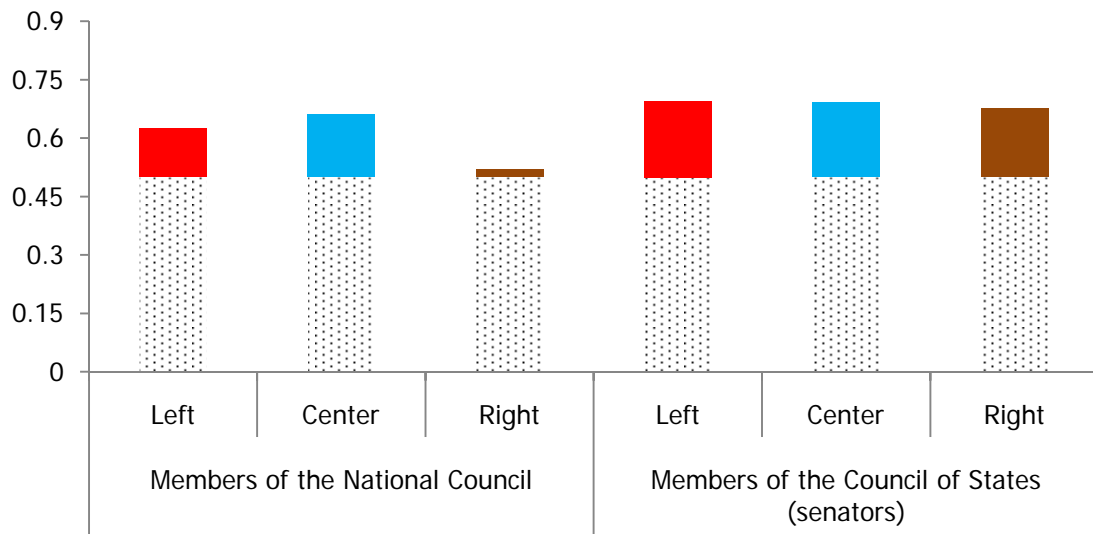
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Figure 1: Congruence between politicians and constituents according to party affiliation under proportional voting in National Council and majoritarian voting in Council of States



	Left Parties	Center Parties	Right Parties
Members of the National Council	0.6255*** (10.0327)	0.6615*** (14.3105)	0.5199 (1.5478)
Members of the Council of States (senators)	0.6961*** (6.0739)	0.6909*** (10.0412)	0.6769*** (4.2969)

Notes: The table presents the probability of a match of politicians decisions in parliament and constituents' decisions in referenda (# of matches divided by total # of decisions) according to party affiliation under the proportional voting system for members of the House (National Council) and the majority voting system for members of the Senate (Council of States). The t-value in parenthesis tests whether the mean of the matches is significantly different to 50 percent.

Sources: Swiss Federal Statistical Office for referenda data; Swiss Official Bulletin video footage for individual senators' voting records.

Table 1: Influence of party affiliation on congruence between politicians and constituents under proportional and majority voting systems

	<i>National Council only</i> (1)		<i>Council of States only</i> (2)		<i>Interaction model</i> (3)	
	<i>Coef.</i>	<i>Discrete Effect</i>	<i>Coef.</i>	<i>Discrete Effect</i>	<i>Coef.</i>	<i>Discrete Effect</i>
National Councilor					-0.6699*** (0.1014)	-0.1610*** (0.0231)
Center Party Affiliation	0.6001*** (0.0550)	0.1452*** (0.0132)	0.0530 (0.1239)	0.0125 (0.0293)	0.0565 (0.1195)	0.0125 (0.0264)
National Councilor * Center Party Affiliation					0.5457*** (0.1320)	0.1458*** (0.0133)
Left Party Affiliation	0.4519*** (0.0652)	0.1108*** (0.0158)	0.0929 (0.1917)	0.0216 (0.0439)	0.0911 (0.1875)	0.0200 (0.0408)
National Councilor * Left Party					0.3637* (0.1996)	0.1116*** (0.0159)
(Intercept)	-0.0988 (0.0668)		0.4466*** (0.1220)		0.5501*** (0.1022)	
Referendum type fixed effects	YES		YES		YES	
Log-Likelihood		136.5995		35.8642		192.9424
Pseudo-R2		0.0383		0.0535		0.0454
Brier Score		0.2324		0.2065		0.2283
n. Obs.		4760		926		5686

Notes: *** indicates a significance level of below 1 %; ** indicates a significance level between 1 and 5 %; * indicates a significance level between 5 and 10 %. Right parties form the omitted category. Robust clustered standard errors for individual representatives are given in parenthesis below the coefficient. Discrete effects represent the effects on the probability to observe a change from 0 to 1 in the dependent variable if the variable at hand changes from its first quintile value to its third quintile value (or from 0 to 1 for binary variables) while all other variables are held constant at their median values. Standard errors for discrete effects are calculated following Ai and Norton (2003).

Table 2: Robustness Tests: Influence of party affiliation on congruence under proportional and majority voting systems

	<i>Cantonal controls</i>		<i>Referendum control</i>		<i>Personal controls</i>	
	<i>(1)</i>		<i>(2)</i>		<i>(3)</i>	
	<i>Coef.</i>	<i>Discrete Effect</i>	<i>Coef.</i>	<i>Discrete Effect</i>	<i>Coef.</i>	<i>Discrete Effect</i>
National Councilor	-0.6850***	-0.1649***	-0.7074***	-0.1665***	-0.7129***	-0.1677***
	(0.1058)	(0.0241)	(0.1491)	(0.0323)	(0.1483)	(0.0321)
Center Party Affiliation	0.0382	0.0085	0.0268	0.0057	0.0260	0.0055
	(0.1246)	(0.0276)	(0.1648)	(0.0350)	(0.1637)	(0.0347)
National Councilor * Center Party Affiliation	0.5471***	0.1423***	0.5542***	0.1389***	0.5516***	0.1382***
	(0.1369)	(0.0141)	(0.1761)	(0.0150)	(0.1751)	(0.0150)
Left Party Affiliation	0.0135	0.0030	-0.0023	-5.0e-04	-0.0152	-0.0032
	(0.1907)	(0.0424)	(0.2157)	(0.0460)	(0.2175)	(0.0464)
National Councilor * Left Party	0.4217**	0.1071***	0.4345**	0.1050***	0.4382**	0.1028***
	(0.1965)	(0.0164)	(0.2205)	(0.0168)	(0.2200)	(0.0169)
District GDP per Capita	-2.2e-06	-0.0062	1.2e-06	0.0033	1.2e-06	0.0033
	(2.2e-06)	(0.0064)	(2.4e-06)	(0.0066)	(2.4e-06)	(0.0066)
Population Density	6.5e-05	0.0053	5.3e-05	0.0041	5.4e-05	0.0041
	(5.9e-05)	(0.0048)	(6.3e-05)	(0.0049)	(6.2e-05)	(0.0048)
Latin District	0.0971	0.0213	0.1303*	0.0271*	0.1294*	0.0268*
	(0.0641)	(0.0139)	(0.0712)	(0.0144)	(0.0718)	(0.0146)
Turnout			-2.7922***	-0.0588***	-2.7935***	-0.0587***
			(0.4319)	(0.0096)	(0.4305)	(0.0096)
Vote Margin			0.2444***	0.0629***	0.2444***	0.0628***
			(0.0326)	(0.0093)	(0.0326)	(0.0093)
Age of legislator					-0.0012	-0.0028
					(0.0027)	(0.0064)
Married legislator					0.0032	6.8e-04
					(0.0505)	(0.0107)
Female legislator					0.0142	0.0030
					(0.0567)	(0.0120)
(Intercept)	0.6515***		1.1956***		1.2644***	
	(0.1492)		(0.2398)		(0.2805)	
Referendum type fixed effects	YES		YES		YES	
Log-Likelihood	194.0460		315.4015		315.6068	
Pseudo-R2	0.0456		0.0734		0.0734	
Brier Score	0.2283		0.2239		0.2238	
n. Obs.	5686		5686		5686	

Notes: *** indicates a significance level of below 1 %; ** indicates a significance level between 1 and 5 %; * indicates a significance level between 5 and 10 %. Right parties form the omitted category. Robust clustered standard errors for individual representatives are given in parenthesis below the coefficient. Discrete effects represent the effects on the probability to observe a change from 0 to 1 in the dependent variable if the variable at hand changes from its first quintile value to its third quintile value (or from 0 to 1 for binary variables) while all other variables are held constant at their median values. Standard errors for discrete effects are calculated following Ai and Norton (2003).

Table 3: Robustness Tests using party groups directly: Congruence under proportional and majority voting systems

	<i>National Council only</i>		<i>Council of States only</i>		<i>National Council only</i>		<i>Council of States only</i>	
	(1)		(2)		(3)		(4)	
Party CVP	0.8325*** (0.0649)	0.1965*** (0.0147)	0.1729 (0.1537)	0.0403 (0.0356)	0.8162*** (0.0694)	0.1906*** (0.0155)	0.1348 (0.2444)	0.0293 (0.0537)
Party FDP	0.4530*** (0.0586)	0.1112*** (0.0142)	-0.0895 (0.1333)	-0.0215 (0.0320)	0.4141*** (0.0707)	0.1012*** (0.0170)	-0.0318 (0.2694)	-0.0071 (0.0602)
Party SP	0.4741*** (0.0765)	0.1162*** (0.0184)	-0.0127 (0.1998)	-0.0030 (0.0477)	0.4318*** (0.0758)	0.1054*** (0.0181)	-0.1621 (0.3715)	-0.0370 (0.0852)
smaller Parties	0.4612*** (0.0709)	0.1132*** (0.0171)	0.3405 (0.2123)	0.0774* (0.0464)	0.4279*** (0.0791)	0.1045*** (0.0189)	0.4521 (0.3455)	0.0921 (0.0683)
District GDP per Capita					1.3e-06 (2.7e-06)	0.0084 (0.0183)	-7.3e-07 (4.9e-06)	-0.0016 (0.0105)
Population Density					3.5e-05 (6.8e-05)	0.0033 (0.0064)	4.2e-04** (1.8e-04)	0.0214** (0.0091)
Latin District					0.1473** (0.0711)	0.0366** (0.0176)	0.1294 (0.2513)	0.0282 (0.0532)
Turnout					-2.4929*** (0.4721)	-0.0614*** (0.0116)	-4.3500*** (1.2045)	-0.0980*** (0.0294)
Vote Margin					0.1862*** (0.0341)	0.0567*** (0.0103)	0.6305*** (0.0905)	0.1517*** (0.0243)
Age of representative					-0.0024 (0.0028)	-0.0066 (0.0078)	0.0076 (0.0113)	0.0181 (0.0270)
Sex					-0.0197 (0.0530)	-0.0049 (0.0132)	0.2612 (0.1736)	0.0604 (0.0404)
Female representative (Intercept)	-0.1150* (0.0672)		0.4443*** (0.1223)		0.6361** (0.2721)		0.3243 (0.8249)	
Referendum type fixed effects	YES		YES		YES		YES	
Log-Likelihood	151.0636		39.0322		220.6347		132.1102	
Pseudo-R2	0.0423		0.0581		0.0613		0.1872	
Brier Score	0.2317		0.2058		0.2288		0.1851	
n. Obs.	4760		926		4760		926	

Notes: *** indicates a significance level of below 1 %; ** indicates a significance level between 1 and 5 %; * indicates a significance level between 5 and 10 %. The Swiss People's Party (SVP) forms the omitted category. Robust standard errors for logistic models are given in parenthesis below the coefficient. Discrete effects represent the effects on the probability to observe a change from 0 to 1 in the dependent variable if the variable at hand changes from its first quintile value to its third quintile value (or from 0 to 1 for binary variables) while all other variables are held constant at their median values.

Table A1: Descriptive Statistics

<i>Variable</i>	<i>Description & Source</i>	<i>Mean</i>	<i>SD</i>
CantonMatch	Indicator variable: Member of parliament votes in line with majority of voters in his district. Swiss Parliamentary Services Final Votes Dataset.	0.6192	0.4856
National Councilor	Indicator variable: Member of parliament is a member of the National Council (Council of States otherwise). Swiss Parliamentary Services Final Votes Dataset.	0.8371	0.3693
PartyLeft	Indicator variable: If member of parliament belongs to the SP, PdAS, GPS, FGA, Sol value is 1. Swiss Parliamentary Services.	0.2993	0.4580
PartyCenter	Indicator variable: If member of parliament belongs to the CVP, GLP, LPS, FDP, CSP, BDP, EVP value is 1. Swiss Parliamentary Services.	0.4133	0.4925
PartyRight	Indicator variable: If member of parliament belongs to the SVP, Lega, EDU, SD value is 1. Swiss Parliamentary Services.	0.2874	0.4526
GDPperCapita	Real cantonal GDP per capita in 2000 Swiss Francs. BAK Basel.	62680.0	20582.1
PopulationDensity	Inhabitants per km2. Federal Statistical Office.	526.9	835.6
Latin	Indicator variable: If the canton is largely French or Italian speaking value is 1. Federal Statistical Office.	0.2900	0.4538
Turnout	Share of entitled voters in member of parliament's home canton casting a vote in referendum. Swissvotes Database.	0.4651	0.0702
VoteMargin	Natural logarithm of the absolute distance between the yes-votes share of voters and 50 % in each referendum and district. Swissvotes Database.	2.2480	1.0411
Age	Member of parliament's age in years. Swiss Parliamentary Services.	53.3800	8.9652
Married	Indicator variable: If member of parliament is married value is 1. Swiss Parliamentary Services.	0.6673	0.4712
Sex	Indicator variable: If member of parliament is female value is 1. Swiss Parliamentary Services.	0.2700	0.4440
PartyCVP	Indicator variable: If member of parliament belongs to the CVP (Christian Democratic Party) value is 1. Swiss Parliamentary Services.	0.1845	0.3879
PartyFDP	Indicator variable: If member of parliament belongs to the FDP (Liberals) value is 1. Swiss Parliamentary Services.	0.1766	0.3813
PartySP	Indicator variable: If member of parliament belongs to the SP (Socialists) value is 1. Swiss Parliamentary Services.	0.2086	0.4063
PartySVP	Indicator variable: If member of parliament belongs to the SVP (Swiss People's Party) value is 1. Swiss Parliamentary Services.	0.2775	0.4478
PartySmall	Indicator variable: If member of parliament belongs to the GPS, GLP, LPS, CSP, PdAS, BDP, Lega, EDU, EVP, SD, FGA, Sol or MP is independent value is 1. Swiss Parliamentary Services.	0.1528	0.3599
RefFacultative	Indicator variable: If referendum is facultative value is 1. Swissvotes Database.	0.2274	0.4192
RefInitiative	Indicator variable: If referendum is an initiative value is 1. Swissvotes Database.	0.5055	0.5000
RefObligatory	Indicator variable: If referendum is an obligatory referendum value is 1 (necessary for an amendment to the constitution initiated by the parliament). Swissvotes Database.	0.1551	0.3620

Table A2: Further robustness tests with district fixed effects

	<i>Interaction model (1)</i>	<i>Interaction model (2)</i>	<i>Interaction model (3)</i>	<i>National Council only (4)</i>	<i>Council of States only (5)</i>
National Councilor	-0.6828*** (0.1051)	-0.6710*** (0.1096)	-0.6712*** (0.1097)		
Center Party Affiliation	0.0554 (0.1219)	0.0838 (0.1248)	0.0774 (0.1238)		
National Councilor * Center Party Affiliation	0.5300*** (0.1308)	0.5120*** (0.1339)	0.5086*** (0.1330)		
Left Party Affiliation	0.0325 (0.1866)	0.0741 (0.1840)	0.0566 (0.1845)		
National Councilor * Left Party	0.4090** (0.1905)	0.3676* (0.1877)	0.3673** (0.1874)		
Party CVP				0.8769*** (0.0679)	0.2735 (0.2253)
Party FDP				0.4409*** (0.0635)	-0.1116 (0.1826)
Party SP				0.4532*** (0.0788)	0.0959 (0.3096)
smaller Parties				0.4313*** (0.0761)	0.2460 (0.3113)
Turnout		-3.8764*** (0.4873)	-3.8843*** (0.4881)	-3.1402*** (0.5231)	-8.8621*** (1.3216)
Vote Margin		0.2507*** (0.0332)	0.2507*** (0.0332)	0.1891*** (0.0346)	0.7055*** (0.0991)
Age of legislator			1.3e-05 (0.0027)	-0.0014 (0.0027)	0.0141 (0.0108)
Married legislator			-4.5e-04 (0.0502)	-0.0229 (0.0535)	0.1509 (0.1895)
Female legislator			0.0481 (0.0549)	0.0014 (0.0542)	-0.0663 (0.1951)
(Intercept)	0.5158*** (0.1155)	1.6132*** (0.2233)	1.6079*** (0.2711)	0.8298*** (0.2590)	2.0022** (0.9500)
Referendum type fixed effects	YES	YES	YES	YES	YES
Cantonal fixed effects	YES	YES	YES	YES	YES
Log-Likelihood	214.1758	352.2741	352.7522	241.7293	176.4796
Pseudo-R2	0.0503	0.0817	0.0818	0.067	0.2444
Brier Score	0.2275	0.2225	0.2225	0.2278	0.1754
n. Obs.	5686	5686	5686	4760	926

Notes: *** indicates a significance level of below 1 %; ** indicates a significance level between 1 and 5 %; * indicates a significance level between 5 and 10 %. Right parties form the omitted category in columns (1) to (3) and the Swiss People's Party (SVP) forms the omitted category in columns (4) to (5). Robust clustered standard errors for individual representatives are given in parenthesis below the coefficient.