

THE EFFECT OF ELECTORAL RULES ON DISTRIBUTIVE
VOTING:
SOME EVIDENCE FROM THE RUSSIAN STATE DUMA,
1994-2003

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April 2005

First Draft (preliminary and incomplete)

Please do not cite without permission. Comments welcome.

Paper prepared for presentation at the Yale Conference on Distributive Politics, April 29-May 1, 2005. The authors would like to thank Mike Alvarez, Mikhail Phillipov, Peter Ordeshook, and especially Olga Shvetsova for numerous helpful discussions. We are also grateful to Yulia Rychkova for tireless data management and coding, and Sarah Hill for research assistance.

ABSTRACT

Russia's electoral system offers an excellent opportunity to study differential effects of electoral rules on distributive politics. One half of Russian Duma's members are elected on party lists while the remaining half hails from the single-member districts. This paper analyzes the database of the roll-call votes in the Duma in the period between 1994 and 2003. The theoretical foundations of the project stand on the premise that electoral system structures incentives and constraints of the elected politicians and hence should affect their voting patterns. We examine the hypothesis that the SMD representatives respond more readily to the local distributive pressures than the PR representatives. In doing so, we pay close attention to the intervening factors, such as faction membership, behavioral norms in the Duma, regional and party affiliations of the deputies, as well as the nature of the Duma as a legislative body in a new democracy. Our results are consistent with our the hypothesis and we also find that these effects grow stronger over time.

1. Electoral Systems and Legislative Politics

Political scientists have devoted considerable attention to the influence of electoral rules on a variety of types of political outcomes, including macro-level features of political systems such as representativeness, inclusiveness and stability (Lijphart 1999; Powell 1982, 2000); the behavior of individual legislators and the nature of legislative representation (Mayhew 1974; Cain, Ferejohn, and Fiorina 1987; Lancaster 1986; Lancaster and Patterson 1990; Montgomery 1995); the nature of party systems (Rae 1971; Taagepera and Shugart 1989; Cox 1997; Lijphart 1994; Shvetsova 2002); success in mitigating ethnic conflict (Reilly 2001; Reynolds 2002; Mozaffar, Scarritt and Galaich 2003); as well as characteristics of public policy, including patterns of spending and levels of fiscal discipline (Rogowski 1987; Lee 2000; Lee and Oppenheimer 1999). There are also some studies of the political calculations influencing the adoption of electoral systems (Lijphart and Waisman 1996; Bawn 1993; Remington and Smith 1996; Smith and Remington 1991; Kaminski 1999).

For the most part, these studies relied on national electoral systems as units of observation, due to the fact that until recently, mixed electoral systems were relatively rare. In recent decades, however, mixed electoral systems have been widely adopted, both in third wave democracies and in older democracies where institutional engineers sought to mitigate perceived problems in the political process by adopting a mixed system (Massicotte and Blais 1999).

When conclusions about the effects of electoral systems on important political outcomes rely on whole-country observations, even cross-national comparison may

fail to disentangle the influence of other national-level variables, such as social structure, from the effect of electoral systems on political behavior. Therefore the proliferation of mixed electoral systems has provided political scientists with a rich opportunity to isolate the effect of electoral rules from other institutional and non-institutional influences on political outcomes. In studies of legislative behavior, for example, it becomes possible to hold constant a number of national-level characteristics and to study the influence of electoral institutions on legislative parties, law-making, and floor voting.

In this study we take advantage of the availability of a body of roll-call voting data for the Russian State Duma (established following the adoption of a new post-communist national constitution in 1993) across three convocations, in order to examine the effect of electoral mandate type on voting on distributive issues. We first discuss our theoretical framework of different electoral institutions providing different electoral incentives to politicians, and review the existing empirical research relevant to this question. We then proceed to describing the Russian State Duma as an environment in which we can test the link between electoral rules, legislative behavior, and distributive legislation. This is followed by a section on our empirical design, in which we attempt to take into account the institutional, behavioral, and historical features of the Duma. Finally, we report our preliminary empirical results and conclude.

2. What do we know about the link between electoral rules, legislative behavior, and distributive politics?

We proceed from the basic premise that legislators are office-motivated and that their legislative behavior will reflect their wish to be re-elected. Then, the relevant constituencies or other actors whom the legislators will curry favor with differ according to the rules governing the electoral process. These rules, in turn, are determined by the electoral formula. For simplicity, consider two basic formulae: single-member districts (SMD) and party-list proportional representation (PR). The electoral pressures in SMDs might dictate that the legislators please their constituencies by effectively channeling public funds to them. Yet we might expect that these pressures would be very different in the PR systems, where electoral fortunes depend on the place on the list that the legislator can secure in the next election. These are assigned by party leaders, so trading the party line on distributive legislation might be the best way to a high rank on the list.

What do we know empirically about these relationships? In the context of perhaps the most extensively studied SMD legislature in the world, the US Congress, the analysis of particularistic legislation and its link to legislative behavior has a long and venerable tradition. Some of the seminal contributions in this field (Ferejohn 1974, Wilson 1986) focus on a particular type of spending that can be easily targeted geographically and where the costs are shared by entire nation – such as rivers and harbors legislation, or the Corps of Engineers projects. The purpose of these studies is usually to determine the characteristics of the legislators who are most successful in securing such projects for their districts. Ferejohn finds that legislative power matters, so

members of some committees receive more projects than non-members. Wilson, on the other hand, shows that there is support in the data for the theory of distributive universalism, in which coalitions tend to expand until all legislators eventually receive their share of the pie (cf Weingast 1994). However, the results of both studies are consistent with the hypotheses that in an SMD-elected legislature, such as the US Congress, geographically-targeted projects will be an important tool for the office-motivated legislators. This tendency, in turn, has important implications for maintaining sound fiscal policy: by distributing locally-concentrated, electorally-helpful pork barrel spending widely, and diffusing costs, legislators may wreck budget discipline. In some models, the collective dilemma that locally-oriented legislators face in restraining their individually-beneficial but collectively harmful tendency to overspend on pork creates an incentive to delegate strong veto or decree powers to presidents (Shugart 1998, Shugart and Haggard 2001).

The logical corollary question to that of the effect of SMD systems on distributive policy is this: how important, in terms of electoral success, is “bringing home the bacon” for SMD-elected legislators? Several more recent studies of the US Congress have tried to establish the empirical link between the distributive spending and electoral success (Stein and Bickers 1994, Levitt and Snyder 1997). As Stein and Bickers note, the difficulty in documenting this link is analogous to that of finding a correlation between campaign spending and electoral success: those legislators who are facing the most difficult electoral battles are the ones with the most incentives to participate in pork-barreling (and similarly will tend to spend more campaign money). Their main finding is that the candidates who won by the tightest margins are the ones who are most likely to

seek pork for their districts. Levitt and Snyder build on this result and advocate the use of instruments that are correlated with federal funding within the districts, but uncorrelated with electoral vulnerability. Using such instruments, they find that an increase in targeted spending does increase votes for an incumbent, while transfer spending does not appear to have a significant effect on electoral success.

In sum, the studies of the US Congress lend some support to our theoretical premise that SMD legislators are likely to rely on geographically-targeted spending as one of the tools of securing their re-election. In addition, Levitt and Snyder's study directly contrasts a measure of "pork" with non-geographic redistributive spending, such as transfers. As we would expect, these do not matter electorally to SMD-elected legislators. However, our theoretical premise would imply that if the legislators are elected by PR, precisely this type of spending should receive relatively more attention. In large (often national) PR districts, party leaders will attempt to position their party clearly on a left-right redistributive spectrum. Hence, in order to please a party leader and secure a high rank on the party list, individual legislators should place more value on issues such as transfers that allow them to show loyalty to the party line, while "pork" should become less important as there are no ready-made geographic constituencies to please.

Milesi-Ferretti *et al* (2002) take up this point in a cross-country setting. They start from a premise that all spending is redistributive, and distinguish between two main types of government spending: transfers, targeted to individuals with certain social characteristics, and purchases of goods and services, typically targeted along geographic lines. In order to test the prediction that the former will be more prevalent in PR and the

legislature as a way to get at geographically targeted spending approved in the Brazilian Congress. Ames finds support for a hypothesis that deputies in fact gain electoral benefits by proposing budget amendments for their geographic constituencies. Samuels, on the other hand, argues that the link is indirect: “pork” pleases the businesses in a particular geographic region within the state, which then fund politicians’ campaigns, and that brings in the votes. Overall, these studies of Brazilian politics illustrate how important it is to pay close attention to the details of the electoral rules as well as the actual legislative behavior.

As suggested above, these tasks can be very difficult to accomplish in a cross-country analysis. For this reason, if the research question is to study the effect of different electoral systems on the differences in the legislative behavior regarding distributive spending, countries with mixed electoral systems allow us to confine the analysis to a single country. In such systems, we have one legislative body that consists of legislators elected by two electoral rules. Such an environment allows us to hold constant the cultural, historical, and social factors that might influence distributive spending. Even more importantly, the meaning of “distributive” legislation is much easier to define within one country, as opposed to trying to classify the whole classes of spending as “transfers” or “pork” across countries.

The German Bundestag is an example of such a legislature, where (normally) half of the seats are allocated in single-member districts and the other half based on the party lists with a 5% electoral threshold.¹ Lancaster and Patterson (1990) and Strattman and Baur (2002) took advantage of this setting in an attempt to determine the effect of the

¹ Because Germany allows the “topping up” of a party’s seat share based on its list vote, and does not penalize parties for seats won in SMD’s, the actual number of mandates in the Bundestag can vary. At present there are 601 deputies.

different electoral pressures on SMD vs PR deputies on the distributive politics in the Bundestag. Lancaster and Patterson ran an attitudinal survey of the legislators and found that “[c]onsistently higher percentages of respondents from single-member districts found the provision of projects to be of high importance to their prospects of reelection when compared with [members] from multimember districts” (473). Additionally, members from single districts were more likely to believe that they were successful in affecting spending for their districts. Thus at least the perceptions of the members of the Bundestag support the theory that targeted spending is more likely to occur under plurality rule.

In a more recent study, Stratman and Baur take a different approach. In order to distinguish between PR and plurality members of the Bundestag, they look at committee assignments because the incentives to request and be on particular committees ought to be different for the two types of representatives. PR representatives should be more inclined to support their party as well as gain national attention. Plurality representatives would be more likely to strive to provide projects for their geographic constituencies. The authors classify the committees of the Bundestag into three categories: district, party, and neutral; this classification is based upon their perceptions of the type of work that is performed in each committee. They then look at the distribution of members on committees in three legislative periods. Stratmann and Baur find that there is a significant difference between the committee assignments of the types of legislators, and “that they pick committees (or that parties pick committees for them) that are best suited to put them into a position to enable them to satisfy their constituencies” (513).

The above studies of the German Bundestag provide an important starting point for the analysis of the effect of electoral rules on distributive policies in the context of a mixed electoral system, and their results are consistent with our general hypothesis. However, the survey data are necessarily subjective, as Lancaster and Patterson readily acknowledge. In the case of Strattman and Baur's data, the coding of the committees might also be endogenous to the authors' purpose. Ideally, we would like to study the actual legislative behavior of the members of a mixed legislature, such as roll-call votes on distributive issues, and see if this behavior varies systematically by the legislators' electoral mandate (PR or SMD). The dataset on the roll-call votes in the Russian State Duma provides just this opportunity.

The existing work on the Russian mixed electoral system and its effect on the behavior of the legislators reached contradictory conclusions. There is no study concentrating specifically on distributive voting, but there are several that consider such aspects of legislative behavior such as party cohesion. Haspel, Remington, and Smith (1998) find no effect of the PR-SMD divide on party cohesion in the Duma in 1994-95. Thames (2001), however, finds a voting divide along mandate lines across all policy areas and in budgetary policy between 1994 and 1998. Smith and Remington (2001) show that the impact of electoral mandate varied systematically with the nature of the issues on which deputies voted. On some issues, particularly those most concerned with the rights and roles of factions themselves in the new legislative body, the effects of electoral mandate type were significant. On others, they were overwhelmed by the effects of policy preference and faction membership. We should expect, therefore, that the effect of electoral mandate background on deputy behavior in floor voting will vary in

the degree to which the effects of a given piece of legislation concern a deputy's relationship with voters, party leaders, and influential organized interests.

Distributive legislation varies in the way in which material benefits are distributed. As the literature on American distributive voting reviewed above signifies, SMD/ separation-of-powers arrangement of American legislative policy-making introduces a systematic institutional bias toward legislation that "parcelizes" benefits in particular congressional districts and states. However, it has been argued (e.g. Rogowski 1987) that PR systems affect the organization of distributive legislation; larger constituencies may reduce pressure for narrowly based interests to collect rents or distribute local pork. The effect of a mixed electoral system such as the one that elects the Russian State Duma on the character of distributive policy-making should also be expected to be mixed, as a result, with pressure both for locally morselized benefits together with more aggregate, sectoral benefits (such as higher pensions or minimum wages or lower profits taxes). In the following section, we describe the Russian State Duma as an environment for exploring the effect of electoral rules on distributive policy-making, both as a system containing two different electoral institutions and as a mixed system with its own specific effects.

3. The Russian State Duma as an environment for exploring the effect of the electoral rules on distributive politics

For all Duma elections from 1993 through 2003 (ie 1993, 1995, 1999, and 2003), Russian voters cast two votes: one for a party and another for a representative in a single-

member district.² The result is a 450-member Duma, where 225 legislators are elected in SMDs and the remaining 225 deputies come proportionally from those parties that cleared the 5% electoral threshold. We can think about Russian voter's two votes as if they were coming from two separate elections, one governed by PR and another by plurality rule, since the results of these two are not linked. This feature makes this environment particularly suitable for testing for the relationship between electoral rules, legislative behavior, and distributive politics.

Our dataset contains electronically recorded roll-call votes in three consecutive Dumas: the first (1994-1995), second (1996-1999), and third (2000-2003).³ The dataset also includes some deputy characteristics: aside from the name and mandate (PR or SMD), we have deputy's age, gender, previous occupation, regional affiliation, party affiliation, faction membership at certain points in time, and other parameters for some years. As for the characteristics of the individual votes, we have the title of the vote, date, time, and outcome.

Although the coding of distributive legislation in one country allows a researcher to be more consistent than trying to define the classes of redistributive bills or spending across countries, it is still a daunting task. The main task here is to isolate the criteria that make legislation "particularistic" or "geographically distributive." Our first rough cut is to consider the votes on the federal budget, as the budget will inevitably contain redistribution of public funds to the regions, and spending decisions embodied in the

² Recently enacted electoral reforms, proposed by President Putin, eliminate the SMD seats entirely in favor of an all-PR system. All 450 seats will be filled based on the vote for party lists competing in the all-Russian federal electoral district. The electoral threshold will be raised to 7%. The new system is to take effect in the 2007 election.

³ The dataset was created on the basis of a proprietary product produced by a Moscow-based firm INDEM. The "first" Duma is, of course, the first modern Duma; however, it shares the name with the pre-1917 legislative body in the tsarist Russia.

budget reflect inherently distributive choices. In future research we plan to examine a smaller subset of federal budget votes, namely the second and third readings of the federal budget bills, as these contain the amendments after the floor discussion and represent that are most likely products of legislative logrolling and are hence most likely particularistic (cf. Ames 1995 and Samuels 2002, who use the budgetary amendment process as a proxy for pork in Brazil). Finally, we have commenced an even more intensive coding exercise that involves searching full texts of the bills passed in the third Duma (2000-2003) and isolating those bills that expressly mention the names of regions, cities, administrative entities, rivers, dams, etc.⁴ These bills are most likely to target public funds geographically. Keying them to the votes in the Duma will allow us to analyze the legislative behavior of the deputies with regard to the regionally particularistic legislation depending on deputies' characteristics, most notably whether they were elected on party lists or in the single-member districts.

However, the Russian State Duma has several institutional features that complicate our analysis. Below is a partial list of the most important challenges that we face.

3.1 Electoral parties vs. legislative factions

Suppose we want to observe the mapping from electoral pressures into legislative behavior. If these electoral pressures come from the power of the party leaders over the rank of the deputy on the party list, then in terms of the legislative behavior we should observe office-motivated PR legislators treading the party line on most issues. However, this assumes that the legislator's *electoral party* is the same as her *legislative party*. That

⁴ Slinko, Yakovlev, and Zhuravskaya (2005) assemble a similar dataset of regional legislation. They code regional laws as "captured" by industrial interests if they mention an enterprise by name.

is not always the case in the Duma. The reason is the peculiar system of legislative factions that developed in the post-Soviet Russian politics.

Legislative factions in the Duma are of two kinds: those based on successful electoral parties (ie that cleared the 5% threshold), and those that are start-up groups (technically called “deputy groups”) that consist of 35 registered members.⁵ Elected deputies are free to affiliate with any faction. Those elected on party lists normally enter the Duma faction based on their party’s list. Deputies elected in single-member districts may join either one of the party lists or a start-up group. Thus the factions based on electoral parties typically comprise both list and SMD members, whereas start-up groups are composed overwhelmingly of SMD deputies plus a few strays from parties.⁶ SMD deputies may consider themselves independents, but even independents generally face strong incentives to join an existing or start-up faction, because faction membership provides important benefits, such as administrative assistance or a better chance of obtaining a leadership position on a committee. This means that many factions based on electoral parties have substantial numbers of SMD deputies, some of whom may have been elected with relatively little assistance from the party. However, a PR-elected deputy who is dissatisfied with her electoral party may leave that party’s legislative faction, and either remain independent, form a new faction with 34 other legislators, or join an existing faction. Such movement is relatively common.

⁵ As of 2004, the minimum number of deputies required for a registered deputy group was raised to 55. This is one reason that there are no non-party-based deputy factions in the current Duma.

⁶ Sometimes the Communist Party of the Russian Federation (CPRF) faction has assisted friendly groups in forming by assigning some of their members to join them. Deputies who have been seconded in this way may be presumed to maintain some relationship with their original party while members of the other faction.

The details of legislative factions in the Duma are important, both in their effect on the operation of the Duma, and in the relationship of the Duma with the executive branch. The fact that Duma factions are typically composed of two kinds of deputies shapes the internal dynamics of factions, since internal cohesion requires the use of different kinds of bargaining and disciplining mechanisms for the different categories of deputies. In addition, this affects the relationship between the Duma and the executive, because the executive must take into account the different incentives that different kinds of members of factions face (Remington, forthcoming). Although the survival of the government is not directly dependent on maintaining a voting majority in the Duma, the president and government must bargain with factions and individual members for support on key legislative items unless they have overwhelming control over the Duma—which was not the case until the most recent Duma. As a result, both the internal operations of the Duma and its factions as well as the external relations of the Duma with the executive and other institutions in the political environment are affected by the mixed electoral system.⁷

Tables 1a, 1b about here

Table 1a shows the partisan structure of each of three Dumas in three different ways. The first column reports the results of the PR portions of the Russian parliamentary elections in 1993, 1995, and 1999. The second column shows how PR deputies sorted themselves into factions at the beginning of each Duma’s term. Finally, we also report the initial faction composition of the entire Duma. It is instructive to look at the middle column of the table: we can see that in each of the three Dumas there were

⁷ It is not fanciful to speculate that it was the relatively high bargaining costs incurred by the government and president in dealing with two different types of members that led Putin to push through the electoral law reform eliminating SMD members.

some PR deputies who did not join their electoral party: in the first Duma, there was at least one independent PR deputy, while in the second and third Duma, several PR deputies joined the newly formed People's Power, Russia's Regions, and Agrarian factions. Interestingly, this faction membership was recorded at the beginning of each convocation, which means that the "dissatisfaction" with the party on whose list these deputies secured legislative seats arose even before the legislative process began.

Comparing the PR electoral results and the faction composition of the entire legislature after both SMD and PR deputies sorted themselves into factions (first and third columns), we can see that the partisan balance of power shifts from electoral to legislative parties. For example, while LDPR received the plurality of votes in the 1993 PR elections, it came third in the legislative strength (13.55% of seats), behind Russia's Choice (16.77%) and a newly formed faction, New Regional Policy (14.19%). As we develop the design of our empirical analysis in the next section, we will discuss the exact proportions of PR and SMD deputies in each faction. The purpose of the descriptive statistics in Table 1a is to emphasize that linking the electoral motives to the legislative behavior in the Russian Duma is complicated by the fact that electoral parties do not map perfectly into the legislative parties.

However, Table 1a is painting only a static picture. To make matters more complicated, extensive *faction switching* occurs during each convocation. As an example, take the third Duma, where between 12% and 17% of all deputies switched factions at some point.⁸

⁸ We do not know the exact number of faction switchers because of the missing data. Faction membership is recorded at several points between 2000 and 2003. A conservative estimate of 12% is obtained by deleting all missing observations. However, it is likely that the all deputies for whom faction membership is

Tables 2a, 2b about here

Table 2a breaks switching down by faction. For each deputy, we created a dummy variable “switch” that takes value 1 if the deputy has switched factions at any point in 2000-2003 and 0 otherwise, treating missing observations conservatively (see fn. 8). Table 2 reports frequency of “switch” values against the initial faction membership in January 2000. This way, switch=1 records the “outflow” from each faction. We can see that all independents joined some other faction eventually, which is unsurprising given the institutional incentives. The faction with the highest proportion of members leaving (20%) was SPS, which was an electoral party; interestingly, the most loyal faction members (0% leaving) were in Russia’s Regions, which did not run as a party and was created by mostly SMD deputies. As is clear from Table 2b, faction switching occurred among both PR and SMD deputies, although it was slightly more common for SMD legislators. What is surprising is that the difference in frequency of switching by mandate is so small; our general theoretical framework would lead us to expect the PR deputies to be significantly more loyal to their electoral parties in their legislative faction incarnations as loyalty is important for being included in the party list in the next electoral cycle. On the other hand, SMD deputies should be free to switch factions at will whenever such a move might be electorally rewarded by their local constituencies. Russia’s weak party system might be one of the reasons why the difference is not as stark as we would expect, which we will take into account when we design our empirical strategy for examining the effect of the mandate on distributive voting.

3.2 Electoral Hedging and Regional-Partisan Alliances

unavailable after September 2000 were in fact faction switchers. If we make such a liberal assumption, we obtain that 17% of all deputies switched factions.

Besides joining legislative factions that are often based on electoral parties, SMD deputies might have additional party ties that go back to the electoral process. Although the results of the SMD and PR elections into the Duma are not linked, the Russian mixed electoral system has a peculiar feature: it allows politicians to run *both* on a party list and in a single-member district in any election. A significant number of deputies take advantage of this provision; in the 1999 elections, 97 (23.4%) of 415 deputies on whom we have such data did indeed hedge their electoral chances by running in both contests.⁹ Out of these 97 deputies, the majority (62) won Duma seats in single-member districts, while the rest secured their seats on party lists. This, of course, poses a question whether they also “hedge” in their legislative behavior: for example, being elected on party list does not discipline a legislator who knows he may run on a single-member district in the next election. On the other hand, cultivating two different potential constituencies is costly, which may outweigh the benefits of “hedging.”

Table 3 about here

Yet electoral hedging is not the only source of party ties of SMD deputies. Another one is electoral nomination, which in the case of SMD deputies may be by voters, by the politician himself, or by an electoral party. As Table 3 shows, close to half of the elected SMD deputies were nominated by voters or by self-nomination, yet the other half were nominated by parliamentary electoral parties. Nomination by a party saves the candidate from gathering signatures on nominating petitions and putting down a deposit, but in an environment in which party endorsements usually carry little useful political capital and may associate a candidate with the party’s negative reputation, many

⁹ Data coded from official handbooks of the Duma: *Fond razvitiia parlamentarizma v Rossiia*, 1994, 1996; Zapeklyi and Kozlov 2001).

candidates prefer to remain independent of party affiliations or to minimize their ties to parties, and voters often prefer independents to party-related candidates (Rose and Munro 2002, pp. 103-109). Thus for many winning SMD deputies, party ties at the point of the election are relatively weak. Deputies' choices over faction affiliation are therefore based on considerations about how best to maximize policy influence while minimizing the loss of independence.¹⁰

Still, many SMD deputies, despite their local constituencies, might not be free of partisan allegiances in their electoral motivations. On the other hand, PR deputies might not be free of regional biases either. Besides natural links to their birthplaces and regions of residence, there is also often a particular territorial region where a PR deputy has ties. These are often formalized in the structure of the electoral lists. The PR portion of the ballot uses an all-federal electoral district to calculate the share of the 225 PR seats a given faction is entitled to fill. The election law requires, however, that parties create regional sub-lists and that the central list have no more than 12 names. This is intended to encourage the recruitment of prominent regional politicians to the party lists. Thus many elected PR deputies have specific territorial ties, and factions encourage those members to maintain those connections by periodic travel to their "home" region for consultation and fence-mending. Thus, it is conceivable that a PR deputy has an incentive to bring geographically-targeted projects to his "own" region. On the other hand, this incentive should only be present when voting for such project does not go against the wishes of the party leaders, who ultimately control deputy's place on the list.

¹⁰ Characteristic of the calculations that elected SMD deputies make is the fact that 100 independents chose to join the pro-Putin "party of power" faction in the Duma, United Russia. In all, some 80% of SMD deputies joined this faction, suggesting the power of the bandwagon effect.

3.3 Behavioral Norms and Learning-by-Legislator in a New Democracy

In addition to the complications arising from institutional features of the Duma and peculiarities of the electoral process, we should also pay attention to the consequences of Russia being a “new democracy.” By this we mean the fluidity of both formal and informal rules of the game. The formal rules have only recently been written, and are regularly questioned, challenged, and amended. Informal rules also take time to develop and be espoused by the legislators. For example, factions may coordinate on some level of a factional discipline in voting, but this coordination takes time to achieve. Yet some informal rules specific to the Duma have developed and took root quickly and firmly. One of such norms is that instead of opposing a certain piece of legislation, many times deputies simply do not register to vote. Thus, in many cases “not voting” stands for a “nay” vote.¹¹

However, as in any new democracy, it takes time for politicians and voters alike to learn about the consequences of the formal institutions within which they operate. As has been argued elsewhere (e.g., Kaminski 2002), often not even the designers of electoral laws fully understand their consequences, and it takes a few periods of “trial and error” for the participants in the new democratic process to grasp the payoffs of their alternative actions.

The institutional learning is made more difficult by the fact that many rules evolve during transition. For example, in the period analyzed here, Russia has seen strengthening of the presidency and weakening of the Duma, which may have changed the utility functions of the legislators considerably. All of the above effects may weaken

¹¹ For a discussion of the effect of non-voting on analysis of rollcalls in the Duma, see Smith and Remington (2001), pp. 163-165.

the empirical relationship between the mandate type and voting on distributive issues. We will attempt to take some of these factors into account when designing our empirical strategy for isolating these effects in the next section.

4. Empirical Design

In the previous section we have established that the imperfect correspondence between electoral parties and legislative factions compromises the premises of our theoretical framework. In order to maintain the link between electoral pressures and legislative behavior in our analysis, we will only consider those factions that ran as “electoral parties” and have passed the 5% threshold to secure seats in the Duma. Within these factions, we would like to compare the legislative behavior of PR deputies to their SMD counterparts. However, this is only possible if there are enough of both PR and SMD members in a faction to make such comparison meaningful. Table 4 lists such factions for all three Dumas. Note that the use of Yabloko in the first Duma and Yabloko and SPS in the third Duma is doubtful, as the numbers of SMD deputies are rather low. Unfortunately, by restricting our analysis only to “balanced” factions, we select away those deputies who joined SMD-dominated factions, such as New Regional Policy in the first Duma or Russia’s Regions in second and third Duma. However, our goal is to determine whether the voting on distributive issues differs between SMD and PR deputies. Such comparison in the Duma only makes sense if the factional effects are held constant.¹²

Table 4 about here

¹² In the future, we hope to use more fine-grained measures of regionally distributive laws and analyze the legislative behavior of SMD-based factions with respect to these laws.

Further, to address the problems that faction switching creates, we will only consider “loyal” faction members, i.e. those that did not switch in or out of the faction during a convocation. Again, doing so we are eliminating the least partisan (and hence potentially more particularistic) deputies; however, we gain the possibility of within-faction comparisons of PR and SMD deputies that avoids indexing factions by time. Also note that the resulting “loyal factions” may not exhibit the same patterns of factional discipline as observed in the “full factions” containing the switchers as well.

With this sample of deputies, we created panel datasets with deputy-vote observations for each of the three Dumas. As discussed above, our first cut for regionally distributive projects are federal budget votes, which in the future will be replaced with a more precise coding based on the analysis of the text of the adopted laws.¹³ For comparison purposes, we have also experimented with extending the sample of roll call votes to include a subset of expressly non-distributive legislation, such as that concerning symbolic issues (flag, hymn, emblem), federal judiciary, treaty ratifications, and the regulation of religion.

To examine whether SMD deputies behave differently from their factional PR counterparts while voting on the regionally distributive issues, we created the dependent variable *dissent*. This dichotomous variable takes value 1 if the deputy’s vote on a given issue differs from his faction leader’s vote, and 0 otherwise.¹⁴ To account for the

¹³ We have partially completed the coding of the regionally distributive laws based on whether the names of cities, regions, rivers, or administrative units appear in the text. The resulting subset of legislation includes a large number of federal budget laws, which gives us confidence in selecting budget legislation as our first rough measure of ‘pork.’

¹⁴ There are four possible values that roll-call votes take: “yea”, “nay”, “abstain”, and “not voting”. If a deputy’s vote value coincides with that of his faction leader, $dissent_{deputy, vote} = 0$; if they differ, $dissent_{deputy, vote} = 1$.

behavioral norm in the Duma that in many cases renders “non-voting” as a “nay,” we created two different versions of *dissent*. The benchmark version treats “not-voting” as essentially as a missing observation, while another version codes “not voting” the same as “nay”. Regardless of the measure of *dissent*, we would expect that PR deputies will dissent less than SMD members of the same factions on regionally distributive legislation, since their regional ties are presumably electorally less important than their incentives to demonstrate faction loyalty to their faction leaders. On the other hand, the SMD deputies will be more likely to stray from the faction leader’s position on these regionally distributive projects, as their electoral incentives to cultivate regional vote base should sometimes trump their partisan ties.

As an exercise to illustrate the shape of the data, we can perform a simple frequency analysis of *dissent* by mandate and faction. For simplicity, let us look only at the third Duma (2000-2003), where balanced factions based on electoral parties include KPRF, OVR, and UNITY; and perhaps, marginally, YABLOKO and SPS. We then look at the *dissent* of loyal faction members on budget votes, and “contract” our dependent variable by electoral mandate and faction. This gives us the number of times PR and SMD members of these factions disagree with their faction leaders, and we weigh this frequency by the number of loyal PR and SMD deputies in each faction respectively. The results are displayed in Table 5 and Figure 1.

Table 5, Figure 1 about here

When examining the three balanced factions (KPRF, UNITY, and OVR), the results are as expected: SMD deputies within each of the three factions are on average more likely to stray from the party leaders on budget legislation. However, note that the

factions seem to coordinate on a level of faction discipline: KPRF appears to be much less disciplined than any other faction, while UNITY is most disciplined. Still, note that these are not full legislative factions; instead, we are dealing only with the subset of loyal faction members, so this may or may not correspond to how the discipline in these factions are commonly perceived by commentators and researchers. In addition, we are only looking at a subset of issues that are redistributive. The results for Yabloko and SPS go in the opposite direction (PR deputies seem are more likely to dissent), but given the scarcity of SMD members in both of these factions, this is hardly surprising.

The simple frequency analysis above is instructive as a first glance at the data and a hint that the relationship we are looking for might be present, but it certainly is much too crude. Our econometric method of choice is a probit model that estimates the probability of dissent as a function of the electoral mandate (SMD/PL) and faction, (eventually) controlling for some deputy and bill characteristics.

$$Pr(dissent_{d,v}) = f(\text{mandate}_{d,v}, \text{faction}_{d,v}, \text{controls}_{d,v}, \text{controls}_{d,v})$$

This model will be applied to each of the three Dumas on which we have data. Of course, this is a very preliminary specification with many underlying assumptions. The most restrictive one is that it treats all votes as equally important. Still, it can be argued that we have already selected a class of votes (budget) that are in principle comparable. In addition, with our benchmark version of *dissent*, we are only considering those votes for which the deputies were present. It might not be such a stretch to assume that those votes for which most deputies showed up are similarly important.

The theoretical framework discussed in the previous sections, as well as our observations about the institutional and behavioral features of the Duma lead to the following hypotheses:

H1: Controlling for faction, bill and deputy characteristics, SMD mandate should increase the probability of dissent of a deputy with his faction leader on distributive issues. Conversely, PR mandate should decrease this probability.

H2: Due to institutional learning, this effect should be more pronounced over time.

5. Preliminary Empirical Results

We employ two alternative ways of applying the general probit model outlined in the previous section. First, we pool all factions in each of the three Dumas into one panel and then control for faction membership by factional dummies; second, we run probits on sub-panels where all deputy-bill observations refer to the members of the same faction in a particular Duma. After describing the results of these pooled and within-faction analyses and discussing the time trajectory of the relationships in the data, we examine the effect of using an alternative measure of *dissent*. Finally, we compare the results on budget votes to those on non-distributive issues.

In the pooled-faction analysis, we run two basic types of probits. First, we regress *dissent* on simple dummies for mandate and faction membership. The left-out (benchmark) category for the mandate type is *SMD* and for faction *KPRF* in all three Duma regressions. Thus, if *H1* holds, we expect a negative significant sign on PR

dummy¹⁵, as the probability of dissent on distributive issues should be lower for PR deputies than for SMDs. If *H2* holds, we would expect this result to be stronger in the second and third Duma. We do not have any strong priors about the signs or significance of the faction membership dummies. However, Figure 1 suggested that KPRF was particularly undisciplined in comparison to other factions in the third Duma. If this is a true and robust pattern, then the signs of the coefficients on factional dummies should be negative and significant.

Second, we regress *dissent* on an interacted set of dummies of *mandate*faction*, where the benchmark category is *SMD*KPRF*. In this case, we do not have strong priors about the signs of the coefficients. The benchmark category, *SMD*KPRF*, is potentially the least disciplined subset of legislators. If this expectation is correct, then the interactive dummies should have positive signs. However, as previous literature suggested, faction and issue type may be stronger influences on voting cohesion than the mandate (cf. Smith and Remington 2001); Figure 1 hints that this may also be true for distributive issues. If this is the case, then the coefficients on the dummies might not be statistically significant from zero.

Given that we do not yet have all deputy and bill characteristics as necessary controls, we only report these basic probit results in the Appendix. However preliminary, they still allow us to make the following observations. The first model specification yields a coefficient on PR dummy that is statistically insignificant and has a wrong sign in the first Duma, but is very significant and negative in the second and third Duma. This does suggest that controlling for factional membership, electoral type has had measurable influence on the probability of dissent in the two later Dumas. However, the absence of

¹⁵ PR dummy is coded *PL* (for *Party List*) in the results in the appendix.

this relationship in the first Duma is consistent with $H2$, which is based on institutional learning.

We obtain very similar results by running simple bi-variate probits, regressing dissent within each faction in the three Dumas on electoral type of the deputy.¹⁶ In the first Duma, the coefficient on PR changes signs across specifications and lacks statistical significance. However, in the second and third Dumas, it is consistently negative significant. This gives us further confidence in the validity of our hypotheses.

As far as the specification with interaction terms is concerned, we obtain peculiar results. In the first Duma, $KPRF*SMD$ does not seem to be the least disciplined subset of the deputies – to the contrary, belonging to any other *faction*mandate* group increases the probability of dissent! This result is reversed in the second and third Duma, where the most significant coefficients have a negative sign, which implies that $KPRF*SMD$ became a group of deputies that was less likely than the rest to follow the party line on distributive issues. Why this was so deserves a careful analysis in later research.

How big are the effects of electoral rules on the probability of dissent on distributive issues? At this stage, it is difficult to make any definitive claims, although the coefficients do seem to be rather small. However, our n is very large and independent variables are simple dummies. We need plenty of controls and further model refinements to give a meaningful assessment of the magnitude of these effects, yet we are optimistic about the patterns in the direction of the results that seem to be consistent with our hypotheses.

¹⁶ Not reported in this draft due to space considerations. Available upon request.

We have run all of the above specifications with our alternative measure of dissent that treats “not voting” as voting “nay.”⁸ The results are mostly unchanged, if slightly weaker for second Duma.

Finally, we have attempted to compare distributive and non-distributive votes for the first Duma. (These will be replicated for latter Dumas as soon as the data allow.) Interestingly, we find that there is actually *less* dissent on those issues that we code as “regionally distributive” (federal budget and other budget legislation) as compared to non-distributive issues. This is exactly the opposite from what we would expect, but we can offer several possible explanation of this finding. First, all our previous findings were either negative or counter-intuitive for the first Duma, which might suggest that institutional learning, adaptation, and “trial and error” were in process during that time. In addition, as Table 6 documents, the size and level of detail of budget legislation rose steadily over the decade, which may suggest that early on, budgets might have been vague and generalized and only comprise broad categories of spending.

Table 6 about here

It may also be the case that factions devoted more effort to ensuring a cohesive factional position regarding budget legislation than they did on other types of issues. Perhaps by presenting a united front in dealing with the government as the budget was being worked out, faction members developed their own intra-faction logrolls, but exerted less effort to do so on other bills.

6. Conclusion

This preliminary examination of the effect of electoral mandate type provides evidence broadly consistent with expectations. We found evidence that, particularly in the second and third Dumas, SMD deputies were more likely to break with faction discipline than were their list-based comrades on distributive issues, and that this effect grew stronger after the first Duma. Our results for voting on issues that can be characterized as non-distributive were at variance with our expectations, but were confined to the first Duma, when deputies were still engaged in a process of behavioral adaptation to their new environment. Moreover, our measure of distributive legislation—budget votes—may be an imperfect indicator of the pressures for locally-targeted spending that we are considering, and this imperfection might be most serious in the first Duma. Future research will extend this analysis further by examining a set of bills with specifically localized impacts, and by linking deputies from the relevant regions to such bills.

Nevertheless, the evidence presented here justifies our interest in the influence of electoral institutions on legislative behavior. The bifurcated nature of legislative factions clearly influences their own internal operations and levels of voting cohesion, which in turn affects their ability to forge cross-factional coalitions and their bargaining influence with the executive. It is not too much to say that it is precisely the localizing pressures on deputy behavior arising from SMD representation that persuaded President Putin to eliminate SMD seats altogether from the Duma in the future. The coexistence of two

electoral mandate types in a single legislature will nonetheless continue to be an important feature of many other legislative bodies in the contemporary world.

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TABLES AND FIGURES

Table 1a. Electoral Results (PR) and Factional Composition of the Russian State Duma, 1994-2003

Electoral Results (PR)		Initial Faction Membership of PR Deputies		Initial Faction Composition of the Entire Duma	
Party	%	Faction	%	Faction	%
<u>First Duma (1994-1995)</u>					
LDPR	22.92%	LDPR	24.68%	LDPR	13.55%
RC	15.51%	RC	17.02%	RC	16.77%
KPRF	12.40%	KPRF	13.62%	KPRF	9.68%
WR	8.13%	WR	8.94%	WR	4.95%
AGR	7.99%	AGR	8.94%	AGR	11.83%
YABLOKO	7.86%	YABLOKO	8.51%	YABLOKO	5.81%
PRES	6.73%	PRES	7.66%	PRES	6.45%
DPR	5.52%	DPR	5.96%	DPR	3.23%
		NRP	0.00%	NRP	14.19%
		INDEPENDENT	0.43%	INDEPENDENT	9.03%
		<i>Missing data</i>	<i>4.26%</i>	<i>Missing data</i>	<i>4.52%</i>
<u>Second Duma (1996-1999)</u>					
KPRF	22.30%	KPRF	30.70%	KPRF	31.84%
LDPR	11.18%	LDPR	9.21%	LDPR	10.90%
NDR	10.10%	NDR	13.16%	NDR	13.89%
YABLOKO	6.89%	YABLOKO	8.77%	YABLOKO	9.83%
		AGR	9.65%	AGR	7.48%
		PPOWER	8.77%	PPOWER	7.91%
		RREGIONS	6.14%	RREGIONS	8.76%
		DVR	0.44%	DVR	1.50%
		INDEPENDENT	0.00%	INDEPENDENT	4.06%
		<i>Missing data</i>	<i>9.21%</i>	<i>Missing data</i>	<i>3.85%</i>
<u>Third Duma (1996-1999)</u>					
KPRF	24.29%	KPRF	21.55%	KPRF	18.58%
UNITY	23.32%	UNITY	28.02%	UNITY	16.91%
OVR	13.33%	OVR	12.93%	OVR	9.39%
SPS	8.52%	SPS	10.34%	SPS	6.68%
LDPR	5.98%	LDPR	6.90%	LDPR	3.55%
YABLOKO	5.93%	YABLOKO	7.33%	YABLOKO	4.38%
		RREGIONS	2.16%	RREGIONS	7.93%
		NARDEP	0.43%	NARDEP	12.11%
		APG	8.62%	APG	8.56%
		INDEPENDENT	1.72%	INDEPENDENT	3.76%
		<i>Missing data</i>	<i>0.00%</i>	<i>Missing data</i>	<i>8.14%</i>

Table 1b. Parties and factions in the Russian State Duma, 1994-2003: Acronyms and leaders

<u>Acronym</u>	<u>Faction/Party</u>	<u>Leader</u>
AGR	Agrarian Party	Rybkin
APG	APG	
DPR	Democratic Party of Russia	Travkin
DVR	DVR Group	
INDEPENDENT	Independent/No faction membership	
KPRF	Communist Party of the Russian Federation	Zyuganov
LDPR	Liberal Democratic Party of Russia	Zhirinovskiy
NARDEP	People's Deputy	
NDR	Our Home is Russia	Ryzhkov
NRP	New Regional Policy	
OVR	Fatherland-All Russia	Volodin
PPOWER	People's Power	
PRES	Party of the Russian Unity and Concord	Shakhray
RC	Russia's Choice	Gaidar
RREGIONS	Russia's Regions	
SPS	Union of Right Forces	Nemtsov
UNITY	Unity-Bear	Pekhtin
WR	Women of Russia	L'akhova
YABLOKO	Yabloko	Yavlinskiy

Table 2a. Faction switching in the third Duma, 2000-2003

<u>FACTION</u> <u>(January 2000)</u>	<u>Non-</u> <u>switchers</u> <u>(N)</u>	<u>Switchers</u> <u>(N)</u>	<u>Total N</u>
APG	38	2	40
CPRF	80	5	85
INDEPENDENT	0	13	13
LDPR	12	3	15
NAR DEP	48	6	54
OVR	40	3	43
RUS REG	37	0	37
SPS	24	6	30
UNITY	69	7	76
YABLOKO	17	3	20
<u>Total N</u>	365	48	413

Table 2a. Faction switchers by mandate in the third Duma, 2000-2003

<u>Faction</u> <u>Switcher?</u>	<u>SMD</u>	<u>PR</u>	<u>Total N</u>
<u>No</u>	164	201	365
<u>Yes</u>	27	21	48
<u>Total N</u>	191	222	413

Table 3. Nominations of SMD deputies in the third Duma (1999 elections)

<u>Nominated by</u>	<u>N</u>	<u>%</u>
Voters	99	48%
Self-nomination	3	1%
Non-parliamentary parties	9	4%
KPRF	41	20%
Unity	9	4%
NDR	6	3%
OVR	31	15%
SPS	5	2%
YABLOKO	3	1%

Table 4. Factions admissible for analysis: number of SMD and PR members

Faction	SMD	PR	Total
<i>First Duma (1994-1995)</i>			
RC	33	39	72
KPRF	14	32	46
AGR	33	21	54
PRES	16	18	34
YABLOKO	8	19	27
<i>Second Duma (1996-1999)</i>			
KPRF	54	95	149
NDR	20	45	65
YABLOKO	15	31	46
<i>Third Duma (2000-2003)</i>			
KPRF	39	50	89
UNITY	16	65	81
OVR	15	30	45
SPS	8	24	32
YABLOKO	4	17	21

Table 5. Frequency analysis of *dissent* by faction and mandate, 2000-2003

ELECTYPE	FACTION	FREQUENCY	NUMBER OF LOYAL MEMBERS	AVERAGE DISSENT
SMD	KPRF	2318	36	64.39
PR	KPRF	2962	48	61.71
SMD	UNITY	402	15	26.80
PR	UNITY	1552	59	26.31
SMD	YABLOKO	91	3	30.33
PR	YABLOKO	608	15	40.53
SMD	SPS	146	5	29.20
PR	SPS	640	21	30.48
SMD	OVR	548	14	39.14
PR	OVR	913	28	32.61

Figure 1. Frequency analysis of *dissent* by faction and mandate, 2000-2003

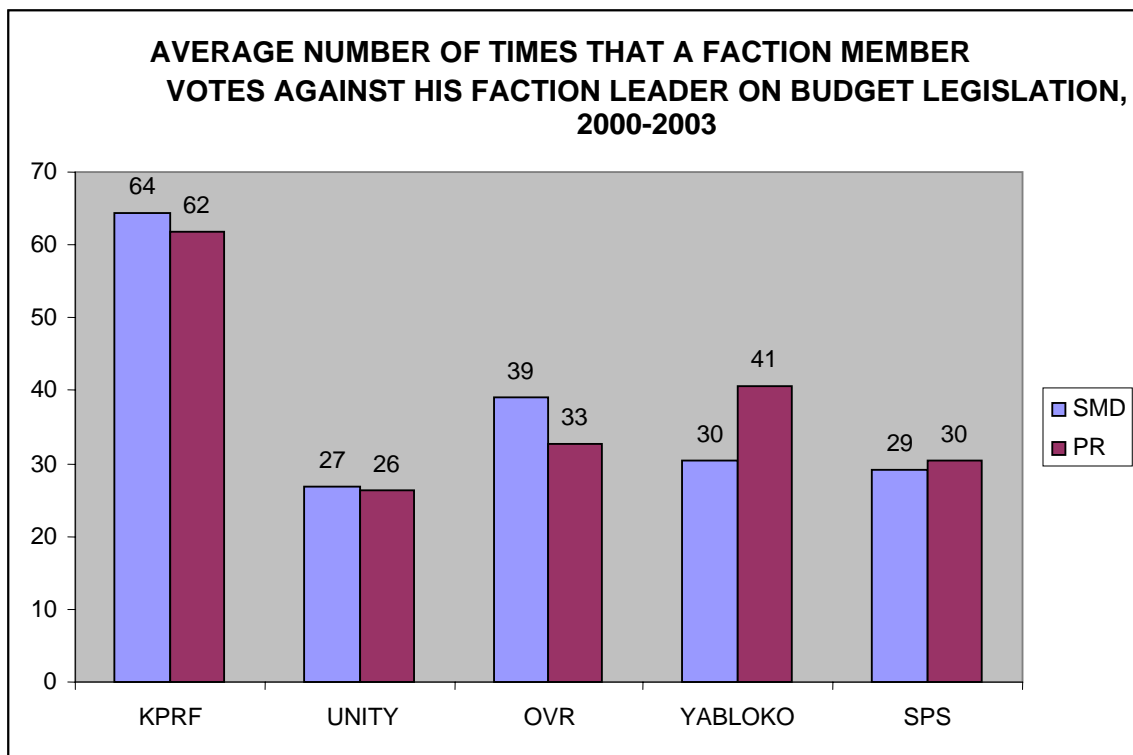


Table 6. Federal Budget Laws 1992-2002: Complexity and Detail

<u>Budget year</u>	<u>Date signed</u>	<u>No. of articles</u>	<u>No. of pages</u>
1992	7/17/1992	18	8
1993	5/14/1993	27	19
1994	7/1/1994	39	28
1995	3/31/1995	62	67
1996	12/31/1995	71	33
1997	2/26/1997	99	119
1998	3/26/1998	120	115
1999	2/22/1999	141	59
2000	12/31/1999	163	243
2001	12/27/2000	139	340
2002	12/30/2001	147	423

NB: Number of pages refers to pages in official publication of law in Sobranie zakonodatel'stva Rossiiskoi Federatsii. Budgets for 1992 and 1993 are from Vedomosti S'yezda Narodnykh deputatov RSFSR i Verkhovnogo Soveta RSFSR.

APPENDIX

Preliminary probit results for pooled factions

I. FIRST DUMA (1994-1995)

dprobit dissent PL rc yabloko agr pres if budget==1

Iteration 0: log likelihood = -22671.465
 Iteration 1: log likelihood = -22075.965
 Iteration 2: log likelihood = -22075.167
 Iteration 3: log likelihood = -22075.167

Probit estimates

Number of obs = 33631
 LR chi2(5) = 1192.59
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.0263

Log likelihood = -22075.167

dissent	dF/dx	Std. Err.	z	P> z	x-bar	[95% C.I.]
PL*	.002625	.0056394	0.47	0.642	.573964	-.008428	.013678	
rc*	.2204725	.0077269	28.22	0.000	.266272	.205328	.235617	
yabloko*	.100234	.0095553	10.59	0.000	.136095	.081506	.118962	
agr*	.2273918	.0077508	28.96	0.000	.278107	.2122	.242583	
pres*	.2127757	.0114611	18.22	0.000	.071006	.190312	.235239	
obs. P	.4027831							
pred. P	.3992844 (at x-bar)							

(*) dF/dx is for discrete change of dummy variable from 0 to 1
 z and P>|z| are the test of the underlying coefficient being 0

. dprobit dissent rcPL yablokoPL agrPL presPL kprfPL rcSMD yablokoSMD agrSMD presSMD if budget==1

Iteration 0: log likelihood = -22671.465
 Iteration 1: log likelihood = -22050.253
 Iteration 2: log likelihood = -22049.392
 Iteration 3: log likelihood = -22049.392

Probit estimates

Number of obs = 33631
 LR chi2(9) = 1244.15
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.0274

Log likelihood = -22049.392

dissent	dF/dx	Std. Err.	z	P> z	x-bar	[95% C.I.]
rcPL*	.2540941	.0123452	19.98	0.000	.142012	.229898	.27829	
yablok~L*	.1306103	.0138101	9.52	0.000	.100592	.103543	.157678	
agrPL*	.2133655	.0131089	16.03	0.000	.112426	.187672	.239059	
presPL*	.2417258	.015641	14.88	0.000	.047337	.21107	.272382	
kprfPL*	.02882	.0125699	2.30	0.021	.171598	.004183	.053457	
rcSMD*	.2265603	.0127987	17.36	0.000	.12426	.201475	.251645	
yablok~D*	.0935147	.0184351	5.13	0.000	.035503	.057383	.129647	
agrSMD*	.2710016	.0119756	21.85	0.000	.16568	.24753	.294473	
presSMD*	.2139011	.0200126	10.42	0.000	.023669	.174677	.253125	
obs. P	.4027831							
pred. P	.3992054 (at x-bar)							

(*) dF/dx is for discrete change of dummy variable from 0 to 1
 z and P>|z| are the test of the underlying coefficient being 0

II. SECOND DUMA (1996-1999)

. dprobit dissent PL yabloko ldpr ndr

Iteration 0: log likelihood = -96003.95
 Iteration 1: log likelihood = -95604.677
 Iteration 2: log likelihood = -95604.561

Probit estimates Number of obs = 161007
 LR chi2(4) = 798.78
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.0042
 Log likelihood = -95604.561

dissent	dF/dx	Std. Err.	z	P> z	x-bar	[95% C.I.]
PL*	-.0131249	.0023059	-5.70	0.000	.592571	-.017644	-.008606	
yabloko*	-.0593343	.0030353	-18.75	0.000	.163577	-.065283	-.053385	
ldpr*	-.0572782	.0029146	-18.95	0.000	.189743	-.062991	-.051566	
ndr*	.013399	.0031077	4.34	0.000	.179725	.007308	.01949	
obs. P	.2835467							
pred. P	.282665	(at x-bar)						

(*) dF/dx is for discrete change of dummy variable from 0 to 1
 z and P>|z| are the test of the underlying coefficient being 0

. dprobit dissent yablokoPL ndrPL ldprPL kprfPL ldprSMD yablokoSMD ndrSMD

Iteration 0: log likelihood = -91765.273
 Iteration 1: log likelihood = -91368.341
 Iteration 2: log likelihood = -91368.206

Probit estimates Number of obs = 153930
 LR chi2(7) = 794.14
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.0043
 Log likelihood = -91368.206

dissent	dF/dx	Std. Err.	z	P> z	x-bar	[95% C.I.]
yablok~L*	-.0745934	.0040733	-17.10	0.000	.094153	-.082577	-.06661	
ndrPL*	-.0092778	.0042231	-2.18	0.029	.109011	-.017555	-.001001	
ldprPL*	-.0652015	.0036853	-16.82	0.000	.139511	-.072425	-.057978	
kprfPL*	-.0227307	.0032919	-6.84	0.000	.277139	-.029183	-.016279	
ldprSMD*	-.0821154	.0048601	-15.49	0.000	.054577	-.091641	-.07259	
yablok~D*	-.0634636	.0046181	-12.94	0.000	.068187	-.072515	-.054412	
ndrSMD*	.014001	.0052207	2.71	0.007	.063652	.003769	.024233	
obs. P	.2834145							
pred. P	.2825018	(at x-bar)						

(*) dF/dx is for discrete change of dummy variable from 0 to 1
 z and P>|z| are the test of the underlying coefficient being 0

III. THIRD DUMA (2000-2003)

. dprobit dissent PL sps ovr yabloko unity

Iteration 0: log likelihood = -29413.503
 Iteration 1: log likelihood = -28855.831
 Iteration 2: log likelihood = -28851.68
 Iteration 3: log likelihood = -28851.679

Probit estimates Number of obs = 72495
 LR chi2(5) = 1123.65
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.0191
 Log likelihood = -28851.679

dissent	dF/dx	Std. Err.	z	P> z	x-bar	[95% C.I.]	
PL*	-.0185979	.0029039	-6.52	0.000	.703028	-.02429	-.012906
sps*	.0124667	.0054661	2.34	0.019	.060583	.001753	.02318
ovr*	-.0112502	.0037095	-2.97	0.003	.130754	-.018521	-.00398
yabloko*	.0204232	.0060332	3.53	0.000	.051824	.008598	.032248
unity*	-.0828583	.0027031	-27.94	0.000	.326464	-.088156	-.07756
obs. P	.1404235						
pred. P	.1354445 (at x-bar)						

(*) dF/dx is for discrete change of dummy variable from 0 to 1
z and P>|z| are the test of the underlying coefficient being 0

**. dprobit dissent spsSMD spsPL ovrSMD ovrPL unitySMD unityPL yablokoSMD
yablokoPL cprfPL**

Iteration 0: log likelihood = -29413.503
Iteration 1: log likelihood = -28841.284
Iteration 2: log likelihood = -28836.999
Iteration 3: log likelihood = -28836.998

Probit estimates

Number of obs = 72495
LR chi2(9) = 1153.01
Prob > chi2 = 0.0000
Pseudo R2 = 0.0196

Log likelihood = -28836.998

dissent	dF/dx	Std. Err.	z	P> z	x-bar	[95% C.I.]	
spsSMD*	-.0169177	.010231	-1.58	0.114	.012622	-.03697	.003135
spsPL*	.0032816	.0061518	0.54	0.591	.047962	-.008776	.015339
ovrSMD*	.0105037	.0068265	1.57	0.115	.039216	-.002876	.023883
ovrPL*	-.0353472	.0042551	-7.61	0.000	.091537	-.043687	-.027007
unitySMD*	-.0743332	.0039699	-14.47	0.000	.061508	-.082114	-.066552
unityPL*	-.0928252	.003051	-26.33	0.000	.264956	-.098805	-.086845
yablok~D*	.0215344	.0164932	1.37	0.171	.006097	-.010792	.053861
yablok~L*	.0027359	.0062581	0.44	0.660	.045727	-.00953	.015002
cprfPL*	-.0155603	.0035563	-4.29	0.000	.252845	-.022531	-.00859
obs. P	.1404235						
pred. P	.1353556 (at x-bar)						

(*) dF/dx is for discrete change of dummy variable from 0 to 1
z and P>|z| are the test of the underlying coefficient being 0

