

A Comparative Theory of Electoral Incentives

Representing the Unorganized Under PR, Plurality, and Mixed-Member Electoral Systems

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Abstract

We expand Denzau and Munger's 1986 model of "How Unorganized Interests Get Represented" to address cross-national differences in electoral systems. We look at how individual legislators allocate their efforts to serving unorganized constituents versus organized groups. Our model shows how the optimal allocation of effort is affected by differences in nominating processes and electoral rules. Our findings include the following: (1) Closed list PR makes legislators generally more responsive to interest groups and less responsive to unorganized voters than SMD. (2) This difference becomes smaller as the personal component of the SMD vote diminishes. (3) Legislators elected via lists in a mixed system may be even less responsive to the unorganized than legislators in a pure list system.

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“It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness... some... authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only.”

--Charles Dickens (1859, 1998), A Tale of Two Cities Book 1, Chapter 1, page 1

1. A Tale of Two Electoral Systems

Politicians and pundits do like their superlatives, and it is one of the tasks of political scientists to blast through the rhetoric in search of more nuanced explanations. Dickens began his famous work by lampooning the extremist elocution on both sides of the historical debate over the French Revolution. Social upheaval, naturally, has both costs and benefits, which depend a great deal on one’s social position, but, in Dickens’s mind, most observers chose to focus on only one aspect of the situation and ignore the tradeoffs.

Although less profound, and certainly less poetic, the political science literature on electoral systems and electoral reform has struggled with a similar problem. Dividing the world into the two competing archetypes of plurality rule (typically in single member districts, SMDs) and proportional representation, scholars and practitioners have long extolled the virtues of one type or the other, while downplaying the drawbacks, and giving short shrift to the counter-arguments.

Recently, political scientists have come to recognize the tradeoffs between these two “ideal types” of systems, and noted that neither system is perfect, or “most appropriate” everywhere. More importantly, practitioners and pundits in individual countries have begun to turn more frequently than ever before to electoral reform as a panacea for current political problems. But this has only shifted the focus of the hyperbole. Now, the rhetoric pits old system against new, and generally judges one to be bankrupt and the other ideal. Often, reformers are motivated to change electoral rules by the belief that “extreme” outcomes from the old electoral system might be mitigated or eliminated in the bargain (Shugart 2001). But if both SMD-

plurality and PR really do have shortcomings, then switching from one to the other might result in nothing better than trading one set of pathologies for another (say, the hyper-fragmentation of pure PR for the disproportionality of SMDs). Fixing what's broken is not so terrific if it requires breaking something new.

Interestingly, most recent electoral reforms have not crossed the great divide between PR and plurality, at least not all the way. Instead, they have created hybrid electoral systems of PR and plurality, in the hopes of splitting the difference between the two extremes, and thus obtaining “the best of both worlds.” In the last decade or so, Venezuela, Japan, New Zealand, and Italy have switched from long-standing electoral rules to some form of “Mixed-Member” (MM) system. New democracies in Russia, Hungary, Bolivia, and Mexico have adopted MM systems as well. Germany has used a mixed-member system since 1949. Predictions about the effects of MM systems have varied, but it is not unreasonable to guess that they will produce intermediate outcomes for many of the political variables that we care about. Thus, one might expect that they will create opportunities for third (and fourth) parties, without fragmenting the party system so much that governments are always huge, unstable coalitions. Similarly, they might provide better central control for party leaders and better programmatic cues for party voters than pure SMD systems, while retaining linkage between voters and the politicians who serve individual districts. Lancaster offers one such prediction, in reference to pork-barrel provision:

In elections to the German Bundestag, approximately half of Parliament's members are elected from single-member districts. The remaining representatives are elected with the Länder serving as multi-member districts. Given this bifurcated electoral structure, half the members of the German Bundestag are, similar to British MPs and U.S. Congressmen, highly motivated to secure projects for their districts. The Länder-based elected members face electoral incentives more in line with their continental counterparts from multi-member districts. They are not operating under the same electoral accountability constraints as their fellow Bundestag members who represent single-member districts. (Lancaster 1986: 71-72).

But do mixed member systems really split the difference between pure PR and SMDs? Or do they mimic the effects of one pure type or the other? For example, does the addition of a PR tier simply allow for moderate expansion of the party system, or is even a little PR enough to bring in all the party-system-fragmenting effects of pure PR? Contrariwise, do the Duvergerian incentives of plurality elections dominate when an SMD tier is added to a PR system, or do small parties (and their supporters) stubbornly hang on to their independence? And even if MM systems *do* produce intermediate outcomes, does splitting the difference really produce the best of both worlds, or might it introduce “the worst of both worlds?” Thus far, political scientists and reforming politicians in Venezuela, Japan, Italy, and New Zealand have argued for the “best of” interpretation, while in many places, their voters bemoan the onset of “the worst of times” (see, e.g., Thies 2001 on Japan).

Recent studies have focused on country-by-country examinations of the causes and consequences of the institution of MM systems around the world (Shugart and Wattenberg 2001; Vowles 1995; Katz 2001; Mershon and Pasquino 1995). We draw two main lessons from this work. First, there is a great deal of variation among MM systems that matters – some give proportional results, others do not, some divide the legislature equally between PR and SMD mandates, others are skewed toward one type.

Second, if MM systems split the difference, they do not do so by simply averaging the effects of two distinct systems. For example, the number of parties in a mixed system will not necessarily be between the (presumably small) number produced by SMD and the (presumably large) number produced by PR. Rather the mixed system may produce more parties, and a more fractionalized legislature, than either pure system. In Germany in 1994, for example, two parties won representation through the PR tier alone (the FDP and the Greens) and another (PDS) won

representation only through districts.¹ Similarly Moser (2001) shows that Russia's MM system, in which small parties win representation through the PR tier and independents win a number of SMD seats, produces a more fractionalized parliament than either pure electoral system would.

In this paper, we focus on electoral incentives. This aspect of electoral systems has been studied less in the comparative context than more easily measured variables such as party system size and type of government. The incentives created by SMD have been well studied for the U.S. case (Fiorina and Noll 1979, Weingast, Shepsle and Johnsen 1981, Fiorina 1982, Arnold 1990, Cohen and Noll 1991, Schwartz 1994). In order to understand the the electoral incentives of MM systems, we must first develop a model of the incentives or a reelection-oriented legislator that applies across electoral systems. We use the model to elucidate the differences between pure SMD and PR, then turn our attention to MM systems. Are MM systems really moderate compromises between PR and SMD plurality, are they most like one pure type or the other, or, most worryingly, might they be even more extreme than both of the pure systems?

We focus on a legislator's² incentive to respond to organized interest groups versus playing to the masses of unorganized voters. This is, of course, not the only dimension of electoral incentives worth investigating. But we believe it is an important one, one that resonates with popular discussions of politics, with normative theories of representation (Dahl, 1956), and with a conventional understanding of the differences between PR and SMD (Lancaster 1986; Loewenberg and Kim 1978; Jewell and Loewenberg 1979). Specifically, textbook discussions of the two systems generally list poor linkage between MPs and voters as a drawback of pure PR –

¹ That is, the PDS failed to clear the 5% PR threshold, but gained Bundestag representation by winning three district seats.

² We focus here on the electoral incentives of incumbent legislators because the representation efforts of those in office have the biggest impact on policy. Most of our observations about the differences between electoral systems apply to non-incumbent candidates as well, but impact of a non-incumbent's behavior on both vote share and nomination quality is less.

because legislators are not accountable as individuals to voters, they respond only to other elites. On the other hand, some writers have argued that under SMD, legislators allocate too much effort to responding to ordinary citizens and district interests, spending too much time on constituency service at the expense of policy making (Fiorina, 1976). This, in turn, weakens parties and leads to inefficient policy outcomes.

Our analysis builds on Denzau and Munger's (1986) model of a legislator's decision to represent the interests of organized groups as opposed to the interests of unorganized constituents. Denzau and Munger showed how the preferences of unorganized voters affect a legislator's willingness to represent an organized interest group under SMD. We begin here by reviewing a somewhat simplified version of the Denzau-Munger model, in Section 2. We then extend the model, first to incorporate a more generalized nominating process in Section 3, and then in Section 4 to apply to closed-list PR. Section 5 compares the legislator's willingness to represent an unpopular organized interest across the two pure systems. In Section 6, we then apply the model to various forms of MM in current use. Section 7 concludes by discussing the implications of our findings for the success of electoral reform.

Our model offers the following insights. First, as might be expected, legislators are more disposed to serve unpopular organized interests at the expense of the unorganized under PR than SMD. Second, the difference between PR and SMD is attenuated by the "Westminster" model of "responsible party government" operating in many SMD countries. Third, the question of whether MM systems are between PR and SMD in terms of the incentive to serve organized interests turns critically on the whether legislators simultaneously pursue district and list mandates, or whether they specialize. In the latter case, list specialists in the MM system may be more responsive to organized interests than list candidates in a pure PR system. Finally, our

analysis highlights the fact that the impact of the electoral system on the incentives of individual legislators is mediated by a number of small details, many of which are left to the discretion of parties. Understanding the impact of electoral rules on legislator's choices requires an understanding of the strategic responses of parties.

2. Representing the Unorganized in Congress: A Recap of Denzau and Munger

We begin with a brief recap of Denzau and Munger's model of how the unorganized get represented. Let \bar{E} be the legislator's total available effort, which can be divided into efforts to serve unorganized constituents, E_U , and efforts to serve organized interest groups, E_I . The legislator's problem is to allocate her total available effort, \bar{E} between E_U and E_I so as to maximize her probability of re-election. Voters care about both E_U and E_I , but the interest group cares only about E_I .³ Concretely, Joe Voter cares about both the federal construction project in his home town and about tobacco subsidies, but the tobacco lobby only cares about the subsidy. In this simple world, unorganized citizens participate only by voting (they don't contribute money or any other form of support) and interest groups participate only by contributing resources, R . Resources take various forms – including campaign contributions, mobilization efforts and any other efforts the interest group makes on behalf of the candidate. The district legislator's vote share V is thus

$$V = V_D(E_U, E_I, R(E_I))$$
⁴

where

³ Unlike Denzau and Munger, we are ignoring differences in the effectiveness of a legislator's ability to serve the organized versus the unorganized, and concentrating instead on their different incentives to try.

⁴ Denzau and Munger consider an intermediate function $P(E_i)$ that captures the effectiveness of effort E on policy outcome P . This relationship is not central to our argument, so we fold it in to the relationship between E and V .

$\frac{\partial R}{\partial E_I} > 0$ Increased effort on behalf of the interest group increases resources.

$\frac{\partial V_D}{\partial E_U} > 0$ Increased effort on behalf of the unorganized increases votes.

$\frac{\partial V_D}{\partial R} > 0$ Resources increase votes.

Moreover we will focus on the particular case of a special interest that voters consider offensive,

so that $\frac{\partial V_D}{\partial E_I} < 0$. The intuition we would like to develop here is that such an unpopular interest

group would be represented more under pure PR than under SMD.

In Denzau and Munger's model, the legislator's problem is thus⁵

$$\max_{E_U, E_I} V_D(E_U, E_I, R(E_I)) \text{ subject to } E_U + E_I = \bar{E} \quad (1)$$

The first-order conditions imply that effort should be allocated so that

$$\frac{\partial V_D}{\partial E_U} = \frac{\partial V_D}{\partial E_I} + \frac{\partial V_D}{\partial R} \frac{\partial R}{\partial E_I}.$$

Like Denzau and Munger we can rearrange the first-order conditions to give a "supply price" for services to the interest group, that is, the increase in resources resulting from a marginal increase

in policy benefits, $\frac{\partial R}{\partial E_I}$. The supply price for the district legislator is

$$\left. \frac{\partial R}{\partial E_I} \right|_{U.S.} = \frac{\frac{\partial V_D}{\partial E_U} - \frac{\partial V_D}{\partial E_I}}{\frac{\partial V_D}{\partial R}}. \quad (2)$$

⁵ We believe that under both SMD and PR, legislators' choices reflect the desire to maximize the probability of re-election. In the case of SMD, the differences between maximizing re-election probability and maximizing votes are not relevant for our purposes here, and, like Denzau and Munger, we will use the latter objective function.

(The subscript “U.S.” distinguishes the Denzau and Munger supply price from our generalization

below.) Because $\frac{\partial V_D}{\partial E_I} < 0$, the supply price is always positive: the legislator will not help the

interest group without receiving resources because helping the group has the direct effect of

losing him votes. Moreover, the more unpopular the organized interest is with the legislator’s

unorganized constituents (the higher $\left| \frac{\partial V_D}{\partial E_I} \right|$), the higher the supply price.

Denzau and Munger’s “supply price” – that is, the amount of resources a legislator requires at the margin to represent an interest group – is an elegant way of capturing the extent to which a legislator’s electoral incentives cause him to be open or averse to representing the interest. Because it measures the legislator’s induced *propensity* to serve interests, the supply price captures electoral incentives better than the actual amount of effort the legislator makes on behalf of the group (which would depend on the resources of the group.) We now turn our attention to extending the Denzau-Munger model to focus on variations across electoral systems.

3. Representing the Unorganized with Centralized District Nominations

The above maximization problem captures the key tradeoffs faced by district legislators in the U.S., where nominations take place in district-level primaries. In most other district-based systems, however, nominations are controlled by the central party organization. Even in Britain, where nominations are generally delegated to local party officials, they must either choose from short-lists approved by central party leaders (Conservative Party), or run the risk of having their choices overturned (Labour) (Whitely and Seyd 1999; Norris 1996). A legislator’s reelection probability is thus significantly affected by whether and where he is nominated.

When nominations are determined centrally, they become a major source of intra-party conflict, whether the system is list-based, district-based, or mixed. The support of a powerful interest group is an important resource for an individual legislator in this arena. Resources – which may be reciprocal effort by the interest group on behalf of the legislator (in addition to campaign finance) – matter for an individual legislator’s chance of receiving the party’s endorsement in a favorable district, or receiving a good list position.

Let N be the expected quality of the legislator’s nomination. Assume that nomination quality increases with interest group support and with service to the district constituency. That is, $N = N_D(R(E_I), E_U)$, with $\frac{\partial N}{\partial R} > 0$ and $\frac{\partial N_D}{\partial E_U} > 0$. Concretely, in the SMD case, we can think of N as the probability of receiving the party’s endorsement to run in a favorable district, and V as the expected vote share, conditional on nomination. The legislator’s problem is now

$$\max_{E_U, E_I} N_D(E_U, R(E_I))V_D(E_U, E_I, R(E_I)) \text{ subject to } E_U + E_I = \bar{E} \quad (3)$$

As above, we can re-arrange the first-order conditions to give the supply price for services to the organized interest

$$\left. \frac{\partial R}{\partial E_I} \right|_{SMD} = \frac{\frac{\frac{\partial N_D}{\partial E_U}}{N} + \frac{\frac{\partial V_D}{\partial E_U}}{V} + \left| \frac{\partial V_D}{\partial E_I} \right|}{\frac{\frac{\partial V_D}{\partial R}}{V} + \frac{\frac{\partial N_D}{\partial R}}{N}} \quad (4)$$

As in the U.S. case, the supply price for serving an unpopular interest is unambiguously positive,

and becomes larger the more unpopular the interest (the larger is $\left| \frac{\partial V_D}{\partial E_I} \right|$).

4. Representing the Unorganized under Closed-List PR

Now consider the legislator's problem under closed list PR. Reelection depends now on the party's vote share and on the legislator's position on the party list. We find it convenient to represent the list legislator's reelection probability by her *seat-position ratio*, $\frac{S}{L}$, where S is the number of seats won by the party in the PR district, and L is the legislator's position on the party list. When $\frac{S}{L} > 1$, the legislator is re-elected, and when $\frac{S}{L} < 1$, she misses the cut and is out of office. Since seats S are proportional to votes V ,⁶ the seat-position ratio is proportional to the ratio of votes to list position. We assume that the list legislator allocates her effort to maximize the latter ratio, $\frac{V}{L}$.⁷ In the closed list setting it is natural to let nomination quality $N = \frac{1}{L}$. This allows us to write the list legislator's problem in precisely the same form as the district legislator's:

$$\max_{E_U, E_I} N_L(E_U, R(E_I)) V_L(E_U, E_I, R(E_I)) \text{ subject to } E_U + E_I = \bar{E} \quad (5)$$

The only difference between SMD and list PR, in terms of the legislator's effort allocation problem, is in how efforts (E_U and E_I) and resources (R) affect nomination quality and vote share in the two systems. We denote these differences by subscripts on the N and V functions – while N is nomination quality in either system, the relationship between it and effort and resources is different in a list system than in a district system, so the function N_L is different from function N_D . That is, votes and nomination quality respond differently to effort and

⁶ We are abstracting away from the inevitable deviations from proportionality induced by thresholds and district magnitude.

⁷ Of course, a legislator who knows that she will have either a very high list position (so that reelection is effectively guaranteed) or a very low one (so that reelection is effectively impossible) will not have any direct incentive to maximize her party's vote share. Our model, however, depicts the decision faced by a legislator whose list position (L) is yet to be determined. That is, we are interested in the representation decisions that occur throughout the legislative session, not campaign behavior.

resources under PR than under SMD. In the following section, we discuss these differences in some detail. For the moment, we simply note that the supply price for efforts on behalf of the unpopular interest under PR thus has the same form as under SMD:

$$\left. \frac{\partial R}{\partial E_I} \right|_{PR} = \frac{\frac{\frac{\partial N_L}{\partial E_U} + \frac{\partial V_L}{\partial E_U} + \left| \frac{\partial V_L}{\partial E_I} \right|}{N} + \frac{\frac{\partial V_L}{\partial E_U} + \frac{\partial N_L}{\partial E_U}}{V}}{\frac{\partial V_L}{V} + \frac{\partial N_L}{N}} \quad (6)$$

The differences between supply prices under the two systems will depend on the differences between the partial derivatives of the N_D and N_L and the V_D and V_L functions. When we are talking about the general forms of these functions, we suppress the subscripts.

5. Comparing Electoral Incentives Across Pure Systems

The previous sections showed that supply price for effort on behalf of the organized interest under electoral system Γ has the form

$$\left. \frac{\partial R}{\partial E_I} \right|_{\Gamma} = \frac{\frac{\frac{\partial N}{\partial E_U} + \frac{\partial V}{\partial E_U} + \left| \frac{\partial V}{\partial E_I} \right|}{N} + \frac{\frac{\partial V}{\partial E_U} + \frac{\partial N}{\partial E_U}}{V}}{\frac{\partial V}{V} + \frac{\partial N}{N}}$$

for all Γ in the class of SMD and PR systems. The willingness of legislators to respond to the special interest thus depends on five features of the system: (1) the extent to which effort on

behalf of the unorganized affects vote share, $\frac{\partial V}{\partial E_U}$, (2) the extent to which effort on behalf of

special interests affects vote share directly, that is, $\left| \frac{\partial V}{\partial E_I} \right|$, (3) the extent to which effort on behalf

of the unorganized affects nomination quality, $\frac{\partial N}{\partial E_U}$, (4) the extent to which resources increase

nomination quality $\frac{\partial N}{\partial R}$, and (5) the extent to which resources increase vote share, $\frac{\partial V}{\partial R}$.

We now discuss each of these derivatives in turn, focusing on how they are affected by the electoral system. We show that there is a logical foundation to the conjecture that legislators are generally more disposed to serve organized interests under PR than under SMD. But our analysis also shows that differences within the broad SMD and PR categories are important determinants of electoral incentives.

1. $\frac{\partial V}{\partial E_U}$: Effort on behalf of unorganized citizens would seem unambiguously to have

more impact on vote share under SMD than under PR. First, PR districts contain more voters and are more ideologically heterogeneous than SMD districts, so that the votes won by constituency service have less impact on overall vote share.

Second, and more important, a legislator who undertakes effort on behalf of constituents gains a good reputation as an individual under either SMD or PR, but that good reputation can translate directly into a vote only under SMD, e.g., “I vote for Legislator Jane because she is a helpful person who understands my plight.” Under PR, Legislator Jane’s good personal reputation increases vote share only to the extent that it rubs off on her party (“Legislator Jane is so great that I like her whole party better than I thought I did.”). While this latter effect may not be negligible, it is present under SMD as well – under SMD, the legislator’s efforts can increase vote share by improving *both* the legislator’s personal reputation and the reputation of her party, while under closed-list PR, only the impact on party reputation matters. Moreover, one would expect the SMD legislator, as the *single* local candidate of her party, to have more influence in

shaping local party reputation than a PR legislator. We offer a formal version of this argument in Appendix.

Finally, $\frac{\partial V}{\partial E_U}$ is likely to be high when opposing candidates are not too far apart ideologically. To the extent that SMD leads to competition to target the median voter (Downs 1957), this will reinforce the above factors that make $\frac{\partial V}{\partial E_U}$ higher under SMD. Of course, it is possible for SMD systems to have parties that are dispersed ideologically (see Cox 1990), which would attenuate the difference between SMD and PR in terms of $\frac{\partial V}{\partial E_U}$.

2. $\left| \frac{\partial V}{\partial E_I} \right|$: As with $\frac{\partial V}{\partial E_U}$, we would expect $\left| \frac{\partial V}{\partial E_I} \right|$ to be higher under SMD. The bad personal reputation among voters that a legislator might get for effort on behalf of an unpopular special interest will only matter under PR to the extent that it affects her party's reputation as well. Moreover, because there is a single individual incumbent to run against under SMD, challengers are more likely to make an issue of connections to unpopular interests, and these connections are more likely to be covered in the local media. Finally, because PR tends to produce more parties, and parties with narrower bases of support, it is more likely that there will be some legislators whose core constituencies will not be put off by any given special interest.

3. $\frac{\partial N}{\partial E_U}$: Regardless of the electoral system, parties should reward legislative candidates whose individual actions contribute to the party's vote share, and nominations are a primary vehicle for reward. Thus, if effort on behalf of the unorganized helps vote share more under SMD, it follows that it should help nomination quality more. For this reason, we would expect nomination quality to respond to E_U more under SMD than under PR.

4. $\frac{\partial N}{\partial R}$: We expect interest group resources to have more impact on nomination quality

under PR. Under SMD, the candidate's ability to win the district is crucial to the nomination process, because the party needs to win as many seats as possible. Interest group support might help decide who gets a desirable nomination when the choices are two equally good candidates, but in situations in which one candidate is better (a better campaigner, has the right sort of background, demeanor, accent, etc. for the district), interest group support will not be a decisive factor. The constraint of matching candidates to districts is absent under PR, leaving parties free to respond to the preferences of their favored interest groups as to the ordering of the party list.

5. $\frac{\partial V}{\partial R}$: We expect the impact of resources on vote share to be higher under SMD than

PR. Note that this expectation works against establishing our baseline result, so we would be thrilled to have any reason to assume the opposite. The idea, however, is that the impact of resources is higher in smaller districts, when ideological differences between the candidates is likely to be relatively small. Moreover, the marginal vote value of resources is likely to decline more slowly in smaller districts because they are more compact and more homogeneous – a candidate gets more bang for the buck.⁸

Points 1-4 all imply that, other things equal, legislators are more disposed to represent organized interests under PR than SMD. The only way that the supply price for effort on behalf of the organized could be lower with SMD would be for the difference between $\frac{\partial V_L}{\partial R}$ and $\frac{\partial V_D}{\partial R}$ to be so large as to overwhelm the differences in all of the other effects. Concretely, in order for an SMD system to make legislators more responsive to special interests than list PR, the SMD

⁸ For example, a single, targeted activity such as a campaign event or a media advertisement might reach and persuade more voters in a small, homogeneous district than in a large, heterogeneous one.

system would have to be one in which money was very important in the general election ($\frac{\partial V_D}{\partial R}$ is high) and in which voters do not base their decisions on how candidates choose to their representation efforts among unorganized and organized interests ($\frac{\partial V_D}{\partial E_U}$ and $\left| \frac{\partial V_D}{\partial E_I} \right|$ are small).

A difficulty in the above discussion is the fact that there are important differences within the class of SMD systems. (There are also differences within the set of PR systems – here we focus on the closed list variant which is most relevant for mixed systems.) Electoral competition in the U.S. is very different than in Britain, where the partisan component of the vote is much larger (Bawn, Cox, and Rosenbluth 1999). Certainly, the impact of the local candidate's representation efforts on vote share ($\frac{\partial V_D}{\partial E_U}$ and $\left| \frac{\partial V_D}{\partial E_I} \right|$) is much smaller in Britain (or, say, pre-reform New Zealand).

Part of the reason for this is that in Westminster systems, the stakes of the election are higher and clearer than in U.S.-style separation-of-powers systems. In the former, the party that wins a majority of seats will form the government and its leader will become prime minister. It is simple for the voter to see the constituency contest as a proxy for a referendum vote on the current government – a vote for the candidate of the ruling party is a vote in favor of the incumbent PM, whereas a vote for a candidate of the current opposition party is a vote for turnover in government (Norris 1996; Thies 2000). Indeed, it is sometimes said that Parliament in a Westminster-style system acts as little more than an electoral college for the cabinet, in which case the only thing that matters to voters is the partisanship of the local candidates (see Bagehot 1914; Cox 1987). Individual efforts on behalf of local versus national interests, or diffuse versus organized interests are not very important to the vote.

Reinforcing this “referendum” effect on district voting is the fact that party leaders have a good deal of control over which candidates compete where. In the U.K., parties sometimes even move MPs from district to district, protecting important party leaders in safe party constituencies, and testing the mettle of newcomers by throwing them into difficult and even hopeless constituencies (in terms of partisanship). Similarly, parties can credibly threaten to punish disloyalty by “withdrawing the party whip” and either removing the party endorsement at the next election or signaling to local party nominating committees that the incumbent is out of favor and therefore a bad choice for renomination (Whiteley and Seyd 1999). In India as well, parliamentary candidates must pass muster with central party leaders, who may also impose nominees on districts over the objections of locals. The point here is that the difference between U.S.-style and Westminster-style SMD⁹ may well be larger, in terms of the electoral incentives created than the differences between Westminster SMD and closed list PR.

6. Representing the Unorganized with a Mixed System

We are now ready to address the question of whether mixed systems are “between” pure SMD and pure list PR in terms of the legislator’s propensity to respond to organized interests, that is, in terms of the supply price for interest group service. From the above analysis, we know that the answer to this question will depend on how the mixed system affects the marginal benefits of efforts on behalf of the interest group relative to the marginal benefits of serving the unorganized. Formally, this means it will depend on what the partial derivatives of the N and V functions are like under the mixed system.

⁹ Note that the above is a stylized account of British-style elections. Some recent studies find that there is a small but growing “personal component to the vote” in the U.K. (Cain, Ferejohn, and Fiorina 1987), and that there are pressures from both voters and MPs to allow for more “candidate-centered politics” (Whiteley and Seyd 1999). But these trends are from a low base relative to U.S.-style SMD elections, and may signify growing policy dissension within the two big British parties (Conservative and Labour) more than they do a generalized decentralization of electoral politics (Baker et al. 1999).

The incentives created by the mixed system depend on whether individual legislators specialize in a particular type of mandate or whether they divide their efforts between winning the district race and winning via the party list. All but one of the mixed systems of which we are aware allow double nominations,¹⁰ and in all cases we see some candidates who specialize, running only on the list or only in the district, and some who are double nominated.

We are examining the supply price for services to the unpopular interest because it captures a supposed major disadvantage of pure list PR. Our primary concern is whether this disadvantage is muted by the mixed system.

6.1. Specialization of Mandate

First consider the electoral incentives of a legislator in an MM system who specializes in list mandates. Such a legislator may not be nominated in any district at all, or she may (like Helmut Kohl of Germany through much of his career) be running in a district that she has no hope of winning, because district partisanship works against her. Her objective function is the same as that of a legislator under pure PR, to maximize the product of her nomination quality and her party's vote share in the PR district. The question here becomes whether the mere existence of single member districts affects any of the partial derivatives of the N and V functions for the list specialist. The relevant baseline for comparison here is pure PR.

One effect of a MM system relative to pure PR is to diminish $\frac{\partial V}{\partial E_U}$ for the list specialist.

In MM systems, there is always a district representative who has the strongest incentive to cultivate a personal vote by serving the district's unorganized voters. Any effort that a list specialist might make in this area will presumably have less impact than it would in the absence

¹⁰ The exception is the Japanese Upper House, in which candidate may run either in districts or national party lists, but not both.

a district candidate. Similarly, we would expect $\left| \frac{\partial V}{\partial E_I} \right|$ to be smaller with the mixed system than with pure PR. The reason again has to do with the presence of district representatives, who have an incentive to make contact with voters and whose activities and positions are likely to exert disproportionate influence on the voters' impressions of the party. If there are serious district candidates in the list specialist's party, they may provide cover for the list specialist's decision to serve an unpopular interest. The logic behind the claims that $\frac{\partial V}{\partial E_U}$ and $\left| \frac{\partial V}{\partial E_I} \right|$ are smaller for a list specialist in an MM system than for a candidate in a pure PR system is consistent with the model presented in the Appendix of how effort affects vote share through via personal and party reputation.

If $\frac{\partial V}{\partial E_U}$ is lower for the list specialist in a mixed system, then it is likely that $\frac{\partial N}{\partial E_U}$ will be too, since if efforts by list specialists to serve unorganized constituents don't help the party's vote share, there is little reason to reward these efforts with a good list position.

All three of these potential differences between the electoral incentives under pure PR and those of a list specialist under MM imply that the list specialist in the mixed system is going to be *more* responsive to the organized interest than the legislator under pure PR. The reason is that the negative consequences of doing so – the already small impact on the party's vote share and the opportunity costs of foregone responsiveness to the unorganized – are mitigated by the presence of district representatives. We see no clear systematic differences in $\frac{\partial V}{\partial R}$ or $\frac{\partial N}{\partial R}$ between the MM list specialist and the pure PR candidate that might offset the differences in the direct impact of the legislator's representation decisions. In terms of the electoral incentives of list

specialists, the MM system does not split the difference between pure PR and pure SMD, but rather is worse than the worst of the two worlds. Although the German version of MM is sometimes called “personalized PR,” the incentives of a list specialist are to be *less* personal, in the sense of engaging in less effort on behalf of the ordinary voter, than under pure PR.

Would we expect a countervailing result on the part of a district specialist? Would we expect a district specialist in a mixed system to be less responsive (charge a higher supply price) to special interests than under pure SMD? The answer appears to be no. In order for there to be an offsetting incentive on the part of district specialists, it would have to be the case that somehow the presence of the list specialists would increase the impact of the district specialist’s representation decisions on vote share or nomination quality (increase $\frac{\partial V}{\partial E_U}$, $\frac{\partial N}{\partial E_U}$ or $\left| \frac{\partial V}{\partial E_I} \right|$) relative to what they would be under pure SMD. We argued above that, while these effects are usually larger in magnitude under SMD than under PR, the differences between the pure systems diminishes as party discipline and the partisan component of voting increase. We would expect the partisan component of *district* voting in MM systems to be relatively high because of the presence of list candidates – that is for the impact of individual representation decisions by district specialists to be closer to district representatives in Britain than in the United States. The effect would be even stronger in MMP, where winning districts would not in general increase seat share (see subsection 6.3. below).

The overall point here is that mixed systems may create list specialists who are even more prone to capture by special interests than legislators in a pure PR system *without* creating district specialists who are less beholden to special interests than are district MPs in pure-SMD systems.

6.2. Double Nominations

Now consider the electoral incentives of a candidate who is not a specialist, but rather has some chance of being elected from the list and some chance of winning a district, a candidate who would not be willing to write off either option. The non-specialist's objective function would be some weighted average of the list specialist's and the district specialist's objective, i.e.

$$\begin{aligned} \max_{E_U, E_I} & \mathbf{a}N_D(E_U, R(E_I))V_D(E_U, E_I, R(E_I)) \\ & + (1-\mathbf{a})N_L(E_U, R(E_I))V_L(E_U, E_I, R(E_I)) \\ \text{subject to} & E_U + E_I = \bar{E} \end{aligned} \quad (7)$$

where $0 < \alpha < 1$ indicates the relative importance of a district nomination to the candidate. Note that α could be high because the candidate values a district mandate more than a list mandate, or because the candidate feels she has a comparative advantage in running in a district.¹¹

If the double nominee maximizes some weighted average of the district nominee's and the list nominee's objective, it is no surprise that her supply price will be in between $\left. \frac{\partial R}{\partial E_I} \right|_{SMD}$

and $\left. \frac{\partial R}{\partial E_I} \right|_{PR}$. Specifically,

$$\left. \frac{\partial R}{\partial E_I} \right|_{DBL} = \frac{(1-\mathbf{a}) \left(\frac{\frac{\partial N_L}{\partial E_U}}{N} + \frac{\frac{\partial V_L}{\partial E_U}}{V} + \frac{\left| \frac{\partial V_L}{\partial E_I} \right|}{V} \right) + \mathbf{a} \left(\frac{\frac{\partial N_D}{\partial E_U}}{N} + \frac{\frac{\partial V_D}{\partial E_U}}{V} + \frac{\left| \frac{\partial V_D}{\partial E_I} \right|}{V} \right)}{(1-\mathbf{a}) \left(\frac{\frac{\partial V_L}{\partial R}}{V} + \frac{\frac{\partial N_L}{\partial R}}{N} \right) + \mathbf{a} \left(\frac{\frac{\partial V_D}{\partial R}}{V} + \frac{\frac{\partial N_D}{\partial R}}{N} \right)} \quad (8)$$

¹¹ A better formulation of the double nominee's optimization problem would take account of the fact that the value of a list nomination depends on the quality of the district nomination – a legislator nominated in a safe district will value a list nomination less. This would imply a formulation something like

$$\max \text{Prob}(\text{win district}) + [1 - \text{Prob}(\text{win District})] * \text{Prob}(\text{win list seat}).$$

Our analysis here has ignored the differences between maximizing votes and maximizing probability of winning in an SMD. We made this choice in the interest of simplicity, but future work may well want to highlight the fact extra votes won through effort and resources matter only when the district race is sufficiently close.

Equation (8) represents our limited endorsement of the idea that the electoral incentives created by MM systems are between those created by SMD and by PR. Specifically, *when* the differences between SMD and PR incentives are not overwhelmed by party-line voting and centralized nominations, and *when* candidates are plausible contenders for both a district and a list seat, the candidate's willingness to serve organized interests at the expense of the unorganized will be less than it would under a pure list system but greater than under pure SMD.

The question then becomes whether candidates in mixed electoral systems are specialists or not. Most of the countries that have recently adopted MM have had too few elections (two or three) for us to be confident that they are in long-term equilibrium. It is reasonable to expect that candidates and parties take some time to figure out how best to respond to the new incentives. Indeed, most of the countries are still characterized by frequent changes in the party system, as parties merge and split, dissolve and appear, all jockeying for position under the new rules (Shugart and Wattenberg 2001).

The long-standing German MM system, however, offers us one example of a "steady state" and it suggests that specialization is quite likely to occur if not offset by some other force. In the 13th Bundestag (elected in 1994), there were 541 deputies who had won seats in previous sessions. Of these, 233 (43.0%) won a district seat every time, 234 (43.2%) won a list seat every time, 45 (8.3%) started out winning a list seat, then began winning in a district, 15 (2.8%) won a district seat and then started winning from the list, and 14 (2.6%) had more complicated career paths.¹² The figure of 86.2% (the sum of 43.0% and 43.2%) probably understates the actual degree of specialization for several reasons. First, the members who went from list to district typically did so early in their careers – the modal profile in these categories is a single list victory

¹² Source: Wissenschaftliche Dienste des Deutschen Bundestages, 1998. Materialien Nr. 127. *Die Mitglieder des Deutschen Bundestages, 1 – 13 Wahlperiode*.

in the first election, followed by an unbroken series of the district wins. Similarly, the 14 cases where mandate type switched more than once typically involve a single list win among a string of district victories (or vice versa). Finally, the non-specialists came disproportionately from the East. Since this was only the second federal election in which East Germany participated, it seems likely that the system was not in equilibrium.

Of the 233 members who always won district seats, 215 (92.3%) always won in the same district, and of the 234 members who always won list seats, 228 (97.4%) always won on the same state list.¹³ These numbers strongly suggest that German MPs are by-and-large specialists, despite a high frequency of double nomination.

On the other hand, at least some parties in Japan have adopted a practice (called the *sekihairitsu* system) that would seem to preclude the development of many list specialists. Rather than order their party lists *a priori*, they lump double candidates into common list ranks, and then re-rank them according to how close they come to winning their districts. Naturally, any double-candidate who wins her district is removed from the party list, but all double candidates who lose their districts are then ranked in descending order of the ratio of their SMD votes to those of the winners in their respective districts. For example, suppose Candidates A, B, C, and D, are all placed at the top spot on the party list for some PR bloc, and simultaneously run in their own SMDs. Now suppose that C wins her SMD, while A, B, and D all fall short, with A garnering 75 percent as many votes as the winner in her SMD, B garnering 97 percent as many votes as the winner in his SMD, and D finishing with 88 percent of “his” winner’s total. In this case, the list would re-ranked as (1) B (2) D (3) A, with C simply dropped. If the party earns two PR seats in this region, they are given to B and D, and A is out of luck. So B and D earn the

¹³ Some of the 18 district-specialists who appear to have won in more than one district may be cases where district lines were redrawn.

opportunity to be “saved by the list” whereas A’s poor SMD showing dooms her. If the party is fortunate enough to earn three PR seats, all three SMD losers will be saved by the list.

The reason that this “best-loser” system works against the development of “list specialists” is that it makes winning a seat via PR dependent upon the showing in the SMD. In other words, candidates are induced to win as many votes as possible in their SMDs, *even if they know they cannot win the seat*. This clever nominating tactic has other intriguing effects: it works against the Duvergerian incentive for supporters of likely SMD losers to vote strategically, and it keeps those likely SMD losers campaigning as hard as possible even in lost causes, which may help the party’s mobilization efforts for the larger PR bloc. But the main point for present purposes is that it dulls the distinction between MPs elected in SMDs and those elected from PR lists, because the primary incentives for both are to act like SMD specialists (see Thies 2001).

6.3. The Party’s Response to Electoral Rules: MMM versus MMP

The most important difference among mixed systems is whether or not the system produces a parliament in which seat shares are proportional to vote shares. The former type is sometimes called “mixed member proportional” or MMP and the latter “mixed member majoritarian” or MMM. In MMP systems, such as Germany and New Zealand, the district seats are counted as part of the party’s proportional seat share. In MMM systems, a specific fraction of the seats are allocated proportionally, and the district seats are added to these. This difference is important in that it affects parties’ incentives about what kind of behavior to reward and punish, and thereby affects legislators’ incentives.¹⁴

¹⁴ Consider a quick example. Imagine a 500 seat legislature with 300 SMDs and 200 PR seats. Suppose a party wins 40 percent of the national PR vote, and wins 160 of the SMDs outright. Under MMP, the party will have “earned” 40 percent of the total of 500 seats, or 200 seats. The first 160 of these seats go to the party’s SMD winners, and the remainder are allocated to the top 40 names on the party list. By contrast, under MMM, the party would be allocated its 160 SMDs *plus* 40 percent of the 200 PR seats: $160 + .40 \cdot 200 = 240$ seats overall. Had the party instead won 150 SMDs, then its MMP seat total would not change: it would still be $.40 \cdot 500 = 200$ seats, only now 50 seats would go to list candidates, to top up the 150 district winners. Under MMM, however, the loss of 10

Under MMP, as long as a party is winning enough votes to win parliamentary representation, it won't necessarily care about how many districts it wins. Seat share will be proportional to overall vote share regardless of the district outcomes. Under MMM, in contrast, district seats do increase the party's seat share. We would expect this to imply that district nomination quality would respond less to efforts on behalf of unorganized votes (smaller

$\frac{\partial N}{\partial E_U}$ for district specialists) under MMP than MMM. The reason is that the positive effect of

representing the unorganized on district vote share, $\frac{\partial V}{\partial E_U}$, directly helps the party's seat share as

well as the candidate under MMM, while under MMP, it may not. This would lead us to expect that the supply price for representing special interests is lower under MMP than MMM. Put another way, MMM is not only more like pure SMD (and MMP more like pure PR) in terms of seat shares, but also in terms of electoral incentives of district members.

There are two caveats to this conclusion, however. First, even under MMP, E_U on the part of the district representative may also help to increase the party's list vote share by stimulating turnout among likely party supporters. If this effect is important, then the party does have an incentive to reward district legislators for their efforts to represent their unorganized constituents. Second, while most MM systems allow voters to cast separate votes in the two tiers, some do not (Mexico and some German *Länder*). In MMP systems where voters cast a single vote, the extra district votes won through efforts to represent the unorganized would count

SMDs would create a net loss of 10 seats for the party, since SMDs are added to PR seats. Note also that MMM is considerably more advantageous than MMP for large parties, or parties with regional strongholds, because they have a realistic chance to win SMDs, whereas smaller parties will win most or all of their seats via the PR tier. Thus, MMM is less proportional than MMP and PR, but still more so than pure SMD.

toward the party's overall seat share, which, as with MMM, implies a relatively high $\frac{\partial N}{\partial E_U}$ and

therefore a greater propensity to represent the unorganized.

7. Conclusion: A Unified Theory of Electoral Incentives?

The key step to developing a comparative model of electoral incentives was to incorporate nomination quality as a important factor that (1) affects the probability of retaining a seat, and (2) is affected by the legislator's representation decisions. Adding nomination quality to the basic Denzau-Munger model allows us to consider electoral incentives across a variety of electoral systems: closed list PR, SMD and mixed systems. We believe that the model could be used to understand the incentives that other electoral rules (open-list PR, STV) generate as well.

Including nomination quality leads us to appreciate how legislators' incentives are shaped not just by the electoral system, but also by how parties react to electoral rules. This underscores a main finding from our model. Between electoral rules and election-seeking behavior lies the conditional realm of party behavior. Even in pure SMD systems, candidate incentives are affected by whether parties determine nominations centrally, leave them to local branches, or allow voters to decide through primaries. But MM systems are even more flexible. Candidates may or may not be allowed to run in both tiers simultaneously, and they then may or may not choose to specialize. Even with double nominations, candidates may be ranked discretely on party lists *a priori*, or party leaders may allow their SMD vote to determine their PR rank (as in Japan).¹⁵ The point here is that MM systems give flexibility to *parties* to fine tune nomination decisions in ways that best serve their goals. These decisions have an important impact on the incentives created by the system.

¹⁵ This might even vary within a system. For example, in the first Japanese election under MMM, the ruling LDP double-nominated almost all of its candidates, while the opposition NFP did not (Thies 2001).

On the specific question of whether MM systems are “between” SMD and PR in terms of electoral incentives, the answer depends on how party leaders adapt to them. If parties allow MPs to specialize, then we have shown that list specialists will be more sensitive to organized interests than MPs under pure PR. This is because the presence of SMD specialists frees them of some of their responsibility for the party’s reputation. Similarly, when a party adopts the “best-loser” method of assigning list positions, the PR tier becomes contaminated with SMD-oriented personal vote-seekers. In a pure SMD system, parties have no incentive to pour resources into districts where the race is lopsided, and candidates who are sure to lose are likely to campaign less strenuously than if the race were more competitive. By contrast, the “best-loser” rule induces even sure-losers to win as many votes as possible, so as to increase the probability of being “saved by the list.” Moreover, it causes parties not to abandon hopeless SMDs, since the resources expended there might still help to mobilize party supporters who will cast their PR-tier vote for the party (Cox and Schoppa 1998). In this sense, the addition of the PR tier can lead to even more widespread personal-vote-seeking behavior than would be likely under pure SMD.

Finally, our insight that the effects of MM systems turn on details that are often determined by the behavior of party leaders allows us to speak to the contradictory reactions that they have engendered. Insofar as electoral reforms are sold to voters who are upset with the status quo as cure-alls, they promise the “best of times.” However, insofar as they (usually)¹⁶ are enacted by incumbent MPs, who are wary of too much change to a system under which they attained their current positions, it would not be unreasonable to expect those politicians to choose the variant of MM that minimizes the deviation from the old system.¹⁷ If they can campaign and

¹⁶ New Zealand might represent a partial exception, insofar as voters chose the new system by referendum.

¹⁷ Thus, Japan moved from the hyper-personalistic single-nontransferable vote system (SNTV) to MMM with best-loser provisions, which eliminated intraparty competition, but retained the incentive for resource-driven campaigns.

make policy in pretty much the same way as they did under the old electoral rules, while at the same time staving off voter rebellion by instituting a façade of reform, politicians might indeed enjoy the best of both worlds. In particular, ruling parties in decline (e.g., Japan's LDP, Italy's DC, Venezuela's AD) might hope that the big-party bias of SMDs will combine with the opposition-fragmenting incentives of PR to create the "best of both worlds" to stave off that decline. But voters, who must deal immediately with shifting parties and new, more complicated voting rules, and eventually with the realization that reform proved no panacea after all, might soon bemoan the "worst of times" and look back nostalgically at the good old days.

New Zealand added a PR tier to a Westminsterian brand of SMD, which increased proportionality without diluting party control of MPs (Carey and Shugart 1995; Shugart 2001; Thies 2001; Vowles 1995).

Appendix: Party Vote, Personal Vote, and Individual Effort

In this appendix, we look at how effort on behalf of either the organized or the unorganized affects vote share through both personal and party reputation. That is, we model the determinants of two key components of the supply price for special interests, $\frac{\partial V}{\partial E_U}$ and $\left| \frac{\partial V}{\partial E_I} \right|$. We explicitly analyze the composition of $\frac{\partial V}{\partial E_U}$; parallel logic will apply for $\left| \frac{\partial V}{\partial E_I} \right|$. Our argument is that we generally can expect vote share to respond more to individual effort under SMD than under PR ($\frac{\partial V_D}{\partial E_U} > \frac{\partial V_L}{\partial E_U}$ and $\left| \frac{\partial V_D}{\partial E_I} \right| > \left| \frac{\partial V_L}{\partial E_I} \right|$), but that difference can become quite small as SMD approaches the textbook version of the “Westminster model.”

Let legislator j 's personal reputation $Q_j = Q_j(E_U, E_I)$ depend on j 's efforts on behalf unorganized and organized interests. Note that in this appendix – in contrast to the main text – we will need to use the subscript j to index the reputation of different individual legislators.

Let the party's reputation, Q (with no subscript), be a weighted average of the individual reputations of the party's N public figures,¹⁸ so that

$$Q = \sum_{j=1}^N w_j Q_j(E_U, E_I) \quad (7)$$

where $\sum_{j=1}^N w_j = 1$. The fact that the weights sum to one is important for our analysis – it means that if some aspect of the electoral environment changes to increase the weight one individual has for the collective reputation, the weights of some other individual(s) must decrease.

¹⁸ N presumably includes, but would not necessarily be limited to, all of the party's candidates.

We assume that $\frac{\partial Q_j}{\partial E_{Uj}}$, $\frac{\partial V}{\partial Q_j}$ and $\frac{\partial V}{\partial Q}$ are all positive – efforts on behalf of the unorganized help one’s reputation and a good reputation on the part of either the individual or the party (high Q_j and Q) helps vote share. In keeping with the main focus on an interest group that is unpopular with the mass public, we assume that $\frac{\partial Q_j}{\partial E_{Uj}}$ is negative.

The weights w_j in Equation (7) indicate how much effect individual legislator j has on her party’s reputation. In virtually all countries, the legislators with the highest w_j are the party leaders, the ministers and spokespersons whose activities are covered in the national press. Our focus here is on the rank-and-file, rather than party leaders. With that in mind, we assume that in *any* system in which candidates run as individuals in districts (including but not limited to SMD) the rank-and-file candidate running in any given district has a higher $\frac{\partial Q}{\partial E_U}$ *in that district* than other rank-and-file candidates running elsewhere (even if neither has as much impact as the party’s candidate for Prime Minister).

Under SMD, vote share V_D will depend on both the party’s reputation, Q , and the candidate’s reputation, Q_j , so that

$$\frac{\partial V_D}{\partial E_{Uj}} = \frac{\partial V_D}{\partial Q} \frac{\partial Q}{\partial E_{Uj}} + \frac{\partial V_D}{\partial Q_j} \frac{\partial Q_j}{\partial E_{Uj}}. \quad (8)$$

The first term on the right-hand side of Equation (8), $\frac{\partial V_D}{\partial Q} \frac{\partial Q}{\partial E_{Uj}}$ represents the impact of individual effort E_{Uj} on what electoral scholars often term the “partisan component of the vote” (see, e.g. Stokes 1965, Bawn, et al. 1999). This may sound contradictory – usually we think of personal effort as only affecting the personal vote. If, as argued above, the party’s reputation is

affected by the behavior of its officials, even in a small way, individual efforts will indeed affect the partisan component of the vote. Along the same lines, the second term in equation (8),

$\frac{\partial V_D}{\partial Q_j} \frac{\partial Q_j}{\partial E_{Uj}}$, corresponds to how individual effort affects the personal component of the vote. The

point of equation (8) is that under SMD, the individual candidate's efforts influence her vote

share in two ways. First, her efforts affect her party's reputation via $\frac{\partial Q}{\partial E_{Uj}}$. E.g., Legislator Jane

is so helpful and understanding during constituency office hours and at local meetings that she

makes us all like her party better. The effect of individual effort on party reputation will be more

important, the larger the partisan component of the vote $\frac{\partial V_D}{\partial Q}$. Second, her efforts affect her own

reputation via $\frac{\partial Q_j}{\partial E_{Uj}}$ -- Legislator Jane's helpfulness also makes us like her as an individual,

regardless of how we feel about her party. This effect matters more as the personal component

of the vote, $\frac{\partial V_D}{\partial Q_j}$, becomes larger.¹⁹

Under closed list PR, of course, votes are cast for parties not individuals, so there can be

no personal component to the vote. Because $\frac{\partial V_L}{\partial Q_j}$ must be zero, we have

$$\frac{\partial V_L}{\partial E_{Uj}} = \frac{\partial V_L}{\partial Q} \frac{\partial Q}{\partial E_{Uj}} = \frac{\partial V_L}{\partial Q} \frac{\partial Q_j}{\partial E_{Uj}} w_j. \quad (9)$$

¹⁹ Equation 8 has some interesting implications for systems in which members of the same party run against each other – e.g., SNTV or open list PR. In these systems, the first right-hand-side term becomes small relative to the second, because the goal of intraparty competition is to enhance one's own reputation *relative to* those of one's copartisan competitors. Hence, candidates should behave in ways to emphasize the personal component to the vote at the expense of the partisan component. See Cox and Thies 1998 for a thorough discussion of this point.

It seems reasonable to think that $\frac{\partial V_L}{\partial E_{Uj}} < \frac{\partial V_D}{\partial E_{Uj}}$, that vote share would respond less to efforts on

behalf of the unorganized under PR than under SMD. The main point of this appendix is to check the generality of this intuition, and we do so by comparing Equations (8) and (9).

First, the second term on the right-hand side of Equation (8), $\frac{\partial V_D}{\partial Q} \frac{\partial Q}{\partial E_{Uj}}$, is positive

whenever there is any personal component to voting (if not, it is zero). This term is not present

in Equation (9) – it only affects $\frac{\partial V}{\partial E_{Uj}}$ under SMD.²⁰ Unless the remaining term, $\frac{\partial V}{\partial Q} \frac{\partial Q}{\partial E_{Uj}}$, is

much larger under PR, we have the desired result that $\frac{\partial V_L}{\partial E_{Uj}} < \frac{\partial V_D}{\partial E_{Uj}}$. Consider $\frac{\partial Q}{\partial E_{Uj}}$ first, and

observe that $\frac{\partial Q}{\partial E_{Uj}} = w_j \frac{\partial Q_j}{\partial E_{Uj}}$. For rank-and-file party members, we would expect w_j to be higher

under SMD because (1) there is only one candidate in the district (as opposed to a set of names on the list) and (2) the voters encounter the candidate's name at the very least on the ballot. We

see no reason to expect the impact of effort on individual reputation, $\frac{\partial Q_j}{\partial E_U}$, to vary systematically

across electoral systems.

The relationship between $\frac{\partial V_L}{\partial Q}$ and $\frac{\partial V_D}{\partial Q}$ is less clear. Does the party's reputation for

effort on behalf of organized and unorganized groups impact votes more under PR or SMD? The

²⁰ If j is a party leader, the same logic might well imply the opposite, that is, $\left. \frac{\partial Q}{\partial E_{Uj}} \right|_{PR} > \left. \frac{\partial Q}{\partial E_{Uj}} \right|_{SMD}$ because w_i for

the rank-and-file will be lower. We do not pursue this point here, because we regard this model as applying primarily to the rank-and-file. We agree with Cox and McCubbins (1993) that the incentives of party leaders are determined only partially by reelection, and that reelection as leader and party maintenance are generally more important.

most likely determinant of how responsive vote share is to changes in party reputation is the ideological closeness of the nearest competing party. If SMD produces Downsian competition to target the median voter, resulting in parties that are not very far apart ideologically, while PR produces a panoply of parties with distinct ideological positions, then it would be likely that

$\frac{\partial V_L}{\partial Q} < \frac{\partial V_D}{\partial Q}$, which would unambiguously establish the result we are trying to defend, that

is $\frac{\partial V_L}{\partial E_{Uj}} < \frac{\partial V_D}{\partial E_{Uj}}$. However, if SMD instead produces a two-party majoritarian system with well-

defined government and opposition positions, while PR produces parties that overlap

ideologically, then we could have $\frac{\partial V_L}{\partial Q} < \frac{\partial V_D}{\partial Q}$.

Overall, then, we generally expect vote share to be less sensitive to individual effort

under closed list PR, so that $\frac{\partial V_L}{\partial E_{Uj}} < \frac{\partial V_D}{\partial E_{Uj}}$. This is the assumption that we make in Section 5,

where we compare the two systems in terms of responsiveness to the organized interest. The two main reasons are (1) the existence of a personal vote, and (2) that the individual district candidate's own reputation makes a larger contribution to the party's reputation in the district under SMD. Vote share would be less sensitive to individual effort under SMD than PR only if vote share is much less responsive to party reputation under SMD – enough to overwhelm the other two factors.

Specifically, vote share will respond more to individual effort under PR only if (a) the

personal vote becomes very small ($\frac{\partial V_D}{\partial Q_j} \rightarrow 0$), when (b) the impact of the district candidate on

party reputation approaches that of a closed list PR candidate ($\frac{w_j^L}{w_j^D} \rightarrow 1$), and vote share

responds less to small changes in party reputation than it would in a list system ($\frac{\partial V_D}{\partial Q} < \frac{\partial V_L}{\partial Q}$).

The last condition seems extremely unlikely, although the first two do seem to correspond with the way some writers have portrayed the Westminster model. That is, efforts by SMD candidates might not matter much when voters treat SMD elections as proxies for a referendum on the cabinet, and therefore care more about the reputations of the prime minister and opposition leader than about the reputations of local candidates, and when most voters are strong partisans, unlikely to switch sides in the absence of big shocks to their beliefs.

This exploration of how individual effort affects votes via personal and party reputation has largely provided support for the assumption made in the main text that vote share responds more to individual effort under SMD than under PR. Individual effort matters more under SMD because of the possibility of a personal vote, and because district candidates have extra influence on the reputation of their party within their district. The analysis has also shown, however, that SMD systems that approximate the Westminster model of disciplined parties and minimal personal votes differ less from PR than from U.S.-style personalized SMD systems.

Finally, the notion that party reputation is a weighted average of the reputation of the party candidates and officials supports our argument that list specialists in MM systems are more responsive to unpopular interests than candidates under pure PR. The extra weight (higher w_j) accorded to the district candidate necessarily diminishes the impact of the list candidates on party reputation. This means that the list specialists' efforts on behalf of an unpopular interest cost less in terms of votes.

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