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The classification of electoral systems: Bringing legislators back in

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ABSTRACT

It is widely assumed that electoral institutions shape politicians' incentive for personal vote-seeking, with important behavioral and policy consequences. Yet, there is a surprising lack of consensus on how to compare real-world electoral institutions. Using new data this paper examines how legislators' own perception of their electoral incentives in fifteen democracies correspond to some of the most seminal classification schemes in political science. Our survey of 2326 legislators – the empirically broadest study of personal vote orientation so far conducted – demonstrates that legislators do not always understand electoral incentives in the same way scholarly rankings do, highlighting the need for scholars of political institutions to justify their choice of classification scheme. If not, an entire body of literature may be misguided.

1. Introduction

Electoral institutions, the scholarly literature argues, affect political elites' behavior and, ultimately, the type of public policy produced. Party-centered electoral institutions are said to lead to increased public goods spending benefitting large swaths of the population (Persson and Tabellini, 2003; Edwards and Thames, 2007; Hicken and Simmons, 2008), trade liberalization (Nielson, 2003), and economic reform (Bagashka, 2012). More candidate-centered systems are, by contrast, associated with increased particularism (pork) and subsidy spending catering to narrow –typically geographically concentrated– constituencies (Hallerberg and Marier, 2004; Park and Jensen, 2007; Rickard, 2012), protectionism (Crisp et al., 2010; Kono, 2009), and corruption (Kunicová and Rose-Ackerman, 2005). The nature of legislators' electoral support, that is, matters for policy and distributive outcomes, providing some of the strongest evidence in political science and political economy that variation in the design of political institutions is consequential (for recent overviews, see André et al., 2014; Rickard, 2015).

However, there is disagreement in the scholarly community as to what makes electoral institutions more candidate-centered, or alternatively more party-centered, and thus how electoral systems should be classified. A large and growing body of literature has developed alternative ranking systems of electoral institutions, with each ranking arguing that it best captures the incentive on the part of legislators to cultivate a personal vote (Carey and Shugart, 1995; Mitchell, 2000; Shugart, 2001; Wallack et al., 2003; Nielson, 2003; Johnson and Wallack, 2008). These classifications position even common electoral institutions, and the countries that use them, sometimes at the party-centered end and other times at the candidate-centered end of the spectrum. At best, such ambiguity potentially calls into question existing findings on the nature and effects of electoral institutions (see also Teorell and Lindstedt, 2010).

What is needed, we argue, is a better appreciation of real-life electoral incentives as they are understood by the legislators who live and 'die' by them. In this paper, we employ a new individual-level dataset to examine legislators' own perception of personal vote incentives in fifteen democracies and to explore how these correspond to existing classification schemes. Our survey of 2326 legislators represents the empirically broadest study of legislators' orientation so far conducted, covering legislators seeking re-election across a host of different electoral institutions. The results allow for a re-examination of the various rankings to see which best corresponds to the incentive to cultivate a personal vote as perceived by legislators themselves.

After all, ultimately, individual politicians decide how much effort to devote to cultivating their personal reputation and how

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much effort to upholding the party reputation (Carey, 2009). By exploring empirically the micro-foundations of the personal vote, we are able to differentiate between when legislators understand electoral incentives in the same way that scholarly rankings do and, by contrast, when scholars inaccurately presume incentives to court a personal vote that legislators themselves fail to see. As such, our data provide a unique opportunity to test whether the incentives identified by some of the most seminal classification schemes in political science are actually relevant to, or understood by, politicians. If not, an entire body of literature may be misguided.

This paper not only provides a substantive contribution to the extant body of scholarly literature on the design of electoral systems and the effects they have in a wide range of subfields such as political economy (e.g. subsidy spending – see Park and Jensen, 2007), political representation (e.g. presence of women in parliament – see Ellis Valdini, 2013), voter behavior (e.g. turnout – see Robbins, 2010), and public opinion research (e.g. satisfaction with democracy – see Farrell and McAllister, 2006). More specifically, it sets out critical differences between commonly used classifications of electoral systems and uses legislators' own perceptions of personal vote incentives in search of the salient properties of electoral systems in this regard. It also makes two important methodological contributions. First, this paper demonstrates that the common practice of treating ordered categorical data as continuous variables obfuscates inconsistencies in existing studies of the personal vote. Second, it cautions against assuming that academics' theoretical constructs exist in the minds of the persons they study by carefully examining the (mis)match between scholarly rankings of electoral systems and legislators' own perception of the electoral incentives.

The remainder of the paper is organized as follows. The next section compares six of the most widely used existing electoral system classifications, finding that different indexes present dramatically different rank-orders of even the most common electoral institutions. Section three introduces our survey and section four our measure of personal vote orientation. Section five employs this data to gauge whether legislators understand the electoral incentives in the same way scholars presume. The paper concludes with a discussion of the wider consequences and avenues for future research.

2. Existing electoral system classifications

Electoral institutions shape patterns of representation. In deciding how to vote, people typically use a variety of party-based and candidate-based information shortcuts (Popkin, 1991). They use different information shortcuts, moreover, under different electoral rules (Shugart et al., 2005; Carey and Shugart, 1995). If partisan identifications and the state of the economy dictate people's vote, the public record of the party will decide legislators' re-election and they will concentrate on presenting to voters coherent policy packages that they pledge to pursue in office (see Kitschelt, 2000). But if people's vote is more swayed by candidates' qualities and actions, a legislator has incentives to build, advertise, and claim credit for, his or her personal record (Carey and Shugart, 1995). In other words, if voters' preferences for an individual candidate exercise relatively stronger influence over his or her (re) election, a legislator will need to signal to voters some reason to vote for him, or her, and not for some other candidate. That is, insofar legislators value re-election, the nature of their electoral support shapes policy-making and ultimately its outcomes (Cain et al., 1987).

However, the robustness of the finding that electoral institutions matter sharply contrasts with the widespread disagreement in the scholarly community as to how to classify and rank-order the electoral institutions used across the globe. In particular, six of the most commonly used ordinal ranking systems – i.e. the Carey and Shugart (1995), the Mitchell (2000), the Shugart (2001), the Wallack et al. (2003), the Nielson (2003), and the Johnson and Wallack (2008) indexes – present dramatically different rank-orders of even the most common electoral institutions. Clearly there is no disagreeing, Table 1 demonstrates, with the view that *closed-list proportional representation (CLP)* systems constitute the most party-centered systems. Voters have no option but to mark their support for a party list and seats are allocated to candidates in the order they appear on the list. By contrast, there is a lot of disagreement as to how to classify systems where voters may indicate their support for a candidate, in addition to their party choice, and they have some say over *who* will represent them.

More specifically, *open-list proportional representation (OLP)* systems are at times more candidate-centered than *single-member plurality (SMP)*; other times they are more party-centered (contrast Carey and Shugart, 1995 to Wallack et al., 2003; Mitchell, 2000 to Nielson, 2003). At times a distinction is made singling out *flexible-list proportional representation systems (FLP)*; other times they are added to the open-list PR systems (contrast Shugart, 2001 to Carey and Shugart, 1995; Wallack et al., 2003). In turn, single-member plurality is at times more candidate-centered than *two-round systems (TRS)*; other times SMP is more party-centered (contrast Carey and Shugart, 1995 to Wallack et al., 2003) and still other times both are indistinguishable (Mitchell, 2000; Nielson, 2003). The *single-transferable vote (STV)* as well has been thought of as both more candidate-centered and more party-centered than open-list PR systems for instance (contrast Nielson, 2003 to Shugart, 2001).

One reason for the discrepancies is that the Carey and Shugart (1995), the Mitchell (2000), the Shugart (2001), the Wallack et al. (2003), the Nielson (2003), and the Johnson and Wallack (2008) indexes prioritize different elements of the electoral rules in seeking to classify incentives to cultivate a personal vote. They all make the distinction between ballots on which voters merely mark a party list and ballots that allow voters some opportunity to vote for a candidate. Voters' ability to indicate a preference for a candidate is –it seems– the *sine qua non* of the personal vote. Yet, indexes disagree on what constitutes a candidate vote notably with regard to single-member plurality systems. Some consider voting in single-member plurality systems to be for parties, others for candidates, and still others think it to be impossible to separate the two – critically affecting the system's ranking as at times more party-centered and other times more candidate-centered than open-list PR systems for instance (contrast in particular Carey and Shugart, 1995 to Wallack et al., 2003 and to Johnson and Wallack, 2008). What's more, indexes differ in their attempts to disentangle various kinds of candidate voting and identify different system properties as salient in determining personal vote incentives, as Table 2 indicates.[1]

Voters' ability to hold incumbents to account is thought to vary with the type, optional nature, number, and impact of candidate votes, generating various incentives on the part of legislators to cultivate a personal vote. Some types of candidate votes are pooled across all candidates running under the same party label, allowing a

[1] Indexes that focus on Latin America also include party control over access to the ballot. Challenges to party control over the ballot thus include the leadership's inability to prevent candidates from running under the party label, voters' ability to upset the party-preferred order of election of candidates (Carey and Shugart, 1995), or even independents' ability to gain election (Johnson and Wallack, 2008). Processes of candidate selection are not a system property, however (see Hazan and Rahat, 2010; Shomer, 2014), but demonstrate remarkable differences across parties competing in the same polity (except where candidate selection is governed by law).

Table 1
Ordinal ranking systems of electoral institutions.

	Party-centred systems			Candidate-centred systems			
	1	2	3	4	5	6	
Carey and Shugart (1995)	CLP + SMP	TRS	FLP + OLP multiple cand. votes	STV	FLP + OLP single cand. vote		e.g. Ellis Valdini (2013)
Mitchell (2000)	CLP + FLP	SMP + TRS	OLP + STV				e.g. Sieberer (2006)
Shugart (2001)	CLP	FLP	SMP	TRS	STV	OLP	e.g. Hieda (2012); Farrell and Scully (2010); Farrell and McAllister (2006)
Wallack et al. (2003)	CLP	FLP + OLP multiple cand. votes	STV	FLP + OLP single cand. vote	TRS	SMP	e.g. Bagashka (2012); Kono (2009); Hicken and Simmons (2008); Edwards and Thames (2007); Kunicová and Rose-Ackerman (2005)
Nielson (2003)	CLP	FLP + OLP	SMP + TRS + STV				e.g. West and Lee (2014); Simón (2013); Garland and Biglaiser (2009); Power and Garand (2007)
Johnson and Wallack (2008)	CLP	FLP + OLP cand. or list vote	STV	FLP + OLP cand. vote only	SMP + TRS		e.g. Mukherjee et al. (2014); Peralta (2013); Crisp et al. (2010); Robbins (2010); Park and Jensen (2007)

Notes: The systems included in this table are closed-list proportional representation (CLP), flexible-list proportional representation (FLP), open-list proportional representation (OLP), single-member plurality (SMP), two-round systems (TRS), and single-transferable vote (STV).

Table 2
Electoral systems' salient properties with regard to the personal vote.

		Carey and Shugart (1995)	Mitchell (2000)	Shugart (2001)	Wallack et al. (2003)	Nielson (2003)	Johnson and Wallack (2008)
Candidate vote	Do people vote for parties or for candidates?	x	x	x	x	x	x
Type	Are candidate votes pooled, transferable or exclusive?	x		x	x	x	x
Number	How many candidate preferences are voters allowed to express?	x			x		
Optional	Are voters required to cast a candidate vote or can they choose to endorse the list?			x			x
Weight	Do candidate votes or list votes predominate in allocating seats to candidates?		x	x			

legislator to shirk and still gain re-election on the coattails of a co-partisan. Other types of candidate votes transfer only to those candidates indicated by the voter and still other types benefit one candidate exclusively, strengthening the personal vote incentive because legislators cannot benefit from co-partisans' efforts and have to give voters some reason to indicate a first or ulterior preference for him or her (see Cox, 1997; Wallack et al., 2003). Again, there is disagreement over single-member plurality: some consider candidate votes in single-member plurality to be pooled across the entire list of one, while others think candidate votes in SMP to be exclusive (contrast in particular Carey and Shugart, 1995 to Wallack et al., 2003).

Some systems allow voters the opportunity to vote for multiple candidates; other times voters have but one vote to give, increasing competition among candidates for preference votes. Oftentimes voters can indicate their support for multiple candidates within a given election; sometimes they cast multiple votes over time, for instance, in two-round systems. When multiple candidate votes are possible, co-partisans can decide to run joint campaigns rather than running against each other (Carey and Shugart, 1995). Indicating a candidate preference can be either optional or required, personal vote-seeking being strongest in the latter case where voters cannot simply vote for the party (Johnson and Wallack, 2008).

Moreover, the impact of candidate voting is said to depend on whether list positions or candidate votes predominate in the allocation of seats. A legislator will work to cultivate a personal vote only if he or she is not insulated from constituents' displeasure by his, or her, position on the list and doing so will make a difference regarding re-election. The impact of candidate voting separates flexible-list from open-list PR systems in particular, whereas other rankings pool both and differentiate between list-PR systems based on the number and the optional nature of candidate voting.

Relying on multiple properties, finally, ordinal ranking systems frequently provide little justification for the manner in which these micro-characteristics are aggregated. Carey and Shugart (1995, 424) for instance argue that the impact of changing one electoral system property is contingent on the value of the others and that no one property is the most important in all circumstances. Component property codes therefore do not —and should not be expected to (see also Shugart, 2001)— translate straightforwardly into an ordinal ranking.[2] That is, studies are better at explaining the component codes than providing evidence for the ensuing ordinal ranking. Average or additive ranking systems similarly do not give greater or lesser importance to different properties, attributing equal weight to a change in each micro-characteristic (Wallack

[2] Carey and Shugart (1995) rank thirteen electoral systems on the basis of three dimensions (ballot, pool, and vote). Their ranking is in line with a decreasing party control over access to the ballot, except for the Single Non-Transferable Vote that is considered to be more candidate-centered. In addition, their ranking by and large corresponds to an additive scale, except for multi-member district plurality that is considered to be more party-centered. By contrast, Shugart's (2001) ranking is not in line with any hierarchy of the salient properties, but it too roughly corresponds to an additive scale of the component scores (except for open-list and quasi-list PR).

et al., 2003; see also Hallerberg and Marier, 2004; Edwards and Thames, 2007). Only Nielson (2003) argues in favor of a hierarchy inherent to the various properties of electoral institutions[3] – party control over access to the ballot being more important than the possibility and the type of candidate voting.

Previous studies' conflicting inferences about legislators' electoral incentives are particularly puzzling on a topic so central to democratic representation. Given their discrepancies, clearly, not all rankings can be found to indicate a stronger incentive to cultivate a personal vote at each step. What's more, differences of the kind mentioned above tend to be hidden from view by the practice of using the ordinal ranking systems as interval data – as illustrated by the examples listed in Table 1.[4] Yet the component codes have no cardinal meaning and should not be treated as such (see Carey and Shugart, 1995; Shugart, 2001; Wallack et al., 2003).

In addition, the aggregate-level proxies these studies use are far removed from the electoral rules' proximal effect. They capture many other factors –economic, political, and social– that are not related to the incentive or behavior of individual legislators (Rickard, 2012), creating something akin to the ecological fallacy (see also Shugart, 2005). Crisp et al. (2010), for example, found evidence that bilateral investment treaties between the US and partner countries include systematically more negotiated exceptions when that country's electoral institutions provide personal vote-seeking incentives. Legislators under these conditions, they assume, are more likely to negotiate exemptions to treaties meant to liberalize their investment environments in order to shield particular constituencies from unfettered foreign competition. Such conclusions are particularly vulnerable to the ecological fallacy as the gap between theory and aggregate-level operationalizations easily masks inconsistencies in the (unobserved) inferences made about individual legislators' incentives.

What is needed, we argue, is a re-examination of the various rankings to see which best corresponds to the incentive to cultivate a personal vote as perceived by legislators themselves. The great strength of such a re-examination is that it starts from carefully taking account of the real-life electoral incentives as experienced by legislators. After all, to understand electoral incentives, it makes good sense to comprehend them as they are understood by the legislators who live and 'die' by them.

3. Data

To reveal and capture legislators' incentives to cultivate a personal reputation, we employ new survey data that have been collected as part of the PARTIREP cross-national study hosted by the Vrije Universiteit Brussel. Between March 2009 and January 2012 national and regional legislators in fifteen advanced industrial democracies across Europe (and Israel) were invited to take part in a web-based survey.[5] The survey provides a unique opportunity to uncover legislators' own awareness and perception of personal vote orientation and to study the degree to which actual politicians' understanding of vote orientation relates to the electoral rules (which, as discussed below, vary greatly across the political systems included in the survey). As such, it represents the empirically broadest study of electoral incentives so far conducted.

This study looks at legislators' personal vote orientations in 69 statewide and sub-state parliaments in seven unitary and eight federal or decentralized polities, i.e. Austria, Belgium, France, Germany, Hungary, Ireland, Israel, Italy, the Netherlands, Norway, Poland, Portugal, Spain, Switzerland, and the United Kingdom. In the cases of Austria, Belgium, Portugal, Switzerland (excl. Appenzell-Innerrhoden), and the United Kingdom (excl. Northern Ireland) members of all regional legislatures were surveyed in addition to national legislators; in Germany, Italy, and Spain the members of a selection of regional legislatures were surveyed. The selection of regional legislatures balances areas from the east and the west in Germany (i.e. Brandenburg, Lower Saxony, Rhineland-Palatinate and Thuringia); from the north and the south in Italy (i.e. Calabria, Campania, Lazio, Lombardy, Tuscany and Aosta Valley); and from autonomous regions in Spain with stronger and weaker regionalist traditions (Andalusia, Catalonia, Basque Country, and Valencia). The selection further takes into account variation in size, electoral institutions, and party control of the regional government.

Table 3 reports the number of respondents per country. The overall response rate was about one in four.[6] Cross-national differences in response rate make the question of representativeness of critical importance. Duncan indexes of dissimilarity, reported in the online supplementary material, with regard to the level of government, between ruling and opposition parties, and gender show, however, that deviations from the population are within acceptable margins (see also Deschouwer et al., 2014). In order to compensate for some minor deviations in the resulting selection with respect to the party distribution in the legislature, post-stratification weights are used. In addition, the number of cases is weighted to ensure that all countries contribute equally and no one country dominates the analysis.[7] To further ascertain the robustness of our findings, we re-examine the evidence, excluding one country at a time. The results are reported in Table S5 of the online supplementary material; they confirm our findings are not driven by outliers.

The selection of legislatures, Table 3 further demonstrates, includes a wide cross-national diversity of electoral institutions. In addition, electoral institutions frequently differ between the national and regional level. In particular, electoral arrangements differ with regard to the number, the optional nature, the type, and the impact of candidate voting. Some legislatures employ majoritarian systems that elect representatives in single-seat districts, either by a plurality of the vote (SMP) or an absolute majority of the vote in the first round of election with the possibility of a second round if none of the candidates satisfies that requirement (TRS). In these instances votes cast are to the exclusive benefit of the candidate for whom they are cast and never transfer to other parties or candidates. Other parliaments use proportional representation (PR) systems that elect representatives in multi-seat districts ranging in magnitude from 2 to 150.

Ballot design and voting modalities differ greatly across the PR

[3] Nielson (2003, 478) claims to preserve Carey and Shugart's (1995) hierarchy of properties, even though the latter have argued explicitly against such a hierarchy (and their ordinal ranking system does not observe a strict hierarchy of the three properties they put forward).

[4] Some authors argue in favour of entering into the analysis the type and pooling of candidate voting separately (for instance, Kunicová and Rose-Ackerman, 2005; Thames and Williams, 2010). But this practice ignores that system properties are often highly intercorrelated and, arguably more importantly, fails to test for the ordinality of configurations of system properties.

[5] Legislators received an introduction letter and e-mail inviting them to participate. As necessary, they further received at least two more reminders (excluding 'hard' refusals) and a final invitation by telephone. The option was also offered to them to fill out a 'print-and-mail-back' questionnaire or to participate in a personal interview (in Hungary and the Netherlands all respondents have been interviewed).

[6] Due to problems of data availability Appenzell-Ausserrhoden and Graubunden are further excluded from the analysis.

[7] The post-stratification weights reflect the percentage of seats each party won in the legislature divided by its share of responses. In addition, we divided the equal 'sample' size per country (i.e. the total number of responses divided by the number of countries) by the number of actual responses from the country. In this manner the 'sample' size is preserved.

Table 3
The PARTIREP cross-national survey in 15 advanced industrial democracies.

	Response rate		Electoral system	Ballot structure	Presence of a list vote	Number of candidate votes	Candidate vote type	Ranking scores					
	Responses	Proportion						Carey and Shugart (1995)	Mitchell (2000)	Shugart (2001)	Wallack et al. (2003)	Nielson (2003)	Johnson and Wallack (2008)
Austria	227	0.36	PR	flexible[a]	yes	1–3[b]	pooling	3–5	1	2	2–4	2	2
				closed[a]	yes	0		1	1	1	1	1	1
Belgium	163	0.35	PR	flexible	yes	M[c]	pooling	3	1–3	2–6	2	2	2
France	90	0.13	TRS		no	1	exclusive	2	2	4	5	3	5
Germany	279	0.27	MM[d]	SMP	no	1	exclusive	1	2	3	6	3	5
				closed	yes	0		1	1	1	1	1	1
Hungary	99	0.26	MM[d]	TRS	no	1	exclusive	2	2	4	5	3	5
				closed	yes	0		1	1	1	1	1	1
Ireland	34	0.22	STV		no	C[e]	transferable	4	3	5	3	3	3
Israel	39	0.33	PR	closed	yes	0		1	1	1	1	1	1
Italy	128	0.13	PR	closed[f]	yes	0		1	1	1	1	1	1
				open[f]	yes	1–3[g]	pooling	3–5	3	6	2–4	2	2
Netherlands	65	0.43	PR	flexible	no	1	pooling	5	1	2	4	2	4
Norway	46	0.27	PR	closed	yes	0		1	1	1	1	1	1
Poland	55	0.12	PR	open	no	1	pooling	5	3	6	4	2	4
Portugal	118	0.35	PR	closed	yes	0		1	1	1	1	1	1
Spain	272	0.35	PR	closed	yes	0		1	1	1	1	1	1
Switzerland	604	0.22	PR	open	yes	M[c]	pooling	3	3	6	2	2	2
United Kingdom	107	0.13	SMP & MM[d]	SMP closed	no yes	1 0	exclusive	1 1	2 1	3 1	6 1	3 1	5 1

[a] The Austrian *Nationalrat* employs flexible lists in the 1st and 2nd tier and closed lists in the 3rd tier. Austria's nine regional parliaments all use flexible lists in the 1st tier. In the 2nd tier, the ballot structure is closed except for Burgenland, Lower Austria and Vienna using flexible lists.
[b] A single preference vote is the default in Austria. In Vienna voters can select up to 2 candidates in the 2nd tier and in Burgenland, Upper Austria, Carinthia and Vorarlberg up to 3 in the 1st tier.
[c] Voters can indicate as many candidate preferences as there are seats to be allocated in the district.
[d] Mixed Member systems (MM) are used Germany, Hungary, Scotland and Wales.
[e] Irish voters can rank all candidates on the ballot.
[f] The ballot structure is closed for the Italian *Camera dei Deputati* and for the Tuscan regional council, but open for the regional councils in Calabria, Campania, Lazio, Lombardy and Aosta Valley.
[g] Voters can select a single candidate in Calabria, Lazio, Lombardy and Tuscany, 2 candidates in Campania and 3 candidates in Aosta Valley.

Table 4
Correlation matrix of scholarly rankings.

	Mitchell (2000)	Shugart (2001)	Wallack et al. (2003)	Nielson (2003)	Johnson and Wallack (2008)
Carey and Shugart (1995)	0.466	0.678	0.533	0.484	0.501
Mitchell (2000)		0.943	0.489	0.607	0.567
Shugart (2001)			0.648	0.736	0.706
Wallack et al. (2003)				0.952	0.970
Nielson (2003)					0.976

Note: Entries are Spearman's rank correlation coefficients. All coefficients are significant at the 99 per cent level.

systems included in the study. About 42 per cent of the respondents elected under PR rules competed on closed lists, 22 per cent on flexible lists, and the remaining 36 per cent on genuinely open lists. In Belgium, for instance, voters have the option to vote for a party list without simultaneously indicating a preference for an individual candidate. In the Netherlands, on the other hand, voters do not have that option and must instead indicate a preference for a single candidate. Voters in Switzerland, finally, can support as many candidates as there are seats to be allocated in the district. In all instances of flexible and open lists, votes cast for individual candidates are pooled to determine the party list's vote and seat total. This is not the case in Ireland's single-transferable vote (STV) system in which an individual candidate's vote total is transferred to another candidate who may or may not belong to the same party. In the mixed-member systems (MM) used in Germany, Hungary, but also in Scotland and Wales, legislators are coded according to their mode of election: district members are elected under majoritarian rules in single-seat districts, whereas list members are elected under closed-list PR rules in a multi-seat district.

Following the original coding instructions, we scored each of the systems on the six rankings. The ranking scores reported in Table 3 underline the differences between the six ordinal rankings systems in our case selection. Table 4 further demonstrates the far from perfect correlations between the different rankings. Because of the data's ordinal nature, Spearman's rho are reported: intercorrelations differ substantially, being highest between the Wallack et al. (2003), Nielson (2003), and Johnson and Wallack (2008) indexes that are also theoretically interlinked and lowest between the Carey and Shugart (1995) index and the other indexes it inspired. Clearly, such widely different ordinal rankings cannot all yield the same results. Because scholars' choice of ranking will affect their findings and the conclusions they draw, it is important to see which ranking predicts best legislators' personal vote orientation. Combining such significant variation in electoral rules with our survey data allows us to empirically align institutional incentives with legislators' own perception.

4. Measuring legislators' perception of the personal vote incentive

Building on Zittel and Gschwend's (2008, 988) notion of campaign norms, legislators were asked to indicate on a five-point

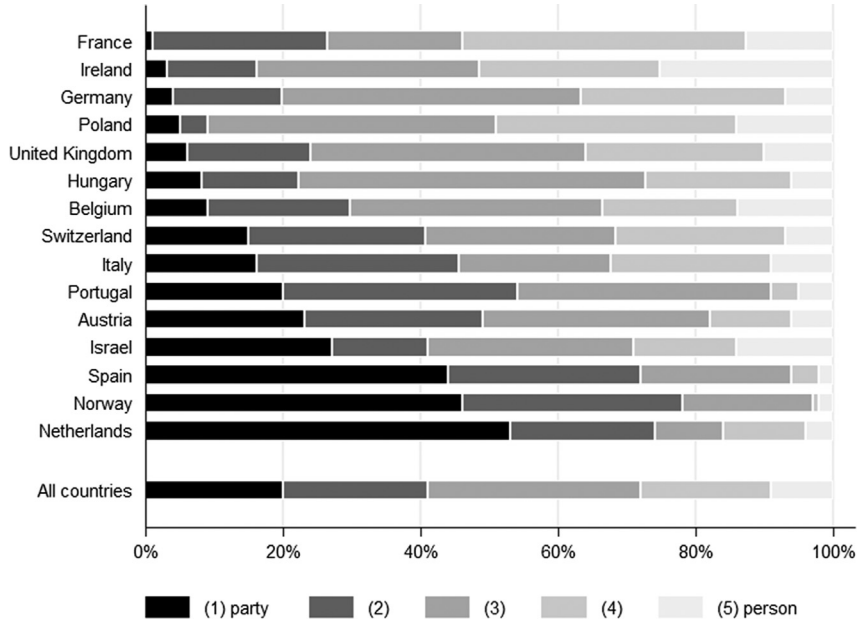

Fig. 1. Personal vote orientation in fifteen advanced industrial democracies.
Note: The figure plots the percentages of legislators in each of the five categories of the dependent variable, legislators' personal vote orientation, by country.

scale whether they would choose to spend more effort and money on pursuing a party campaign (a value of 1) or a personal campaign (a value of 5).[8] That is, they were asked to indicate, by their own perception, how much they would benefit from pursuing a personal vote. Because the focal point of campaign activity is not linked to any single action, it is assumed to approximate legislators' personal vote orientation. Some legislators concentrate on handling casework; other on procuring public funds for the districts; and still others on becoming TV pundits. The diversity of their personal vote-seeking is therefore best captured by their personal vote orientation as they themselves see it. Although we rely on legislators' understanding of their electoral incentives, social desirability is unlikely to cause systematic bias in response patterns. Responses vary widely, strict anonymity was promised, and the topic is not very politically sensitive. If anything, there could be a tendency to underreport personal vote-seeking, rendering the statistical tests all the more conservative.

Fig. 1 displays the proportion of respondents in each of the dependent variable's five categories and shows the distribution by country. Substantial variation in personal vote orientation within and across countries is evident. The figure further reveals a strong partisan component in the process of representation across European democracies: 41 per cent of all legislators place themselves at the party-centered end of the scale, 31 per cent gravitate towards the center, and 28 per cent choose the personalized end. Additional summary statistics on the personal vote orientation by country are reported in Table S2 of the online supplementary material. The party focus is strongest in the Netherlands, Norway, and Spain: almost one legislator in two places him or herself at the most party-centered end of the scale. Personalized campaigning by contrast is most common in Ireland followed by Poland, Belgium, and the UK. More than one in five Irish legislators (TDs) and one in ten Polish, Belgian and British legislators pursue a predominantly person-oriented campaign. Clearly, the rate of personal vote cultivation shows significant cross-national variation in Europe. Is this variation in orientation the product of variation in electoral system design, and if so which design-classification best captures the real-world incentives?

The summary statistics reported in Table 5 indicate that legislators' personal vote orientations do vary by electoral system. Personal vote orientations are weakest among legislators competing in closed-list systems. By contrast, legislators competing in open-list systems and SMP/TRS —in ascending order— think it more important to seek out a personal vote. Personal vote orientations, finally, are strongest among legislators competing in STV. In addition, analysis of the variance across systems suggests that flexible-list — but also open-list systems — are the least constraining in this regard, allowing for a variety of campaign strategies; whereas in SMP and TRS legislators are more in agreement about the import of seeking a personal vote.

Table 5
Descriptive statistics of personal vote orientation by electoral system.

	Mean	Std. dev.	Median	Variance ratio tests				
				FLP	OLP	SMP	STV	TRS
CLP	2.37	1.10	2	0.82*	0.87#	1.30*	0.99	1.35#
FLP	2.43	1.21	2		1.07	1.59***	1.21	1.66**
OLP	3.16	1.17	3			0.67**	0.88	0.65*
SMP	3.38	0.96	3				0.76	1.04
STV	3.57	1.10	4					0.73
TRS	3.41	0.94	4					

Note: Entries are the mean, standard deviation, and median values on the 5-point scale measuring legislators' personal vote orientation by electoral system. The table further reports the F-statistics and significance levels of variance ratio tests.
#p ≤ 0.1, *p ≤ 0.05, **p ≤ 0.01, ***p ≤ 0.001, using two-tailed t values.

[8] The exact question wording is: "To retain their seat in the Parliament, Members of Parliament often face hard choices. How would you choose to allocate your limited resources? Would you choose to spend more effort and money on achieving the goal on the left-hand side, would you choose to spend more effort and money on the goal on the right-hand side, or would the allocation of resources to both goals be about equal?" A scale was offered ranging from 1 [a personal campaign] to 5 [a party campaign]. The scale is reversed to ease interpretation of the results.

5. Results and analysis

In order to ascertain whether legislators understand electoral incentives generated by the system they compete in, in the same manner that scholarly rankings do, we take legislators' personal vote orientation as the dependent variable in a series of ordinal regression analyses, with the scholarly rankings used as categorical predictors. To take into account the hierarchical nature of the data, three-level random intercept models are used lest we risk underestimating the standard errors: legislators are nested within parliaments and parliaments are nested within countries. In contrast with the literature, we do not use the systems' rank-order as a continuous independent variable; but instead enter each rank on the scale as a separate dummy variable – allowing us to ascertain the impact of electoral institutions at each step. Fig. 2 plots the coefficient point estimates and 95 per cent confidence intervals for easy comparison. The full models and measures of model fit can be found in Table S3 of the online supplementary material.

From top to bottom at each step the personal vote incentive is assumed to grow stronger. That is, if the ordinal ranking systems correctly capture legislators' personal vote incentive, from top to bottom, we should see legislators move towards the right and towards a greater appreciation of a personal vote. Recall that lower values on the five-point dependent variable correspond to running a party campaign and higher values to running a personal campaign. For convenience we place a vertical line at zero; the confidence intervals that do not cross this reference line are significantly different from the null hypothesis (Kastellec and Leoni, 2007). The regression coefficients contrast each electoral system category in turn to the reference category that itself varies between ordinal ranking systems (sometimes it consists of only CLP; other times CLP is thrown in together with SMP and still other times with FLP). Whether personal vote orientations differ between system categories –other than the reference category– cannot readily be glanced from Fig. 2, however. For this reason Table 6 returns to the salient properties identified by the literature (see Table 2) and reports post-estimation Wald tests investigating the null hypothesis that the regression coefficients of two or more system categories are equal.

To isolate the incentives generated by the electoral institutions, we control for a number of factors that can be expected to shape legislators' personal vote orientations.[9] In particular, we take into account the legislator's party affiliation. On the one hand, unredeemed campaign pledges and expectations typically result in vote loss for governing parties and gains for the opposition (see, for instance, van der Eijk, 1987). In this uncongenial re-election context, legislators of the governing parties may try to insulate themselves from unfavorable electoral tides by running more personalized campaigns (Cain et al., 1987). On the other hand, legislators affiliated to right-wing parties may run more personalized campaigns than those affiliated to collectivist left-wing parties (see Özbudun, 1970). The incentive to develop a distinct personal profile grows stronger especially for those legislators that are ideologically more distant to the party (Zittel and Gschwend, 2008). Moreover, legislators are more vulnerable to defeat in the early stages of their career and will therefore run more personalized campaigns compared to veteran legislators in the mature stage of their career (Norton and Wood, 1993). We further control for the size of the legislature and for regional and national legislatures that can be expected to affect constituent-to-representative ratios (Patzelt, 2007; Curtice and Shively, 2009). Summary statistics of the control variables are reported in Table S4 of the online supplementary material. They provide evidence of the wide-ranging variation in the data. By controlling for their effect on legislators' personal vote orientations we can be confident that system-level differences in individual-level covariates are not driving our findings.

Given the inconsistencies between rankings, clearly, we cannot expect the probability of legislators to run a personalized campaign to increase with each step up each and every ordinal ranking system. Nor is this the pattern observed in Fig. 2. Five of the six indexes, in fact, do not fit the assumption of ordinality – the Nielson (2003) index being the sole exception. Five of the six indexes have at least one category of electoral institutions where personal vote orientations are weaker than in a category ranked lower on the index; these have coefficient point estimates more to the left as we move down the figure (and up the ordinal ranking system). Several have more than one. Based on legislators' own perceptions, Carey and Shugart's (1995) seminal ranking for instance would be critically re-ordered – two-round systems moving from the second to the fourth position and preferential-list systems with a single candidate vote conversely from the fifth to the second position. In sum, the frequent practice of using the indexes as interval data greatly risks misspecifying the personal vote incentives generated by electoral systems.

So, when do legislators understand electoral incentives in the same way that scholarly rankings do and, by contrast, when do political scientists presume incentives to court a personal vote that legislators themselves fail to see? Evidently, candidate voting on the part of voters results in personal vote-seeking on the part of legislators. In closed-list systems, where voters cannot indicate a preference for an individual candidate, legislators are substantively less inclined to run personalized campaigns than in systems where candidate voting impacts the allocation of seats – this can be observed in all six panels of Fig. 2. But there is more disagreement as to the effect of the different manners in which to express a candidate vote.

The incentive to run personalized campaigns is significantly stronger in open-list systems when voter preferences for individual candidates determine the order in which seats are allocated, as is best observed in panel three in Fig. 2. The difference between open-list and closed-list systems in this respect is fully appreciated by legislators. But other scholarly attempts to distinguish among list-PR systems are not similarly corroborated by legislators' understanding of their electoral incentives. Contrary to Carey and Shugart (1995) and Wallack et al. (2003), panels one and four of Fig. 2 demonstrate, legislators do not differentiate between list-PR systems on the basis of the number of candidate votes that voters are allowed to cast. If anything, personal vote orientations are slightly weaker in systems where voters have but one preference vote to indicate than in systems where they are allowed to vote for multiple candidates. Nor is the optional nature of candidate voting particularly salient. Contrary to Johnson and Wallack (2008), panel six of Fig. 2 indicates that legislators' perceptions of their electoral incentives do not differ in systems where voters are required to indicate a preference for an individual candidate and where they have the choice to vote either for the party list, or for an individual candidate. Legislators certainly do not run more personalized campaigns where candidate voting is mandatory. As such these indexes introduce distinctions that legislators themselves do not see shaping their electoral incentive.

In addition, legislators fail to differentiate between flexible-list and open-list systems in the same manner as Shugart (2001)

[9] Ideally, we would control for the effect of district magnitude, but extremely high correlations with some of the rankings would bias the estimates. It therefore seems most appropriate to exclude district magnitude from the analysis rather than risk under- or overestimating the electoral system effects (for instance see also Ellis Valdini, 2013).

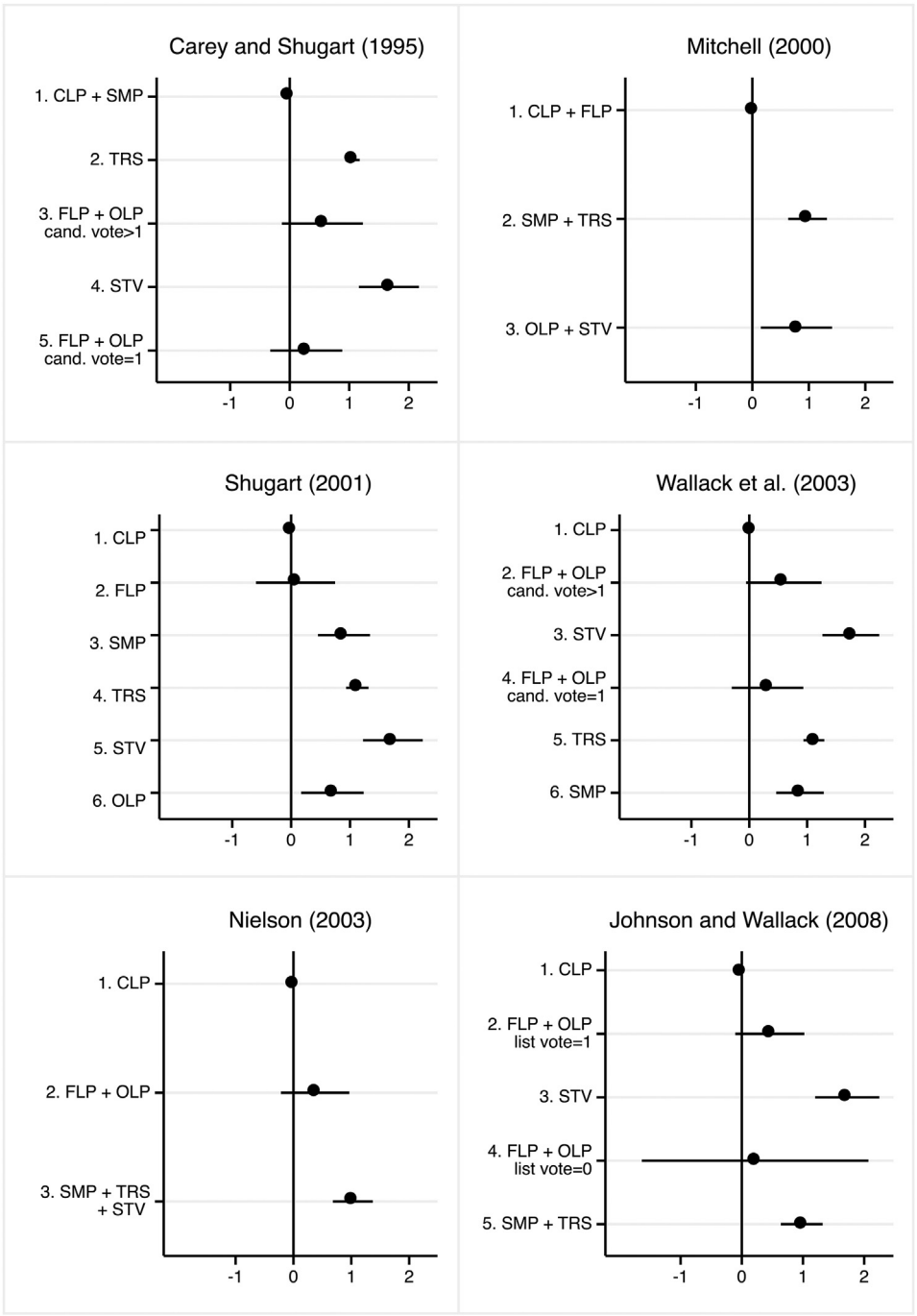

Fig. 2. The impact of categories of electoral institutions on personal vote orientation.
Note: The figure plots the regression coefficients and 95 per cent confidence intervals for each category of the 6 commonly used rank-orders of electoral institutions. The dependent variable, legislators' personal vote orientation, is analyzed using ordered logit models with standard errors clustered by parliament. Control variables for the size of parliament, level of government, opposition status, seniority, party's left-right position, and ideological distance from the party are included in the analyses, but not displayed.

suggests in his revised ranking. Flexible-list systems, we find, fall somewhere between closed-list and open-list systems with regard to the electoral incentives they generate: legislators in flexible-list systems are more prone to running personalized campaigns than legislators in closed-list systems, panel three of Fig. 2 demonstrates, and less prone than legislators in open-list systems. But because of the variety among flexible-list systems, legislators do not see their electoral incentives as significantly different from their counterparts competing in either closed-list systems, on the one hand, or in open-list systems, on the other hand. Flexible-list systems are hybrids and as a group quite diverse, allowing for a greater variance in legislators' vote-seeking strategies (see Table 5). Though there is the option of candidate voting in flexible-list systems, legislators are in part insulated from constituents' displeasure by their position on the list and the number of candidates who leapfrog past higher-ranked competitors in Austria, Belgium, and the Netherlands for instance is typically small (see Müller, 2005; André et al., 2012; Andeweg, 2005).

Table 6
Testing the salient properties of electoral institutions.

Salient property		Post-estimation test of the equality of coefficients		Wald χ^2
Candidate vote is allowed	Preferential systems ↔ CLP	Model 3:	[index_2 thru _6 = index_1]	149.93***
Type of candidate vote	Transferable ↔ pooled	Model 3:	[index_5 = index_2 and _6]	23.46***
	Exclusive ↔ pooled	Model 3:	[index_3 and _4 = index_2 and _6]	11.66**
	Transferable ↔ exclusive	Model 3:	[index_5 = index_3 and _4]	9.75**
Number of candidate votes	One candidate vote ↔ multiple candidate votes	Model 1:	[index_5 = index_3]	2.51
	SMP ↔ TRS	Model 3:	[index_3 = index_4]	1.20
Candidate vote is mandatory	candidate vote is mandatory ↔ candidate vote is optional	Model 6:	[index_4 = index_2]	0.06
Weight of candidate votes	Candidate votes predominate ↔ list votes predominate	Model 3:	[index_2 = index_6]	2.70

Note: Entries are the post-estimation Wald tests based on the models reported in Fig. 2 and Table S2. They test the null hypothesis that the regression coefficients of different categories of the ordinal ranking systems are equal using the *test* command in Stata.
*p ≤ 0.05, **p ≤ 0.01, ***p ≤ 0.001.

While legislators' orientation is more candidate-centered in open-list systems than in closed-list systems, the incentive to court a personal vote is even stronger in single-member plurality and two-round systems. That is, legislators' understanding of their electoral incentives is more in line with the Wallack et al. (2003) and Johnson and Wallack (2008) indexes as evidenced by panels four and six of Fig. 2. By contrast, Carey and Shugart (1995) for instance considered single-member plurality to be a special case of a closed-list system. Legislators' personal vote-seeking incentive as they see it is stronger when the candidate vote is exclusive than when it is pooled across co-partisans. The incentive for personal vote-seeking grows stronger in single-member plurality and two-round systems, where the number of competing parties is smaller (see Duverger, 1951) and legislators must win larger proportions of the vote to gain a plurality in the district over the candidates of other parties (Shugart, 2001; Cox, 1997). Legislators in response have an incentive to broaden their electoral appeal beyond their party core electorate by developing strong, non-partisan ties with constituents (Cain et al., 1987; Norton and Wood, 1993).

Little seems to separate single-member plurality and two-round systems in terms of how legislators understand their electoral incentives, as panels three and four indicate. This is what Mitchell (2000) and Johnson and Wallack (2008) hypothesize. Yet, Carey and Shugart (1995) initially thought that in two-round systems the incentive for personal vote-seeking would be stronger as they allow voters to vote for multiple candidates over time (compared to a single party vote in single-member plurality). Reconsidering the vote in single-member plurality to be a candidate vote, Wallack et al. (2003) also reverse the rank-order, hypothesizing the incentive to be stronger in single-member plurality systems. Spreading the vote over time hardly impacts legislators' understanding of their incentive for personal vote-seeking, we find.

Finally, the single-transferable vote is the single most candidate-centered system. In contrast to four of the six ordinal rankings (the other two rank STV on a par with either open-list systems or SMP), legislators in Ireland understand their incentive to be stronger, as demonstrated for instance by panels one and six of Fig. 2, than when candidate votes are pooled and stronger even than when they are exclusive. To gain re-election, Irish legislators must win a sufficient number of first preferences to stay in the game long enough to receive lower-preference votes and at the same time remain on good terms with as many voters as possible to benefit from the transfer of second, third, and fourth preferences – defeating competitors both within and beyond their party (Farrell and McAllister, 2006; Gallagher, 2005).

Compared to SMP and TRS, STV incentivizes legislators to compete for voters' first preferences even against co-partisans running under the same party banner. The scope of intra-party competition is noted by TDs: up to 22 per cent of TDs believed their main competitor to come from within their own party and another 14 per cent found inter-party and intra-party competition equally threatening – both numbers are even higher among Fianna Faíl and Fine Gael TDs (Marsh, 2011). One in five TDs, Gallagher (2005) added, gained election by unseating a co-partisan incumbent.

Compared to open-list systems, the ordinal ballot structure incentivizes legislators to seek second, third, and fourth preferences beyond the core party electorate. In 2002 for instance more than 80 per cent of Irish electors indicated preferences for candidates of more than one political party (Marsh et al., 2008). By contrast, in open-list systems, legislators can gain re-election by winning only a small percentage of the votes – many times smaller in fact than the quota required for a seat in the interparty seat allocation (theoretically, even a single preference vote may be sufficient – i.e. one more than the other candidates on the list won, see Katz, 1986). As such they can gain re-election by concentrating their vote-seeking efforts on partisan supporters who are positively predisposed towards the legislator's message and therefore more easily mobilized (Scarrow, 1994). "Unlike candidates under an open-list system", Gallagher (2000: 523) noted, "[candidates in STV] are not competing only for support from the pool of party voters; they have an incentive to try to be liked by everyone. […] Even if most of the support for a TD comes from within the party fold, TDs also draw on support from voters who do not support the party per se."

As such the ordinal ranking systems commonly used in the literature frequently make distinctions on theoretical grounds that do not correspond to legislators' own understanding of their personal vote incentive. In further search of the salient properties of electoral systems, Table 6 reports a series of post-estimation Wald tests investigating the null hypothesis that the coefficients of different electoral system categories are equal. Clearly, closed-list systems stand out; the Wald test emphatically differentiates the parameter estimates in Model 3 of all preferential systems allowing some form of candidate voting from the closed-list category. The post-estimation tests in Table 6 further point out that neither the number (based on Model 1), nor the optional nature (based on Model 6) has a discernable impact on legislators' perceptions of their personal vote incentive. That is, as soon as legislators perceive a personal vote to be beneficial, they will attempt to build, advertise, and claim credit for, their personal record and their efforts will be less affected by the minute details of candidate voting. By contrast, legislators do appreciate the distinction between the incentives generated by the type of candidate votes. The parameter estimates in Model 3 demonstrate that legislators' personal vote orientations are substantively and significantly stronger in systems where candidate votes are transferable than where they are exclusive and stronger in systems where candidates votes are exclusive than where they are pooled. As such the import they

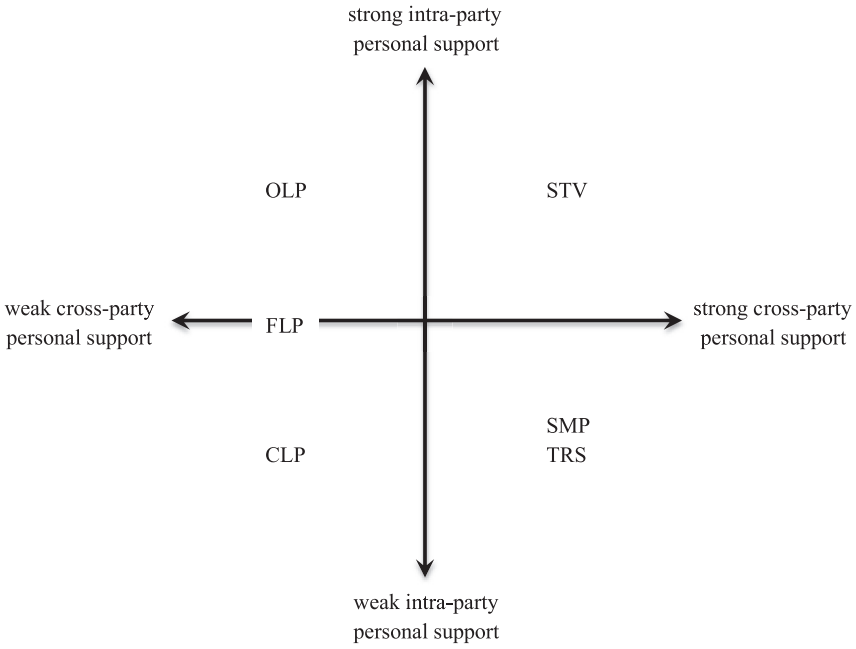

Fig. 3. Legislators' own perception of personal vote orientation.

attribute to the type of candidate vote is critical to ordinal rankings' ability to capture legislators' personal vote-orientations.

All told, a clear ranking of electoral institutions emerges from legislators' own understanding of their personal vote incentives. Clearly, where candidate voting is precluded by the ballot structure, the incentive to cultivate a personal vote is weakest. By contrast, where legislators are not similarly insulated by their position on the list, they will have an incentive to court personalized support. The incentive, as legislators themselves perceive it, grows markedly stronger in open-list systems, Fig. 3 illustrates, where candidate votes are pooled and legislators have to compete against co-partisans running under the same party label. Hybrid flexible-list PR systems fall somewhere in between closed-list and open-list systems; however, the heterogeneity of these systems makes it difficult to statistically separate them from either closed-list or open-list systems. The incentive grows even stronger as we move to single-member plurality and two-round systems where candidate votes are exclusive and legislators will benefit from courting personal support beyond the party core electorate. Legislators' personal vote orientations are strongest, finally, where legislators have both an incentive to compete against co-partisans and to seek personal support beyond the party core electorate, as under STV.

This ranking based on legislators' own understanding of their personal vote incentive marks clear but incremental increases in their personal vote orientations. It should not be taken to range from the hyper-centralized to the hyper-personalistic, however (see Shugart, 2001): even in closed-list systems traces of personal vote-seeking can be found (see Riera, 2011) and even in STV the import of party support is hard to overstate, but there are substantive differences in degree. Nonetheless the ranking emerges from the bivariate comparison of means and it is evident from the multivariate analyses controlling for alternative explanations of the personal vote. Moreover, this rank-order is robust even from excluding each country in turn from the analysis – the models are reported in Table S5 of the online supplementary material. The results of the replication models strongly suggest our findings are not caused by outliers.

6. Conclusion

A significant body of research has sought to demonstrate that electoral institutions, by likely shaping the incentive that representatives have to cultivate a personal reputation, affect legislative behavior and policy outcomes. Party-centered electoral institutions, studies have found, result in more public good spending; whereas candidate-centered institutions yield more legislation targeting a local public or private good. However, the existing literature abstracts away from legislators and instead draws theoretical inferences about their electoral incentives. As a result we do not know very well whether institutionally-inferred incentives are understood by legislators in the same manner. What's more, scholars disagree as to the inferences they make about legislators' electoral incentives, raising serious concerns over the robustness of findings linking electoral rules to patterns of behavior and political outcomes.

Six common ordinal ranking systems, we demonstrated, employ different salient properties of electoral institutions in attempting to capture the incentive on the part of legislators to cultivate a personal vote. A single electoral system is sometimes positioned at the candidate-centered end of the spectrum and other times at the party-centered end. The scholarly disagreement on the topic, moreover, leaves some researchers free to select the ranking that best matches their empirical observations, easily masking in the process the appreciable differences there are between different ordinal rankings of electoral systems and the null findings that other rankings might yield. Only if we clarify, and agree on, the classification of electoral systems can we further our understanding of their effects. Using a new dataset on legislators' personal vote orientation in fifteen advanced democracies we re-examine the degree to which the scholarly rankings correspond to legislators' own perception of personal vote orientation.

In many instances legislators understand their electoral incentive in the same way scholarly rankings do. Legislators competing in closed-list systems for instance see few benefits to accruing personal support as they sink and swim together on partisan

electoral tides. By contrast, when voter preferences for individual candidates impact the allocation of seats, legislators will engage in personal vote-seeking. One point of debate in the existing literature concerns the incentives generated by various list-PR systems. We have contributed to the debate by disproving the relevance to legislators of several system properties highlighted in the literature, including the number and optional nature of candidate voting. Another point of debate in the scholarly literature are the incentives generated by single-member plurality and two-round systems. Legislators competing in such systems, we find, understand their incentive to court a personal vote to be among the strongest – stronger even than legislators competing in open-list systems do for instance. What stands out, finally, is that legislators competing in single-transferable vote systems understand their personal vote-seeking incentive to be strongest – stronger even than those competing in SMP and TRS. The ordinal ballot structure, we illustrated, is what sets STV apart, strongly encouraging those legislators to court personalized support both among and beyond the core party electorate. As such, more often than not, ordinal ranking systems are not interval data and should not be analyzed as if they were. At the least, future research employing electoral system classifications should test the ordinal nature of the rankings used.

The personal vote literature would benefit greatly from more carefully theorizing on what are the salient properties that render electoral institutions more candidate-centered or alternatively more party-centered. Our findings strongly suggest that the single most important property shaping legislators' personal vote-orientations is the presence and type of candidate voting: that is, whether or not electors can cast a candidate vote and whether these candidate votes are then pooled, exclusive or transferable. In taking research forward, empirical studies should follow a two-pronged approach in expanding the scope of analysis. First, future studies need to continue to test the significance of electoral institutions including an even wider range of institutional and cultural contexts. Clearly some procedures of candidate voting are ineffective; many of the voting procedures identified by the literature fail to differentiate between effective and ineffective candidate voting. More insight into the consequences of various flexible-list PR systems, in particular, could provide important input to the theoretical debate on the salient properties of electoral institutions that should constitute a scholarly ranking's building blocks. In addition, future studies need to explore whether the results presented here can be corroborated using other indicators of representatives' incentive to cultivate a personal reputation. To avoid the ecological fallacy, complementary efforts should focus first and foremost on other individual-level measurements of the dependent variable. In pursuing this research agenda, we may hope to further our understanding of the consequences that electoral institutions have. On these bases political scientists can then contribute even more extensively to debates on electoral engineering and reform.

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Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.electstud.2016.01.011.

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