Supporting Materials
for
A Cross-National Measure of Electoral Risk

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Abstract

Electoral competitiveness is a key explanatory construct across a broad swath of phenomena, finding application in diverse areas related to political incentives and behavior. Despite its frequent theoretical use, no valid measure of electoral competitiveness exists that applies across different electoral and party systems. We argue that one particular type of electoral competitiveness – electoral risk – can be estimated across institutional contexts and matters most for incumbent behavior. We propose, estimate and make available a cross-nationally applicable measure for elections in 22 developed democracies between 1960 and 2011. Unlike extant alternatives, our measure incorporates vote volatility, is specific to the largest party party in the legislature (not to the whole system), exogenous to most policy predictors, and designed to capture the perception and incentives of policy-makers.

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Supporting Materials

1 Why does electoral risk matter?

Few concepts in political science are as broadly applied as electoral competitiveness; possibly even fewer are as poorly measured. Competitiveness, understood, roughly, as the security of political parties' positions in the legislature, and hence, their chance of retaining or gaining power, is pivotal to the proper functioning of both democracy and markets. Politicians elected from competitive districts are more responsive to their (median) constituents (Ansolabehere, Snyder and Stewart, 2001; Powell, 2000),[1] pursue their partisan fiscal perferences less assiduously (Solé-Ollé, 2006), deliver better (Adserà, Boix and Payne, 2003) and more timely (Besley and Burgess, 2002) services, provide social welfare (Lewis-Beck, 1977), public goods (Hecock, 2006) and, whether judging by survey measures of voter satisfaction in the German Länder (Tvinnereim, 2004) or by external assessments of British councils (Besley, 2002), provide overall better government. Voters, in turn, respond to electoral competitiveness by holding representatives more accountable (Canes-Wrone, Brady and Cogan, 2002), turning out to vote in greater numbers (Powell, 1986; Selb, 2009) and weighing incumbent performance (Koch, 1998) and issues (Lachat, 2011) more in their vote choice. Nor is the importance of electoral competitiveness limited to politics and governance. Electorally competitive systems enjoy better economic performance (Pinto and Timmons, 2005; Besley, Persson and Sturm, 2010), experience lower levels of corruption (Adserà, Boix and Payne, 2003), regulate more in the interests of consumers than producers (Rogowski and Kayser, 2002; Besley and Coate, 2003) and, less sanguinely, may experience politically motivated expansions (Schultz, 1995) or uncertainty induced contractions (Canes-Wrone and Park, 2012)

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[1] Also see the contrary claims of Huntington (1950) and Fiorina (1974) that incumbents should respond more to their core than to the median in competitive races. Subsequent empirics, however, favor Mayhew's argument that representatives converge toward the preferences of their district's median voter in close elections (Ansolabehere, Snyder and Stewart, 2001).

before elections.[2]

The absence of a conceptually coherent and cross-nationally valid measure of electoral competitiveness bears consequences well beyond research on electoral competition.[3] The most prominent area in which this problem hobbles research may be in the scholarship on the effects of democratic institutions in which scholars commonly look for broad differences between institutional categories, sometimes speculating about a mechanism but often not. Thus, we know, for example, that democracies, when compared to autocracies, provide greater education spending in Africa (Stasavage, 2005), translate growth into more calories (Blaydes and Kayser, 2011), and build more extensive rural electrification (Min, 2008). Causal mechanisms are less clear but electoral competition likely plays a role.

By far the most popular institutional variable for the analysis of established democracies is electoral systems, together with the Duvergerian implications for party systems. We know, *ceteris paribus*, that countries with proportional electoral rules (PR) and multiparty systems, compared to those with single-member districts (SMD) and fewer-party systems, experience higher government spending (Scartascini and Crain, 2002; Milesi-Ferretti, Perotti and Rostagno, 2002; Bawn and Rosenbluth, 2006), shoulder higher price-levels (Rogowski and Kayser, 2002), enjoy policies that are (Powell, 2000, 2009) or are not (Golder and Lloyd, 2012) closer to the median voter, suffer higher corruption (Persson, Tabellini and

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[2]Consequences are, in fact, even more widespread than the above suggests. Electoral competitiveness has also been found to weaken the severity of drug control laws (Meier, 1992), increase the stringency of disability rights laws (Holbrook and Percy, 1992), boost the democratic stability of new democracies (Wright, 2008), lower spending and debt levels in Japan (Skilling and Zeckhauser, 2002), increase pork-barrel spending (Joan, Oreggia and Lunapla, 2003), influence the probability of armed conflict (de Mesquita et al., 1999), lower tax levels (Besley and Case, 1995) and reduce the size of (US) state government (Rogers and Rogers, 2000).

[3]Single-country measures are more prevalent. This is not to say that no measure or no satisfactory measure exists. Within individual countries, especially the United States, scholars have proposed, applied and refined a host of competition definitions going back at least to V.O. Key (1956) but interest rose most famously with the the vanishing marginals debate (Mayhew, 1974; Jacobson, 1987; Griffin, 2006). Whether operationalized as vote margins in congressional races or considering state-wide offices (Ranney, 1976; Ansolabehere and Snyder, 2002), several sophisticated measures have emerged. Country-specific measures, however, lose validity once borders are crossed. Not all aspects of competition are found in all countries, and disentangling the effect of competitiveness from that of institutions and other influences surely requires variation on those covariates. In short, a fuller understanding of competitiveness requires cross-country variation. But no such comparisons can be made because no consensus, let alone single standard, has emerged about how competitiveness should be measured.

Trebbi, 2003; Kunicova and Rose-Ackerman, 2005), and favor more redistributive fiscal policy (Austen-Smith, 2000; Persson and Tabellini, 2003; Ahlquist and Ansell, 2012). We also know that governments under SMD rules favor narrow interests (Rickard, 2009), especially when they are concentrated in districts (Rickard, 2012), which translates into greater subsidies (Park and Jensen, 2007) among other governmentally dispensed advantages. What we do not know is why. All of these findings invoke or imply a role for electoral competition, yet without a valid cross-national measure their mechanisms cannot be properly tested.

Of course, electoral competition might not be the key mechanism implied by many authors. A few single-country studies have estimated only modest effects for electoral competition on outcomes such as municipal government performance in Mexico (Cleary, 2007) and policy responsiveness to constituent preferences in the United States (Bartels, 1991). Other linkages between electoral systems and policy outcomes have also been mooted such as non-electoral participatory democracy (Cleary, 2007) and, most famously, the personalistic vote (Carey and Shugart, 1995; Hallerberg and Marier, 2004). Again, however, without a valid cross-national measure of electoral competitiveness, scholars cannot distinguish the magnitude and robustness of these mechanisms from the influence of electoral contestation.

In 1974, a scholar concerned with electoral competition noted that extant measures of inter-party competition "obscured the nature of party competition" by ignoring issues unique to multiparty competition (Elkins, 1974). Elkins is not alone with this observation. Other scholars have similarly complained that "[t]he conceptualization of party competition in most of the empirical studies is flawed, and the measures of competition are weak"(Boyne, 1998, p. 210). In short, the many measures of two-party competition (developed primarily for the United States) did not generalize to other settings and even failed to gauge competitiveness in multiparty races in the US. Anyone interested in the theory and consequences of political competition — and, indeed, the degree of political competition has often been used as a measure of democracy itself (Powell, 2000; Vanhanen, 2000; Coppedge, Alvarez and Maldonado, 2008)[4] — had to lament such shortcomings. Forty years years after Elkins' critique, still no

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[4]Bartolini (1999, p. 445) usefully notes that electoral competition in a democracy depends on a regulatory,

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general measure of electoral competitiveness exists.

Scholars have been at pains to document the many types of electoral competition exist. Strom (1989) identifies the ease of entry for new parties into the political market ("contestability"), the responsiveness of government composition to electoral outcomes ("conflict of interest") and the sensitivity of electoral outcomes to changes in voting patterns ("performance sensitivity") as distinct components of electoral competition. Others note the dependence of electoral competition on other forms of social interaction (cooperation, negotiation) needed to deliver social outcomes and consequently express skepticism about the possibility and utility of "maximization models" for empirical and comparative research (Bartolini, 1999, p. 438). Our measure of electoral risk admittedly and intentionally focuses on a narrow definition of electoral competitiveness — a combination of "conflict of interest" and "performance sensitivity" — but, as we argue below, we capture the type of competition that is most likely to influence ruling parties' behavior. Bartolini may be correct that the effects of competition are conditional on other types of social interaction. Conditional relationships, however, are no reason not to operationalize a construct.

2 Seats-Votes

In Figure 1, to illustrate change over timve, we plot the seats-votes elasticities (or swing ratios) for Canada, an SMD country with a particularly volatile electoral history.

For PR systems, we assume a seats-votes elasticity (swing-ratio) of 1. We verify the assumption empirically by estimating seats-votes elasticities for the 2006 Austrian parliamentary election. We use Linzer's (2012a) approach, which is implemented in an R library (Linzer, 2012b) called seatsvotes (Linzer, 2012c). Since the current release of seatsvotes only implements the plurality rule, we have written a PR rule specific to the Austrian system.[5]

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normative and legal framework that arises not from competition but from cooperation and negotiation. Competition alone may be a defining characteristic of democracy but it is not democracy in itself.

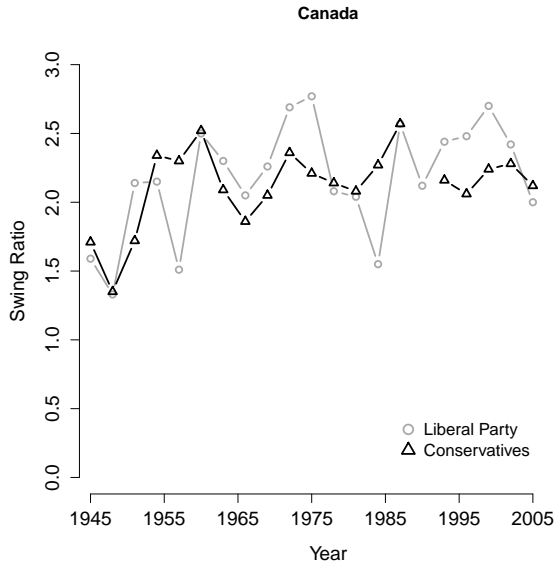[5]The specifics of PR rules vary widely across countries, so that a generic function for PR rules is not

Figure 1: *Seats-votes elasticities (or swing ratios) for the two largest parties in Canada, 1945-2011. The seats-votes elasticities were estimated using the method by Linzer (2012a), which is implemented in an R (R Development Core Team, 2013) library (Linzer, 2012b) called* `seatsvotes` *(Linzer, 2012c).*

The estimated seats-votes elasticities for all parties that won seats in the 2006 Austrian parliamentary election are shown in Figure 2. All of the estimated seats-votes elasticities are indeed approximately one. Specifically, the estimated seats-votes elasticities are 1.01 for the SPÖ, 1.03 for the ÖVP, 1.06 for the GRÜNE, 1.00 for the FPÖ and 0.95 for the BZÖ. We therefore proceed with the assumption that seats-votes elasticities are equal to one for parties in PR systems and will estimate seats-votes elasticities only for parties in SMD systems.

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easily implemented. If researchers want to estimate seats-votes elasticities for other PR systems, they will have to provide their own user-written functions. The Austrian PR rule is based on the description of the votes-seats translation provided by Erich Neuwirth at SunSITE Austria at the University of Vienna (at `http://sunsite.univie.ac.at/Austria/elections/nrw95/nrw94man.html`).
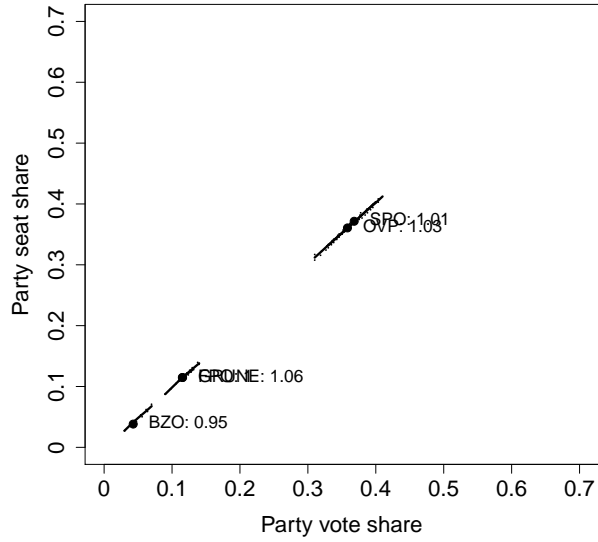
Figure 2: *Seats-votes elasticities for the 2006 Austrian Nationalratswahl. The seats-votes elasticities were estimated using the method by* Linzer (2012a)*, which is implemented in an* R *(*R Development Core Team, 2013*) library (*Linzer, 2012b*) called* seatsvotes *(*Linzer, 2012c*). The PR rule was written by the authors, and the corresponding* R *code is available upon request. The estimated seats-votes elasticities are 1.01 for the SPÖ, 1.03 for the ÖVP, 1.06 for the GRÜNE, 1.00 for the FPÖ and 0.95 for the BZÖ.*
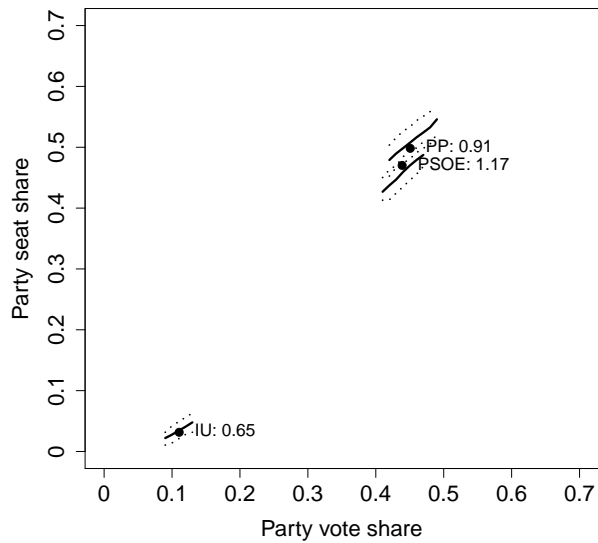

Figure 3: S-V elasticities in Spain, 2008

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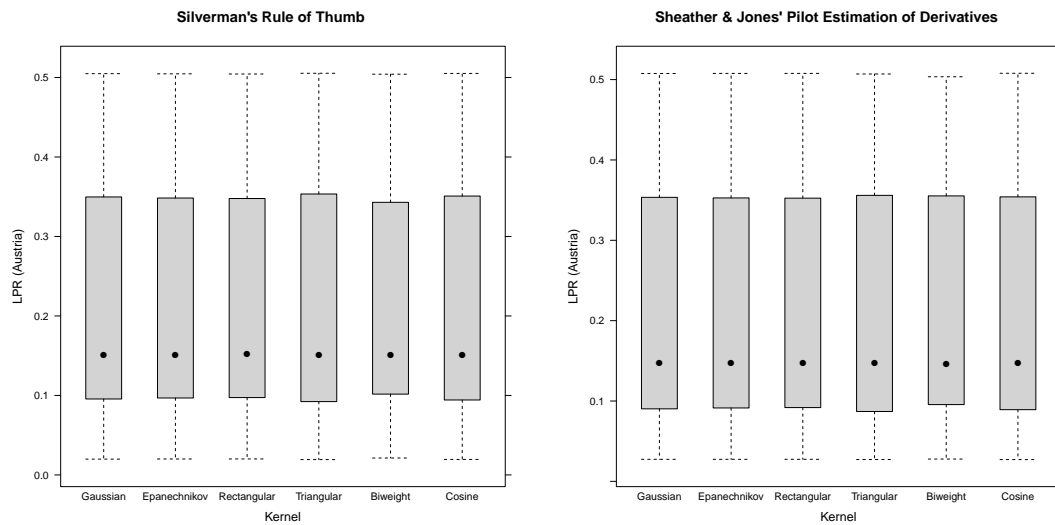# 3   Robustness check: Kernel density estimates

Figure 4: *Distributions of loss probabilities for the case of Austria for different specifications of the kernel function (Gaussian, Epanechnikov, rectangular, triangular, biweight and cosine) as well as different bandwidth specifications [Silverman's (1986) rule of thumb and Sheather and Jones's (1991) pilot estimation of derivates]. See also the documentation of the* density *function in* R *(R Development Core Team, 2013).*
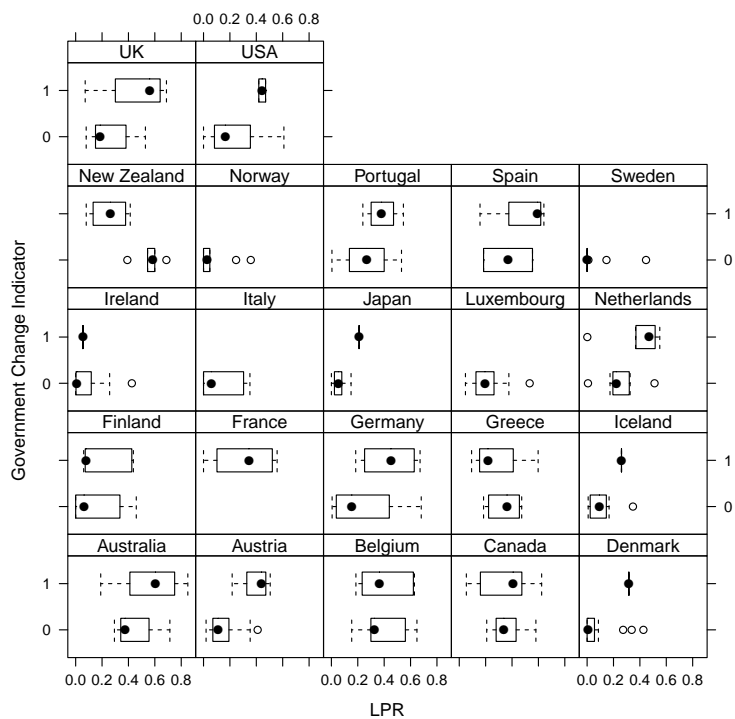
4 LPR by Plurality Party Change Treatment

Figure 5: *Distribution of loss probabilities by country and plurality party change indicator. Boxplots with plurality party change indicator equal to 0 show the distribution of LPR for a country for those elections in which no change in the plurality party occurred, whereas boxplots with change indicator equal to 1 show the distribution of LPR for a country for those elections in which a plurality party change occurred.*

5 Measurement

Since we derive our measure of electoral risk – loss probability or LPR – using not just observed quantities (historical vote swings), but also estimated quantities (swing ratios), our measure, by definition, is measured with uncertainty. As such, when scholars use our LPR measure as an explanatory variable in their research, they might want to check the robustness of their findings with respect to electoral risk by accounting for this uncertainty. For that reason, we not only provide the point estimates of LPR based on the median swing ratio estimates but also standard deviations for the LPR measure based on bootstrapping the swing ratios.
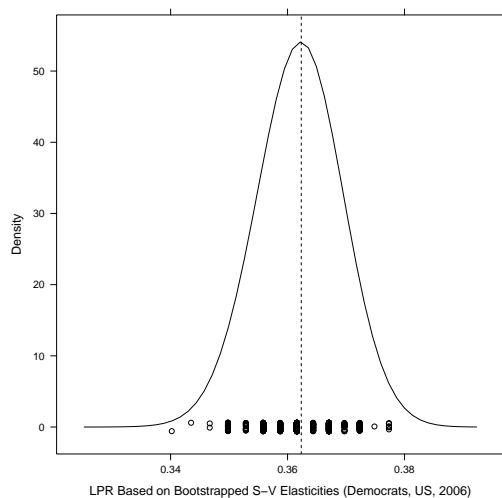

Figure 6: *Density of bootstrapped LPR distribution (median LPRs) for the Democratic Party in the US House (2006). The bootstrap is based on 1,000 samples of size 100 each of the swing ratios, which are then used to calculate the LPRs (following the steps described in Section **??**).*

In particular, we take the distribution of the swing ratio estimates generated by applying the Linzer (2012a) method and take 1,000 samples of size 100 each from that distribution. We then calculate the median for each of the 1,000 samples. In turn, we use those medians and plug them into Equation **??** to calculate bootstrapped seat-swing distributions and then follow the remaining steps described in Section **??** to calculate 1,000 LPRs. In the data set,

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we report the median and the standard deviation of the bootstrapped LPRs. In Figure 6, we plot the density of one of those bootstrapped LPR distributions for the Democratic Party in the US House for the year 2006. Researchers may use the bootstrapped LPRs to account for measurement error and explore variation in its explanatory power with respect to relevant outcome variables.[6]

6 Alternative measures

One component of measurement validity is the degree to which a measure captures only the construct it is intended to capture. In Section ??, we have argued that alternative measures of competitiveness, such as vote margins and Vanhanen's (2000) competition measure, do not sufficiently consider the core actors of electoral competition — political parties — and their geographic distribution of support. Instead, these measures tend to be derivatives of electoral system characteristics. As outlined above, our measure of electoral risk, LPR, addresses this shortcoming, while at the same time shedding new light on the relationship between electoral institutions and competitiveness (see Section ??). Figure 8, which plots LPR against the effective number of parties, confirms that LPR is independent of system-level characteristics. Whereas both vote margins and Vanhanen's competition measure are correlated with the effective number of parties (see Figure 7), the relationship between LPR and the effective number of parties is flat.

Vote margins only consider the two top parties. But what if multiple opposition parties are able to unite against a plurality party? The largest party in parliament in such a situation, even with large margins and low swings, might nevertheless be denied the premiership. Vanhanen (2000) accounts for this possibility by operationalizing electoral competition as the percentage of votes won by all but the largest vote-receiving party. This measure, however, makes no allowances for the fragmentation of the opposition. For example, an

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[6]See Treier and Jackman (2008) for an example of how to account for uncertainty in regression results when dealing with explanatory variables that are measured with error (and the measurement error is known).
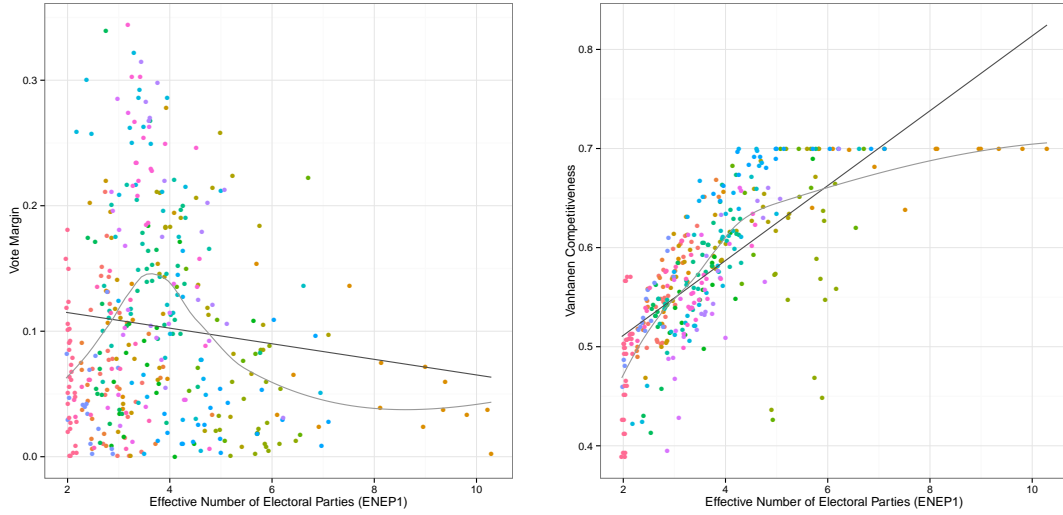
Figure 7: *Two measures of electoral competitiveness plotted against the effective number of electoral parties (ENEP) with least-squares line and loess smoother. N=393 and 359, respectively. OECD sample, 1945-2011. ENEP (i.e., ENEP1) from Bormann and Golder (2013). Vanhanen Competitiveness from Vanhanen (2000). ENEP is a significant predictor of the dependent variable in both panels; a one point increase in ENEP is associated with a 0.7 percentage-point drop in Vote Margin and a 3.6 percentage-point drop in the Vanhanen Competitiveness measure.*
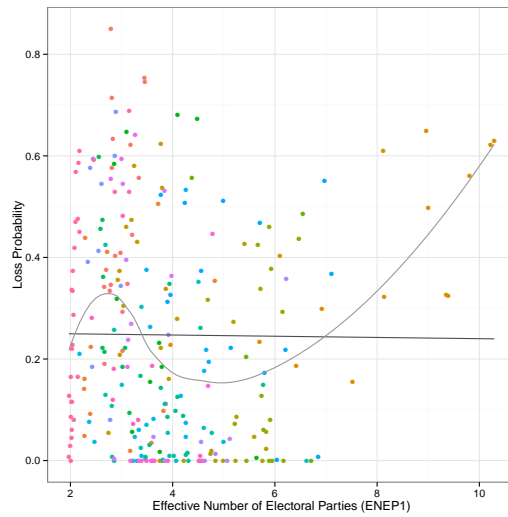
Figure 8: *Loss probability (LPR) plotted against the effective number of electoral parties (ENEP) with least-squares line and loess smoother. N=266. OECD sample, 1945-2011. ENEP (i.e., ENEP1) from Bormann and Golder (2013).*

opposition of eight parties dividing, say, 45% of the vote would pose as great a challenge to the plurality party as a single-party opposition with the same electoral support. Moreover, as Figure 7 shows, the Vanhanen measure is strongly associated with the effective number

of electoral parties. No less than 48% of its variation is explained by the effective number of electoral parties in the system.

7 Data

Our district-level election data come from three broad sources:

1. Dawn Brancati. Global Elections Database [computer file]. New York, NY: Global Elections Database [distributor]. Website:
   `http://www.globalelectionsdatabase.com`.

2. Ken Kollman, Allen Hicken, Daniele Caramani, and David Backer. Constituency-Level Elections Archive (CLEA; `www.electiondataarchive.org`), December 17, 2012 [dataset]. Ann Arbor, MI: University of Michigan, Center for Political Studies [producer and distributor].

3. Own data collection.

Coverage:

District-level data: Australia: 1946–2004; Austria: 2006; Canada: 1945–2008; France: 1973–2002; New Zealand: 1946–1999; UK: 1945–2005; US: 1946–2006

National-level data: Australia: 1943–2010; Austria: 1945–2008; Belgium: 1946–2010; Canada: 1945–2011; Denmark: 1945–2011; Finland: 1945–2011; France: 1962–2007; Germany: 1949–2009; Greece: 1961–2009; Iceland: 1946–2009; Ireland: 1948–2011; Italy: 1946–2008; Japan: 1946–2009; Luxembourg: 1945–2009; Netherlands: 1946–2010; New Zealand: 1946–2011; Norway: 1945–2009; Portugal: 1975–2011; Spain: 1977–2011; Sweden: 1948–2010; Switzerland: 1943–2011; UK 1945–2010; US: 1946–2010

8   Two-Party Basis for Loss Probabilities

Our decision to consider only the two largest parties for the calculation of loss probabilities hinges on the assumption that parties that are in third place or below in one election typically do not become the plurality party in the next election. Based on our sample of 459 elections in 23 countries, this appears to be a very reasonable assumption. We never observe third- or lower-placed parties jump to the top in the following election in Australia, Austria, Canada, Denmark, Germany, Iceland, Ireland, Luxembourg, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the UK or the US.[7] Moreover, there have been no such cases in Greece since it became a Democracy (1974) or Japan since the introduction of the modern party system (1958). Only in the following 12 elections has that pattern been violated:

- Netherlands: 2002 and 2010

- Belgium: 2007 and 2010

- Finland: 1948, 1958, 1962, 1966 and 1991

- France (since the beginning of the 5th Republic): 1981, 1993 and 1997

Consequently, 97.4% of the observations in our data set are consistent with the assumption that plurality parties consider second-placed parties their main competitors in upcoming elections.

9   France

With the brief exception of the election in 1986 France has had a two-round majoritarian electoral system. If a party wins a simple majority in the first round, they win the district's

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[7]Cases that we do not consider violations of this rule, but which are not immediately obvious, include the 1979 election in Portugal (won by the Democratic Alliance, which included the Social Democratic Party who had placed second in 1976); the 1971 election in Belgium (won by the Christian People's Party, which was previously called the Christian Social Party); and elections in Italy beginning in 1994, which, while dominated by party alliances with changing names, do not violate the assumption.

seat and no second round takes place. Barring this outcome, any party receiving the vote of more than 12.5% of registered voters is eligible to compete in the second round in which the plurality party wins the seat. In practice, however, ideologically allied parties usually avoid competing with each other in a *triangulaire*, a three-party run-off, in which they could split the vote on one end of the ideological spectrum, thereby allowing the other party to win. Thus, parties form ideological alliances in which the weaker parties within an ideological grouping in the first round promise to withdraw from the second round. Mainstream left parties (Socialist, Greens, Left Front, Radical Party of the Left, various smaller parties) have a long-standing agreement to this effect. Right parties collaborate on a more ad-hoc basis.

As a district-level plurality in the second round determines which party wins a seat, **we employ second-round election data** in our estimates of seats-votes elasticities. Some districts are allotted on the basis of first-round majorities, however. In these cases, we simulate what would have happened in a second round based on voting patterns in other districts. Similarly, in the rare cases of single-party run-offs (when two allied parties qualify for a run-off and one withdraws), we also simulate results of what would have happened if the top party of the opposing grouping had qualified.

From the perspective of a prime minister, what matters most in France is party groupings rather than parties, themselves. If the same party grouping controls the presidency and the legislature, then the president appoints a prime minister from the same grouping but not necessarily from the party with the greatest vote or seat share. A well-known example is the first term of Raymond Barre during the presidency of Valery Giscard d'Estaing. Barre, an independent nominally attached to the UDF, did not come from the electorally more successful Gaullists (RPR) under the leadership of Jacques Chirac. Under the less common *cohabitation*, when the presidency and legislature are controlled by different groupings, the prime minister may also come from a non-plurality party although this was not the case for any of the three cohabitating prime ministers in the fifth republic.

Accordingly, in terms of electoral risk, we use party groupings instead of parties. What

matters most may be the plurality of one's grouping, not of one's party. We model this directly by aggregating parties into groupings and estimating seats-votes elasticities and vote swings for groupings. Information on party ideological positions and vote shares is from *www.parlgov.org.*

10 Articles in the AJPS, APSR and JOP Related to Electoral Competitiveness, 2009q1–2013q3

	Authors	Year	Title	Journal
1	Aklin, Michaël, and Johannes Urpelainen	2013	Political Competition, Path Dependence, and the Strategy of Sustainable Energy Transitions	AJPS 57(3)
2	Donno, Daniela	2013	Elections and Democratization in Authoritarian Regimes	AJPS 57(3)
3	Weitz–Shapiro, Rebecca	2012	What Wins Votes: Why Some Politicians Opt Out of Clientelism	AJPS 56(3)
4	Engstrom, Erik J.	2012	The Rise and Decline of Turnout in Congressional Elections: Electoral Institutions, Competition, and Strategic Mobilization	AJPS 56(2)
5	Snyder, Jr, James M., and Michael M. Ting	2011	Electoral Selection with Parties and Primaries	AJPS 55(4)
6	Yanna Krupnikov	2011	When Does Negativity Demobilize? Tracing the Conditional Effect of Negative Campaigning on Voter Turnout.	AJPS 55(4)
7	Gehlbach, Scott, Konstantin Sonin, and Ekaterina Zhuravskaya	2010	Businessman Candidates.	AJPS 54(3)
8	Eifert, Benn, Edward Miguel, and Daniel N. Posner	2010	Political Competition and Ethnic Identification in Africa.	AJPS 54(2)
9	Hayes, Danny, and Seth C. McKee	2009	The Participatory Effects of Redistricting	AJPS 53(4)
10	Hirano, Shigeo, and James M. Snyder	2009	Using Multimember District Elections to Estimate the Sources of the Incumbency Advantage	AJPS 53(2)
11	Baek, Mijeong	2009	A Comparative Analysis of Political Communication Systems and Voter Turnout	AJPS 53(2)
12	Maestas, Cherie D., and Cynthia R. Rugeley	2008	Assessing the Experience Bonus Through Examining Strategic Entry, Candidate Quality, and Campaign Receipts in U.S. House Elections.	AJPS 52(3)
13	Panagopoulos, Costas, and Donald P. Green	2008	Field Experiments Testing the Impact of Radio Advertisements on Electoral Competition.	AJPS 52(1)
14	Dube, Arindrajit, Oeindrila Dube, and Omar Garcia-Ponce	2013	Cross-Border Spillover: U.S. Gun Laws and Violence in Mexico	APSR 107(3)
15	Kim, Henry A., and Brad L. Leveck	2013	Money, Reputation, and Incumbency in U.S. House Elections, or Why Marginals Have Become More Expensive.	APSR 107(3)

	Authors	Year	Title	Journal
16	Brollo, Fernanda and Tommaso Nannicini	2012	Tying Your Enemys Hands in Close Races: The Politics of Federal Transfers in Brazil.	APSR
17	Fukumoto, Kentaro and Yusaku Horiuchi	2011	Making Outsiders Votes Count: Detecting Electoral Fraud through a Natural Experiment	APSR 105(3)
18	Folke, Olle, Shigeo Hirano, and James M. Snyder	2011	Patronage and Elections in U.S. States	APSR 105(3)
19	Berry, Christopher R., Barry C. Burden, and William G. Howell	2010	The President and the Distribution of Federal Spending.	APSR 104(4)
20	Cusack, Thomas, Torben Iversen and David Soskice	2010	Coevolution of Capitalism and Political Representation: The Choice of Electoral Systems	APSR 104(2)
21	Gamm, Gerald and Thad Kousser	2010	Broad Bills or Particularistic Policy? Historical Patterns in American State Legislatures.	APSR 104(1)
22	Druckman, James N., Martin J. Kifer and Michael Parkin	2009	Campaign Communications in U.S. Congressional Elections	APSR 103(3)
23	Brown, David S., and Ahmed Mushfiq Mobarak	2009	The Transforming Power of Democracy: Regime Type and the Distribution of Electricity	APSR 103(2)
24	Ellis, Christopher	2013	Social Context and Economic Biases in Representation	JOP 75(3)
25	Iaryczower, Matias, and Andrea Mattozzi	2013	On the Nature of Competition in Alternative Electoral Systems	JOP 75(3)
26	Wichowsky, Amber	2012	Competition, Party Dollars, and Income Bias in Voter Turnout, 19802008	JOP 74(2)
27	Kam, Cindy D., and Stephen M. Utych	2011	Close Elections and Cognitive Engagement	JOP 73(4)
28	Lazarus, Jeffrey	2009	Party, Electoral Vulnerability, and Earmarks in the U.S. House of Representatives	JOP 71(3)

References

Adserà, Alícia, Carles Boix and Mark Payne. 2003. "Are You Being Served? Political Accountability and Quality of Government." *Journal of Law, Economics, and Organization* 19(2):445–90.

Ahlquist, John S. and Ben Ansell. 2012. "Electoral Institutions, Credit, and Political Responses to Economic Polarization." Working Paper.

Ansolabehere, Stephen and James M. Snyder. 2002. "The Incumbency Advantage in U.S. Elections: An Analysis of State and Federal Offices, 1942–2000." *Election Law Journal* 1(3):315–38.

Ansolabehere, Stephen, James M. Snyder and Charles Stewart. 2001. "Candidate Positioning in U.S. House Elections." *American Journal of Political Science* 45(1):136–59.

Austen-Smith, David. 2000. "Redistributing Income under Proportional Representation." *Journal of Political Economy* 108(6):1235–69.

Bartels, Larry M. 1991. "Constituency Opinion and Congressional Policy Making: The Reagan Defense Buildup." *American Political Science Review* 85(2):457–74.

Bartolini, Stefano. 1999. "Collusion, Competition and Democracy Part I." *Journal of Theoretical Politics* 11(4):435–70.

Bawn, Kathleen and Frances Rosenbluth. 2006. "Short versus Long Coalitions: Electoral Accountability and the Size of the Public Sector." *American Journal of Political Science* 50(2):251–65.

Besley, Timothy. 2002. "Accountability and Political Competition: Theory and Evidence." Unpublished Manuscript, London School of Economics.

Besley, Timothy and Anne Case. 1995. "Incumbent Behavior: Vote-Seeking, Tax-Setting, and Yardstick Competition." *The American Economic Review* 85(1):25–45.

Besley, Timothy and Robin Burgess. 2002. "The Political Economy of Government Responsiveness: Theory and Evidence from India." *The Quarterly Journal of Economics* 117(4):1415–51.

Besley, Timothy and Stephen Coate. 2003. "Elected versus Appointed Regulators: Theory and Evidence." *Journal of the European Economic Association* 1(5):1176–1206.

Besley, Timothy, Torsten Persson and Daniel M. Sturm. 2010. "Political Competition, Policy and Growth: Theory and Evidence from the U.S." *Review of Economic Studies* 77(4):1329–52.

Blaydes, Lisa and Mark A. Kayser. 2011. "Counting Calories: Democracy and Distribution in the Developing World." *International Studies Quarterly* 55(4):887–908.

Bormann, Nils-Christian and Matt Golder. 2013. "Democratic Electoral Systems around the World, 1946–2011." *Electoral Studies* 32(2):360–69.

Boyne, George A. 1998. "Party Competition and Local Spending Decisions." *British Journal of Political Science* 28(1):210–22.

Brancati, Dawn. N.d. "Global Elections Database [computer file]." New York, NY: Global Elections Database [distributor], Date Accessed 2013. Website: `http://www.globalelectionsdatabase.com`.

Canes-Wrone, Brandice, David W. Brady and John F. Cogan. 2002. "Out of Step, Out of Office: Electoral Accountability and House Members' Voting." *American Political Science Review* 96(1):127–40.

Canes-Wrone, Brandice and Jee K. Park. 2012. "Electoral Business Cycles in OECD Countries." *American Political Science Review* 106(1):103–22.

Carey, John M. and Matthew S. Shugart. 1995. "Incentives to Cultivate a Personal Vote: A Rank Ordering of Electoral Formulas." *Electoral Studies* 14(4):417–39.

Cleary, Matthew R. 2007. "Electoral Competition, Participation, and Government Responsiveness in Mexico." *American Journal of Political Science* 51(2):283–99.

Coppedge, Michael, Angel Alvarez and Claudia Maldonado. 2008. "Two Persistent Dimensions of Democracy: Contestation and Inclusiveness." *Journal of Politics* 70(3):632–47.

de Mesquita, Bruce B., James D. Morrow, Randolph M. Siverson and Alastair Smith. 1999. "An Institutional Explanation of the Democratic Peace." *American Political Science Review* 93(4):791–807.

Döring, Holger and Philip Manow. 2012. "Parliament and government composition database (ParlGov): An infrastructure for empirical information on parties, elections and governments in modern democracies.". version 12/10-15 October 2012.

Elkins, David J. 1974. "The Measurement of Party Competition." *American Political Science Review* 68(2):682–700.

Fiorina, Morris. 1974. *Representatives, Roll-Calls, and Constituencies.* Lexington, MA: Lexington.

Golder, Matt and Gabriella Lloyd. 2012. "Re-Evaluating the Relationship between Electoral Rules and Ideological Congruence.".

Griffin, John D. 2006. "Electoral Competition and Democratic Responsiveness: A Defense of the Marginality Hypothesis." *Journal of Politics* 68(4):911–21.

Hallerberg, Mark and Patrik Marier. 2004. "Executive Authority, the Personal Vote, and Budget Discipline in Latin American and Caribbean Countries." *American Journal of Political Science* 48(3):571–87.

Hecock, R. Douglas. 2006. "Electoral Competition, Globalization, and Subnational Education Spending in Mexico, 1999–2004." *American Journal of Political Science* 50(4):950–61.

Holbrook, Thomas and Stephen Percy. 1992. "Exploring Variations in State Laws Providing Protections for Persons with Disabilities." *Western Political Quarterly* 45(1):779–90.

Huntington, Samuel. 1950. "A Revised Theory of American Party Politics." *American Political Science Review* 44(3):669–77.

Jacobson, Gary. 1987. "The Marginals Never Vanished: Incumbency and Competition in Elections to the US House of Representatives, 1952-82." *American Journal of Political Science* 31(1):126–41.

Joan, Eduardo R. Oreggia and Dario Lunapla. 2003. "Political Competition and Pork-Barrel Politics in the Allocation of Public Investment in Mexico." *Public Choice* 116(2):185–204.

Key, V. O. 1956. *American State Politics: An Introduction*. New York, NY: Knopf.

Koch, Jeffrey W. 1998. "Electoral Competitiveness and the Voting Decision: Evidence from the Pooled Senate Election Study." *Political Behavior* 20(4):295–311.

Kollman, Ken, Allen Hicken, Daniele Caramani and David Backer. N.d. "Constituency-Level Elections Archive (CLEA)." University of Michigan, Center for Political Studies [producer and distributor], Date Accessed 2013. Website: `www.electiondataarchive.org`.

Kunicova, J. and S. Rose-Ackerman. 2005. "Electoral Rules and Constitutional Structures as Constraints on Corruption." *British Journal of Political Science* 35(4):573–606.

Lachat, Romain. 2011. "Electoral Competitiveness and Issue Voting." *Political Behavior* 33(4):645–63.

Lewis-Beck, Michael S. 1977. "The Relative Importance of Socioeconomic and Political Variables for Public Policy." *American Political Science Review* 71(2):559–66.

Linzer, Drew A. 2012*a*. "The Relationship between Seats and Votes in Multiparty Systems." *Political Analysis* 20(3):400–16.

Linzer, Drew A. 2012*b*. "Replication data for: The Relationship between Seats and Votes in Multiparty Systems." `http://hdl.handle.net/1902.1/17691`, IQSS Dataverse Network [Distributor] V1 [Version].

Linzer, Drew A. 2012*c*. "`seatsvotes R` package." Available here: `http://dvn.iq.harvard.edu/dvn/faces/study/StudyPage.xhtml?studyId =75023&tab=files`.

Mayhew, David. 1974. "Congressional Elections: The Case of the Vanishing Marginals." *Polity* 6(3):295–317.

Meier, Kenneth. 1992. "The Politics of Drug Abuse: Laws, Implementation, and Consequences." *Western Political Quarterly* 45(1):41–69.

Milesi-Ferretti, Gian, Roberto Perotti and Massimo Rostagno. 2002. "Electoral Systems and Public Spending." *Quarterly Journal of Economics* 117(2):609–57.

Min, B. 2008. "Who Gets Public Goods? Democracy and the Provision of Electrification in the Developing World." Presented at the UCLA Political Methods Workshop.

Park, Jong Hee and Nathan M. Jensen. 2007. "Electoral Competition and Agricultural Support in OECD Countries." *American Journal of Political Science* 51(2):314–29.

Persson, Torsten and Guido Tabellini. 2003. *The Economic Effects of Constitutions*. Cambridge, MA: MIT Press.

Persson, Torsten, Guido Tabellini and Francesco Trebbi. 2003. "Electoral Rules and Corruption." *Journal of the European Economic Association* 1(4):958–89.

Pinto, Pablo M. and Jeffrey F. Timmons. 2005. "The Political Determinants of Economic Performance." *Comparative Political Studies* 38(1):26–50.

Powell, Bingham G. 1986. "American Voter Turnout in Comparative Perspective." *American Political Science Review* 80(1):17–43.

Powell, Bingham G. 2000. *Elections as Instruments of Democracy: Majoritarian and Proportional Visions.* New Haven, CT: Yale University Press.

Powell, G. Bingham. 2009. "The Ideological Congruence Controversy: The Impact of Alternative Measures, Data, and Time Periods on the Effects of Election Rules." *Comparative Political Studies* 42(12):1475–97.

R Development Core Team. 2013. "R: A Language and Environment for Statistical Computing." Vienna: R Foundation for Statistical Computing. R version 3.0.2.

Ranney, Austin. 1976. Parties in State Politics. In *Politics in the American States: A Comparative Analysis*, ed. Herbert Jacob and Kenneth Nelson Vines. Boston, MA: Little Brown.

Rickard, Stephanie J. 2009. "Strategic Targeting: The Effect of Institutions and Interests on Distributive Transfers." *Comparative Political Studies* 42(5):670–95.

Rickard, Stephanie J. 2012. "Electoral Systems, Voters Interests and Geographic Dispersion." *British Journal of Political Science* 42(4):855–77.

Rogers, Diane and John Rogers. 2000. "Political Competition and State Governement Size: Do Tighter Elections Produce Looser Budgets?" *Public Choice* 105(1):1–21.

Rogowski, Ronald and Mark A. Kayser. 2002. "Majoritarian Electoral Systems and Consumer Power: Price-Level Evidence from the OECD Countries." *American Journal of Political Science* 46(3):526–39.

Scartascini, Carlos G. and W. Mark Crain. 2002. "The Size and Composition of Government Spending in Multi-Party Systems." Social Science Research Network Working Paper Series.

Schultz, Kenneth A. 1995. "The Politics of the Political Business Cycle." *British Journal of Political Science* 25(1):79–99.

Selb, Peter. 2009. "A Deeper Look at the Proportionality-Turnout Nexus." *Comparative Political Studies* 42(4):527–48.

Sheather, Simon J. and Michael C. Jones. 1991. "A Reliable Data-based Bandwidth Selection Method for Kernel Density Estimation." *Journal of the Royal Statistical Society, Series B (Methodological)* 53(3):683–90.

Silverman, Bernard W. 1986. *Density Estimation for Statistics and Data Analysis.* Boca Raton, FL: CRC Press.

Skilling, David and Richard J. Zeckhauser. 2002. "Political Competition and Debt Trajectories in Japan and the OECD." *Japan and the World Economy* 14(2):121–35.

Solé-Ollé, Albert. 2006. "The effects of party competition on Budget Outcomes: Empirical Evidence from Local Governments in Spain." *Public Choice* 126(1-2):145–76.

Stasavage, David. 2005. "Democracy and Education Spending in Africa." *American Journal of Political Science* 49(2):343–58.

Strom, Kaare. 1989. "Inter-party Competition in Advanced Democracies." *Journal of Theoretical Politics* 1(3):277–300.

Treier, Shawn and Simon Jackman. 2008. "Democracy as a Latent Variable." *American Journal of Political Science* 52(1):201–17.

Tvinnereim, Endre M. 2004. "Democratic Contestation and Citizen Satisfaction in German States.".

Vanhanen, Tatu. 2000. "A New Dataset for Measuring Democracy, 1810-1998." *Journal of Peace Research* 37(2):251–65.

Wright, Joseph. 2008. "Political Competition and Democratic Stability in New Democracies." *British Journal of Political Science* 38(2):221–45.