A Simpler, and Better, Measure of Party System Competition

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The margin of votes separating the two largest parties is the most common measure of party system competition. A simpler and better measure is the percentage of seats held by the second largest party. It is simpler because it requires only one item of information instead of two. It is better because it is more fruitful theoretically and because data are available for many more countries on seats than votes. These claims are demonstrated in testing a theory of party system competition using data from 212 countries.

A political party can be defined as an organization that sponsors candidates for political office under the organization's name.¹ Not all countries have political parties, and some have only one. An Internet search for "one party system" turns up millions of hits, but some scholars deny that a "system" can consist of a single party. Wolintz presents the standard definition of a party system: "Political parties competing with each other for elective office and control of government."² Instead, I define a party system as one or more political parties interacting with government, citizens, and other parties—a broader definition that allows for one-party systems.³ It is more applicable to what anthropologist Raoul Naroll called "holonational" studies, truly worldwide research on nation-states or research that employs worldwide representative samples.⁴ The term and its significance will be addressed at the end of this paper, which addresses these questions in a holonational study of party system competition:

- 1. Why is party system competition a worthy topic to study?
- 2. How has "competition" been conceptualized?
- 3. How has party system competition been measured?
- 4. How do various measures of party system competition distribute and interrelate?
- 5. How reliable are the proposed measures?
- 6. Which measures seem most valid?

1. Why is party system competition a worthy topic to study?

The term "competition" figures prominently in party politics. It is often cited as a key factor for the behavior of both individual political parties and party systems. Concerning parties and office holders, Joseph Schlesinger said: "The more competitive a constituency, the more

¹ Kenneth Janda, Jeffrey Berry, and Jerry Goldman, *The Challenge of Democracy*, 11th ed. (Boston: Wadsworth, 2012), p. 244.

² Steven B. Wolinetz, "Party Systems and Party System Types," in "Richard S. Katz and William Crotty (eds.), *Handbook of Party Politics*. London: SAGE Publications, 2006, p. 51.

³ Kenneth Janda with Jin-Young Kwak, *Party Systems and Country Governance* (Boulder, CO: Paradigm Press, 2011), p. 97.

⁴ Raoul Naroll, "A Holonational Bibliography," *Comparative Political Studies*, 5 (July 1972), 211-230.

unsure anyone is of election and reelection."⁵ Concerning party systems—the primary focus of this paper—Wolfgang Müller and Ulrich Sieberer held that party competition is the driver of democracy: "The mainstream of democratic theory puts a premium on inter-party competition as a means of democracy."⁶ Their view was reflected by Albert Weale: "Party competition in open elections is the principal institutional device used in modern political systems to implement the ideals of democracy and to secure representative government."⁷

There are various theories of party competition. Searching for "theory of party competition" in Google scholar returns more than 1,100 titles. Party competition has been used to explain "the informal extraction of resources from state firms,"⁸ "policy preferences that correspond to those of the median voter,"⁹ "the problem-handling capacity of party government,"¹⁰ "responsiveness to the needs of the constituents,"¹¹ "levels of corruption,"¹² "social spending,"¹³ and so on.

A specific theory, developed in *Party Systems and Country Governance*, guides this analysis.¹⁴ One of its propositions is, *the more competitive the party system, the better the country governance*.¹⁵ A United Nations publication says, "In many countries today, political parties are an essential part of the apparatus of governance."¹⁶ Accordingly, international agencies have poured millions of dollars into political party development. Thomas Carothers

⁵ Joseph A. Schlesinger, *Political Parties and the Winning of Office* (Ann Arbor: University of Michigan Press, 1991), p. 99.

⁶ Wolfgang C. Müller and Ulrich Sieberer, "Party Law, "Richard S. Katz and William Crotty (eds.), *Handbook of Party Politics*. London: SAGE Publications, 2006, pp. 435-445, at 436.

⁷ Albert Weale, "Party Competition and Deliberative Democracy," in *Democratic Politics and Party Competition: Essays in Honour of Ian Budge*, ed. Judith Bara and Albert Weale (New York: Routledge, 2006), 271–286, at 271.

⁸ Anna Grzymala-Busse, "Political Competition and the Politicization of the State in East Central Europe," *Comparative Political Studies*, 36 (December 2003), 1123-1147, at p. 1125.

⁹ Albert Weale, "Party Competition and Deliberative Democracy," in Judith Bara and Albert Weale (eds.), *Democratic Politics and Party Competition: Essays in Honour of Ian Budge*. New York. Routledge, 2006. Pp. 271-286, at p. 278

¹⁰ Gordon Smith, "The Futures of Party Government: A Framework for Analysis," in Francis G. Castles and Rudolf Wildenmann (eds.), *Visions and Realities of Party Government*, New York: Walter de Gruyter, 1986. Pp. 205-235, at p. 219.

¹¹ Sarah Leary, "Electoral Authoritarianism: A Cross-National Study of the Influence of Elections on Responsiveness to the People and Regime Longevity," Paper prepared for presentation at the 2010 Midwest Political Science Association Annual Meeting, Chicago Illinois.

¹² Francoise Molenaar, "Effective party competition and corruption in Latin America," Paper prepared for presentation at the 2010 Midwest Political Science Association Annual Meeting, Chicago Illinois.

¹³ Bernhard Kittel and Herbert Obinger, "Political Parties, Institutions, and the Dynamics of Social Expenditure in Times of Austerity, Max-Planck-Institut für Gesellschaftsforschung: Discussion Paper 02/1, February 2002

¹⁴ Janda with Kwak, Chapter 6.

¹⁵ Janda with Kwak, p. 99.

¹⁶ Democratic Governance Group, *A Handbook on Working With Political Parties*. New York: United Nations Bureau for Development Policy, United Nations Development Programme, 2006, p. 9. See also Michelle Kuenzi and Gina Lambright, "Party Systems and Democratic Consolidation in Africa's Electoral Regimes," *Party Politics*, 11 (July 2005), 423-446.

reviewed those international aid efforts and their objectives.¹⁷ That "political power within the system should be distributed among at least a few parties and not held primarily by just one party" was #1 on Carothers' characteristics of a "desirable party system."¹⁸ Competition among political parties is commonly regarded as a requirement of democratic government in a nationstate. Many scholars believe that a competitive party system also contributes to good country governance.

2. How has "competition" been conceptualized?

Scholars do not always apply the same term to the same concept. "Competition" is no exception. Müller and Sieberer say, "competition is an ambiguous concept."¹⁹ More kindly, one can view it as an "umbrella concept" (or term) that covers many different more precise concepts. Our discussion ignores the vast literature on competition in other domains (e.g., in the marketplace) and considers only competition in party politics.

Parties are said to compete for votes won in elections, for control of government, and even for ownership of issues.²⁰ Giovanni Sartori contends that *competition* establishes the "rules of the game" being played, while *competitiveness* is "a particular state of the game."²¹ The distinction can be illustrated with examples from politics and baseball. Representative Ron Paul was in the competition for the 2012 Republican presidential nomination, but he was not very competitive. Since 1908, the Chicago Cubs baseball club has been in the competition to win the World Series but has not been very competitive during most of the intervening decades.

In election games, candidates compete to win office (decided by number of votes won). In governmental games, parties compete to win control of parliament (decided by number of seats won). In issue games, parties compete to win support for their policies (decided by public opinion).²² In all these games, competitiveness reflects the anticipation of winning—or not losing. Sartori continues, "Competition is 'competitive' when two or more parties obtain close returns and win on thin margins."²³

Unfortunately, Sartori—like most other scholars—jumps too quickly from concept to operationalization, focusing on "thin margins." Schlesinger observes, "Considering the importance of competition for the study of democratic politics, remarkably little has been done to clarify the concept.²⁴ Kaare Strom, one of the few who has analyzed party competition

¹⁷ Thomas Carothers, *Aiding Democracy Abroad: The Learning Curve* (Washington, DC: Carnegie Endowment for International Peace, 1999).

¹⁸ Thomas Carothers, Confronting the Weakest Link: Aiding Political Parties in New Democracies (Washington, DC: Carnegie Endowment for International Peace, 2006), pp. 98-99. ¹⁹ Müller and Sieberer, 436.

²⁰ Steven B. Wolinetz, "Party Systems and Party System Types," in *Handbook of Party Politics*, ed. Richard S. Katz and William Crotty (London: Sage Publications, 200651-62, at 53.

²¹.Giovanni Sartori, Parties and Party Systems: A Framework for Analysis (London: Cambridge University Press, 1976), 218.

²² See Jeremy J. Albright, "The Multidimensional Nature of Party Competition," Party Politics 16 (November, 2010), 699–719. ²³ Ibid.

²⁴ Schlesinger, p. 102.

conceptually, identifies "at least three clearly distinct conceptions of political competition":

- 1. Contestability. Analysis of political competition is typically based on economic analogies. In economics, competitiveness critically depends on the ease of entry to the market.
- 2. Conflict of Interest. A second meaning of political competition is the conflict of interest underlying behavior. Competition is thus in this conception contrasted with cooperative behavior.
- 3. Performance Sensitivity. The third meaning of political competition is performance sensitivity, or the extent to which outcomes depend on the behavior of the contestants. For political parties struggling for votes, competitiveness is thus a function of their influence on the voters' choices and thereby on the electoral outcome.²⁵

Strom concludes that the last sense, performance sensitivity," is "probably the most common way" in which the concept of competition is used in party politics. In practice:

Competitiveness is in such analyses theoretically conceived as the uncertainty of future electoral contests. In empirical studies, the expected closeness of electoral contests is a convenient proxy for this uncertainty.²⁶

Schlesinger, however, questioned using "closeness of [past] electoral contests" to measure future uncertainty:

Part of our problem derives from the future-oriented character of the idea of electoral competition. The idea rests upon uncertainty and directs our attention toward the next contest, not the last one.²⁷

Competitiveness—in Strom's sense of performance sensitivity—requires a mechanism to drives political behavior. Presumably, it is that competitiveness increases uncertainty of political outcomes after the next election. As Schlesinger says, "The more uncertain a candidate is that he or she will be elected, the more competitive the election."²⁸ In the complete absence of party competition, outcomes are known regardless of actors' behavior. In a competitive situation, outcomes are uncertain and influenced by actions of parties and candidates.

The underlying proposition—the greater the competitiveness, the higher the uncertainty-implies a positive, monotonic relationship between competitiveness and uncertainty. Unfortunately, that relationship cannot be expressed in cardinal numbers. Under conditions of uncertainty (as economist Frank Knight posited nearly a century ago), exact probabilities cannot be attached to outcomes.²⁹ Hence, decision making under uncertainty differs

²⁵ Kaare Strom, "Inter-Party Competition in Advanced Democracies," Journal of Theoretical Politics, 1 (1989), 277-300 at pp. 278-280. ²⁶ Strom, p. 281.

²⁷ Schlesinger, p. 102.

²⁸ Ibid.

²⁹ Frank Knight, *Risk, Uncertainty, and Profit.* (New York: Houghton Mifflin, 1921). For an accessible short summary of Knight's distinction between uncertainty and risk, see James M. Buchanan, "Frank H.

from decision making under risk, which does assign probabilities to outcomes.³⁰ Decades ago, in article titled "The Measurement of Party Competition," David Elkins argued that uncertainty was "the critical dimension" in the concept:

Loosely speaking, the less certain we feel about our ability to predict (or postdict) the outcome of an election or vote, the more competitive we feel it to be. In a competitive situation, the outcome could "go either way."³¹

This view of competitiveness—uncertainty in predicting winners and losers—may be sufficient concerning electoral competition for individual offices. It is insufficient for assessing competitiveness of party systems, because it ignores the transfer of power. For party systems, *competitiveness* concerns the likelihood that power is transferred from government to opposition. Anna Grzymala-Busse valued robust competition through "opposition parties that offer a clear, plausible, and critical governing alternative that threatens the governing coalition with replacement."³² That view demands more than just uncertainty, more than just the outcome could go "either way."

Returning to Sartori's distinction between competition and competitiveness, I define **party system** *competition* as the *condition* of uncertainty over which party will control the next government. Following Grzymala-Busse's suggestion, I define party system *competitiveness* as the *extent* of uncertainty concerning the governmental party's continued control of government.

3. How has party system competition been measured?

Occasionally, scholars use the strength of the largest party (P1)—usually the government party—to measure party system competition.³³ Strength is typically expressed either as the percentage of votes (P1v) that the party won in the last election or as the percentage of seats (P1s) in the lower chamber of parliament (or legislature) that the party won in the election or held after the election. The stronger the government party, the more certain it will hold office. In holonational research, data are more readily available on party seats won than on party votes won, so measuring party strength as the percentage of seats won is the practical choice. The question is open, however, concerning which performs better in analysis. These measures of party strength are computed and referenced herein as:

P1v = votes won by the largest party (P1) / total votes cast in the election × 100 (1)

Knight," in David L. Sills (ed.), *International Encyclopedia of the Social Sciences*, Volume 8 (New York: Macmillan and the Free Press, 1968), pp. 424-428.

³⁰ See Stephen Nelson and Peter J. Katzenstein, "Risk and Uncertainty in Hard Times," Prepared for delivery at the 2011 Annual Meeting of the International Studies Association, Montreal, Quebec, March 20, 2011, p. 4.

³¹ David J. Elkins, "The Measurement of Party Competition," *American Political Science Review*, 68 (June, 1974), 682-700 at p. 683-684.

³² Grzymala-Busse, *Rebuilding Leviathan: Party Competition and State Exploitation in Post-Communist Democracies* (New York: Cambridge University Press, 2007), p. 1.

³³ See Tatu Vanhanen, Prospects of Democracy: A Study of 172 Countries (New York: Routledge, 1997).

P1s = seats won by the largest party (P1) / total seats in the lower chamber $\times 100$ (2)

A few scholars (very few) have measured party system competitiveness by the strength of the second party (**P2**)—usually the opposition party.³⁴ The stronger the opposition party, the less certain the government will hold office. P2v is simply the percentage of party votes won after an election; P2s is the percentage of parliamentary seats won in an election.

P2v = votes for the second largest party (P2) / total votes cast in the election × 100 (3) P2s = seats for the second largest party (P2) / total seats in the lower chamber × 100 (4)

Little empirical research uses any of the four measures above. Instead, the predominant approach to measuring competition is captured in Sartori's cited statement: "Competition is 'competitive' when two or more parties obtain close returns and win on thin margins." In their extensive review of American scholarship, Timothy Besley and Anne Case said, "Authors have variously used differences in seat or vote shares at the last election as a means of quantifying the extent of competition between the parties."³⁵ Presumably, a small margin of victory at the last election implies that the governing party may fall in the next election. The victory margin (**M**) is virtually always between the largest party (P1) and the second largest party (P2). It can be calculated by votes (**Mv**) or seats (**Ms**). These alternative measures are computed and referenced herein as:

Mv = P1v – P2v (5) Ms = P1s – P2s (6) Where M stands for Margin, v for votes, s for seats, and P2 for second largest party

In the case of American party politics, which typically reflects the zero-sum game of a two-party system, Strom says, "Closeness is in turn measured as previous margins of victory, the frequency of turnover, or both." But Strom continues:

³⁴ For works that do use the strength of the parliamentary opposition in assessing competitiveness, see Jonathan van Eerd, "Dominance and Fluidity: Conceptualizing and Explaining Party System Characteristics in Sub-Saharan Africa," Paper prepared for presentation at the 2010 Midwest Political Science Association Annual Meeting, Chicago Illinois; and Grzymala-Busse, Anna, *Rebuilding Leviathan: Party Competition and State Exploitation in Post-Communist Democracies* (New York: Cambridge University Press, 2007).

³⁵ Timothy Besley and Anne Case, "Political Institutions and Policy Choices: Evidence from the United States," WP02/13 (London: Institute for Fiscal Studies), July, 2002, at p. 24. Available at http://www.ifs.org.uk/wps/wp0213.pdf. Andrew Karch and Benjamin Deufel consider a range of other approaches to measure party competition in American States in "Political Party Competition and Redistribution in the American States," Paper prepared for presentation at the Fourth Annual State Politics and Public Policy Conference, April 30 - May 1, 2004. For additional examples, see Alicia Adsera, "Are You Being Served? Political Accountability and Quality of Government," *Journal of Law Economics & Organization* 19 (October 2003): 445–490; Conor O'Dwyer, *Runaway State-Building: Patronage Politics and Democratic Development* (Baltimore: Johns Hopkins University Press, 2006), 40.
See also Alicia Adsera, "Are You Being Served? Political Accountability and Quality of Government," *Journal of Law Economics & Organization*, 19 (October, 2003), 445-490; and Conor O'Dwyer, *Runaway State-Building: Patronage Politics and Democratic Development* (Baltimore: The Johns Hopkins University Press, 2006), p. 40.

Such measures are less applicable in multi-party situations, where 'winning' is ambiguous and closeness even more so. No single closeness measure is adequate. Existing efforts to measure inter-party competitiveness in multi-party systems diverge in their conceptions of the critical dimension of victory. Is it majority, plurality, or electoral gain? Each of these conceptions captures some part of the meaning of closeness in two-party contests.³⁶

Although only the top two parties figure in calculating either Mv or Ms, the measures are usually regarded as measuring competition for the party system as a whole.

For competition in multiparty systems, some analysts have used Douglas Rae's measure of party system "fractionalization," \mathbf{F} .³⁷ Indeed, Rae said that he formulated his measure in response to this question: "Is competitive strength concentrated in one party, or is it divided among many parties?"³⁸ Rae originally applied F to party seats, but it also applies to party votes.

Fractionalization,
$$\mathbf{F} = 1 - \sum_{i}^{N} p_{i}^{2}$$
, where p = proportion of seats held by party i (7)

The greater the number of parties in a system and the more even the distribution of seats, the higher the fractionalization score, F.

Rae's F is mathematically related to Markku Laakso and Rein Taagerpera's Effective Number of Parties (**ENP**).³⁹ Again, ENP can be calculated using data on either party votes or party seats.

Effective Number of Parties,
$$ENP = \frac{1}{\sum_{i=1}^{N} p_i^2}$$
, where $p = proportion of seats held by party i (8)
$$\sum_{i=1}^{N} p_i^2$$$

The formulas for F and ENP (7 and 8) contain the unity constant (1) to represent *all* the seats in parliament. Unfortunately for many countries, parliamentary seat data are often not reported for smaller parties, and complete electoral data for all parties is even scarcer. Moreover, some countries have large proportions of "independents" or deputies seated without parties. Because F and ENP require seat data for all parliamentary parties (or electoral data for all parties in the election), which are often not available in holonational research.

Taagapera addressed this problem of "incomplete data" concerning ENP,⁴⁰ but his solution is not appropriate for the present study, which includes only the three largest parties in

³⁶ Strom, p. 281.

³⁷ Michelle Kuenzi and Gina Lambright, "Party Systems and Democratic Consolidation in Africa's Electoral Regimes," *Party Politics*, 11 (July 2005), 423-446. See also Mark Kesselman, "French Local Politics: A Statistical Examination of Grass Roots Consensus," *American Political Science Review*, 60 (December, 1966), 963-973 at pp. 968-969.

³⁸ Ibid.

³⁹ Markku Laakso and Rein Taagepera, "Effective Number of Parties: A Measure with Applications to West Europe," *Comparative Political Studies*, 12 (1979), 3-27.

parliament. Although the top three parties held 89 percent of the seats in half the 189 countries (i.e., 89 was the median value), in some countries the top three held trivial shares of the seats. In Belarus after the 2004 election, for example, the three largest parties (KPB, APB, and LDPB) accounted for only 11 percent of the seats (7, 3, and 1 respectively) while "nonpartisans" held the other 89 percent. Applying the standard ENP formula (8) to the Belarus seat data yielded bizarre results. The Effective Number of Parties for Belarus was a meaningless 169.

To adjust for my limited data, I substituted the summed proportion of seats ($\sum p$) held by the top three parties in place of unity (1) in the formulas for F and ENP:

$$\mathbf{F} = \sum_{i}^{3} p_{i} - \sum_{i}^{3} p_{i}^{2}, \text{ where } p = \text{proportion of seats held by party } i$$
(9)

$$\mathbf{ENP} = \frac{\sum_{i}^{3} p_{i}}{\sum_{i}^{3} p_{i}^{2}}, \text{ where } p = \text{proportion of seats held by party } i$$
(10)

This adjustment dropped Belarus' ENP score from 169 to 19, which was less absurd but still absurd. Belarus did not have 19 Effective Parties—nor did Kyrgyzstan or Macao have 14 each according to the adjusted formula. However, only these three countries were wildly "out of range" for the effective number of parties, and they were pulled toward reasonableness when ENP scores (discussed below) underwent a logarithmic transformation. Nevertheless, both F and ENP have limited applicability for holonational research because of their data requirements.

In addition to the data problem concerning F and ENP, there is a problem in using them to measure party system competition instead of party fragmentation, for which they were designed. Despite Rae's comment (quoted above) that F refers to "competitive strength," neither F nor ENP really address party system competition in the sense of alternation in government.⁴¹ When many parties hold small proportions of seats, that is not party system competitiveness as commonly understood. Instead, the existence of a large number of equally weak parties indicates party system entropy—random disorder. If entropy is a form of competitiveness, it is a bizarre form, unstructured and stochastic, that reflects a chaotic party system.⁴²

Instead, I view party system competitiveness as the extent of uncertainty concerning the governmental party's continued control of government. This concept envisions one or more rival parties with sufficient support to win government in response to popular evaluations of their

⁴⁰ Rein Taagepera, "Effective Number of Parties for Incomplete Data," Electoral Studies, 16, (1997), pp. 145-151

⁴¹ See such usage in Michelle Kuenzi and Gina Lambright, "Party Systems and Democratic Consolidation in Africa's Electoral Regimes," *Party Politics*, 11 (July 2005), 423-446. See also Mark Kesselman, "French Local Politics: A Statistical Examination of Grass Roots Consensus," *American Political Science Review*, 60 (December, 1966), 963-973 at pp. 968-969.

⁴² See Anna Grzymala-Busse, "Encouraging Effective Democratic Competition," *East European Politics and Societies*, 21 (2007), 91–110. She argues on page 95 that indicators such as "effective number of parties" measure neither the viability of alternative governments nor the fragility of existing ones.

policies and performance.⁴³ Having many parties in a fractionalized party system will not do. As Gordon Smith wrote: "Party competition encourages the presentation of issues to be resolved, and the prospects and the potential of government alternation continually maintains the promise that solutions can be found."⁴⁴ Nevertheless, both F and ENP have been used to measure party system competition and deserve to be included in the assessment.

4. How do various measures of party competition distribute and interrelate?

These alternative measures of party system competition—P1v, P1s, P2v, P2s, Mv, Ms, F, and ENP—were applied to data collected for all 212 countries scored on the 2007 Worldwide Governance Indicators by scholars at the World Bank.⁴⁵ Not all countries had political parties seated in parliament. In some countries with parliamentary parties, deputies were not always popularly elected. My colleague, Jin-Young Kwak, and I collected data on the percentage of seats won by the three largest parties in the last election prior to 2007, the date of the Worldwide Governance Indicators. We used the data to test the effect of party system competitiveness on country governance.⁴⁶

Party seat data are more readily available than party vote data, but obtaining even party seat data for 212 polities after the stimulus election was challenging and tedious. Despite the abundance of Internet resources on the world's countries, party politics are not well covered in many smaller countries. Data on parliamentary seat distribution are easier to acquire than electoral data on votes won by various parties. Table 1 cross-classifies 212 countries by two criteria: Did the deputies represent parties, and were deputies popularly elected? The second column shows that 185 parliaments seated deputies by publicly identified political parties. Only 152 countries popularly elected all parliamentary seats. In another 23, most seats were elected, but some were indirectly elected or appointed; in one country fewer than half were directly elected. Only 175 chose at least some of their deputies through popular elections—here I apply the phrase generously to direct selection by voters, regardless of the quality of the process. In all, we scored 189 countries for party seats, identified in boldface in Table 1, but only 137 for party votes.

⁴³ The argument for alternation in government as the prime value of party system competition is elaborated in Zsolt Enyedi and Fernando Casal Bértoa, "Patterns of party competition (1990-2009)," in Paul G. Lewis and Radoslaw Markowski (eds.) *Europeanising party politics? Comparative perspectives on Central and Eastern Europe after Enlargement*. Manchester: Manchester University Press, 2011, 116-142.

⁴⁴ Gordon Smith, "The Futures of Party Government: A Framework for Analysis," in Francis G. Castles and Rudolf Wildenmann (eds.), *Visions and Realities of Party Government* (New York: Walter de Gruyter, 1986), p. 219.

⁴⁵ See "A Decade of Measuring the Quality of Governance: Governance Matters 2006," (Washington, DC: World Bank, 2006), p. 1. Documents pertaining to the Worldwide Governance Indicators are available at <u>http://info.worldbank.org/governance/wgi/resources.htm</u>.

⁴⁶ Janda with Kwak, Party Systems and Country Governance, Chapter 9.

Were Deputies	Did Deputies Represent Political Parties?				
Popularly Elected to				No	
Parliament?	Public Parties	Shadowy Parties	No Parties	Parliament	Total
All deputies were	152		8		160
popularly elected			American Samoa ^b		
			Marshall Islands		
			Micronesia		
			Nauru		
			Niue		
			Oman		
			Palau		
			Tuvalu		
Most were	23	4 of 8	1		32
popularly elected		Iran	Swaziland		
		Jordan			
		Kyrgyzstan			
		Uganda			
		Afghanistan			
		Bahrain			
		Lebanon			
		Maldives			
Some were	1	1	1		3
popularly elected	Macao	Tonga	United Arab		
			Emirates		
All chosen in	5				5
controlled	Belarus				
elections	Cuba				
	North Korea				
	Laos				
	Turkmenista				
	n				
None chosen in	4		6		10
elections	China		Bhutan		
	Congo		Brunei		
	(Kinshasa)		Libya		
	Èritrea [°]		Qatar		
	Sudan		Saudi Arabia		
			Somalia		
No parliament				2	2
existed				Nepal	
				Myanmar	
Total	185	9	16	2	212

TABLE 1: Status of Parliamentary Parties in Lower Chambers of 212 Countries in 2006

^a Data are based on the 2006 CIA *World Factbook*. **Boldface** shows the 189 countries for which we have parliamentary seat data. *Italics* identify the eight countries with nonpartisan elections. ^b A marian Samoa had one appointed and twenty elected deputies.

^b American Samoa had one appointed and twenty elected deputies. ^c Eritrea's parliament was chosen in one election, in 1994. Figures 1 to 4 display the frequency distributions for percentages of votes and seats won, respectively, by the largest and second largest parties in parliament. All four variables—P1v, P1s, P2v, and P2s—are tolerably distributed for statistical analysis, but the two seat distributions are more satisfyingly symmetrical. Moreover, we scored 52 more countries for seats than for votes and thus for party system competition.



Figure 1: Largest Party, % of Votes







Figure 4: Second Party, % of Seats



Figures 5 and 6 display the margins of victory between the largest and the second largest parties, first in votes (Mv) and then in seats (Ms). Typically, empirical distributions of victory margins are highly skewed—which is usually not addressed when the measures are used. Research using victory margins as indicators of party system competition needs to correct for positively skewed distributions. The standard transformation expresses the data in logarithms.



Figures 7 and 8 show margins of victories in votes and seats after transformation to base 10 logarithms (MvLog and MsLog respectively). The transformed distributions are more suitable for computing correlations with the other proposed measures of party system competition: P1v, P1s, P2v, and P2s. (A few cases were lost in computing logs when either vote margin or seat margin were 0.)







Finally, Figures 9 and 10 display the distributions for F and ENP, using adjustments (formulas 9 and 10) to the original formulas (7 and 8) to handle the substantial missing data problem. Although both F and ENP employ $\sum p^2$, F subtracts it from 1 and ENP divides it into 1. Therefore, they are related curvilinearily, not linearly. The resulting F values did not need logarithmic transformation, but the ENP values did need transformation and were.



Factor analysis provides the simplest and most powerful method for assessing the correlations among eight measures for 131 countries with non-missing data. The factor structure reported in Table 2 shows that only two factors accounted for 84 percent of their covariance. Thus, most of these indicators were substantially interrelated. Because the factors were uncorrelated, some measures tapped different properties of party systems. For reference, I named the first factor, Government, and the second factor, Opposition.

	Factors ^a	
	1	2
	Government	Opposition
P1v: % vote for largest party	.92	
P1s: % seats for largest party	.98	
P2v: % vote for second party		.91
P2s: % seats for second party		.94
MvLog: % vote margin between both parties, log		70
MsLog: % seat margin between both parties, log	.77	
F: Rae's Fractionalization measure		
ENP: Effective Number of Parties, log	96	

Table 2: Factor	Analysis of	Eight Measures	of Party System	Competition

^aOrthogonally rotated factors using the varimax method

The column values (the factor loadings) show the correlation of each variable with the underlying factors. Loadings under .50 have been omitted to clarify the factor structure. Several points stand out.

1. As expected, votes and seats won by the largest party load on the Government factor. The simple correlation between P1v and P1s (not shown in the table) is r = 0.86.

- 2. As expected, votes and seats won by the *second* party load on the Opposition factor. The simple correlation between P2v and P2s is r = 0.77 (also not shown).
- 3. That votes and seats won by the largest party and by the second party load on *different* factors signifies little correlation between votes and seats won by the largest party and votes and seats won by the second party. Indeed, r = -.28 is the highest of the four possible intercorrelations (not shown).
- 4. The two measures of victory margins, MvLog and MsLog, load on different factors, which means that they are not themselves highly correlated. Their simple correlation (not reported in Table 2) is only r = 0.76. MsLog, victory in seats, loads positively on the Government factor, showing that electoral systems award proportionally more seats to the largest party, the Government party. Conversely, MvLog, victory in votes, is negatively related to the Opposition factor, suggesting that the larger the vote margin, the smaller the seat share for the second party.
- 5. Rae's F did not load highly on either factor, suggesting that his measure of fractionalization was unrelated to the strength of either party or to the margin of party victory, however measured.
- 6. ENP, however, loaded inversely and extremely highly on the Government factor. Given that the simple correlation between ENP and P1s was r = -.96, one measure essentially reflects the other.

5. How reliable are the propose measures of party system competition?

Reliability refers to whether alternative indicators generate identical values for the property they presume to measure, in this case party system competition. (I examine validity later.) Reliability of two indicators is conventionally judged by the magnitude of their correlation. The higher their correlation, the more interchangeable they are. Often two or more highly correlated indicators are combined into a composite index or scale to increase measurement reliability. In general, the more items in the scale and the higher their intercorrelations, the higher the scale's reliability, which is usually assessed by computing Cronbach's *alpha*.⁴⁷ There is no clear standard of what constitutes an acceptable level of reliability, but r = 0.80 is widely regarded as the minimum level for "good" measurement.⁴⁸

Most research measures party system competition by the victory margins between the top two parties. Table 2 reports two measures based on margins of victory in terms of votes and seats. MvLog and MsLog correlated r = 0.76. That is below the "good" level, implying that—whatever they measure—these measures are not interchangeable. However, if they were combined into a generalized "victory" scale to take into account both votes and seats, Cronbach's α would be .86, quite a good level of reliability. However, the number of countries would be reduced to 131, losing countries without data on party votes and those with 0 seat margins for which logarithms cannot be computed.

⁴⁷ Cronbach's $\alpha = rk / [1 + (k - 1)r]$ where k is the number of items considered and r is the mean of the inter-item correlations. See http://www.cronbachsalpha.com/.

⁴⁸ Robert F. DeVellis, cites correlations between 0.70 and 0.80 only as "respectable" for reliability in *Scale Development*. (Newbury Park, NJ: Sage Publications, 1991), p. 85.

In contrast, P1v and P1s—the alternative measures based on strength of the largest party—correlated r = 0.86, implying that they are reliably interchangeable. The other variable on the Government factor, ENP, correlated with P1v even higher, r = -.96, and also r = -.82 with P1s. If combined into one scale, these three variables would have a very high Cronbach's α of .95.

P2v and P2s—the alternative measures based on strength of the second party—correlated r = 0.77, suggesting that they also are not truly interchangeable. If they were combined into one scale, however, it would have a high Cronbach's α of .87.

Finally, Rae's F is essentially unrelated to any of the other measures, which means that its reliability cannot be assessed in the sense of consistency with an alternative standard. That does not mean that it is not a valid measure of party system competition, however.

5. Which of the measures of party system competition seem most valid?

An indicator is valid if it measures what it intends to measure. Alternative indicators of the same concept must be reliable to be valid, but reliable indicators are not necessarily valid ones. Formulas can compute reliability, but validity cannot be easily demonstrated. Observers must be persuaded that a measure is valid by considering arguments and evidence. Arguments and evidence for validity are subsumed under many headings—face, content, criterion, and construct—among others. Here, we argue only for face validity and present evidence for construct validity.

Face validity invites critics to examine the "face value" of the items chosen to indicate the concept. Do votes won by parties in an election and seats won by parties in parliament pertain directly to the concept of party system competition, interpreted as the strength of party opposition to government? I submit that all eight indicators pass the face value test. Construct validity presents a more challenging test, for it requires the indicators to uphold theoretical relationships involving the concept. By extension, the indicators that pass the test with the highest marks (fulfilling the theory the best) are the most valid indicators.

The more competitive the party system, the better the country governance, is the theory that underlies this test of construct validity. It comes from a larger study, *Party Systems and Country Governance*, which defines country governance as "the extent to which a state delivers the benefits of government to its citizens as acceptable costs.⁴⁹ That study employed six indicators of country governance for 2007 scored for 212 countries by the World Bank. They were Rule of Law, Government Effectiveness, Control of Corruption, Regulatory Quality, Voice and Accountability, and Political Stability and the Absence of Violence. Only Rule of Law will be involved in this test of construct validity. Among the Worldwide Governance Indicators, Rule of Law (RL), is defined as

⁴⁹ Janda with Kwak, p. 9.

perceptions of the extent to which agents have confidence in and abide by the rules of society, particularly the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence⁵⁰

Ratings on Rule of Law were created for 211 of the 212 countries (missing Niue) and converted into z-scores.⁵¹ Like all z-scores, RL scores had a mean of 0 and a standard deviation of 1.

Derived from the broader theory is the specific test proposition, *the more competitive the party system, greater the Rule of Law.* Assuming that citizens universally value Rule of Law as a benefit of government, we expect that more competitive party systems will rate higher on the World Bank's scoring for Rule of Law. This accords with standard assumptions of democratic politics, as expressed in Sarah Leary's reasoning that "more competitive elections lead to more provision of goods and services to voters."⁵²

The "most-different-systems" research design is used in testing this proposition. That design involves comparing a large number of very different countries with maximally different party systems—competitive and noncompetitive, fragmented and aggregative, volatile and stable—and even countries without political parties.⁵³ The design relies on a common dependent variable (Rule of Law) and alternative independent variables (measures of party system competitiveness) while ignoring all but two of the countless other variables on which the countries differ. The two country variables considered are country *size* (reasoning that smaller countries are easier to govern than larger countries).

This validity test focuses on alternative measures of party system competitiveness across all types of party systems while controlling for two influential country properties: size and wealth. Country size was measured by the log of small country size (area worked better than population), while country wealth was measured by the log of GDP per capita. Country size is clearly exogenous, and wealth is practically exogenous as GDP per capita varies little over time. Both variables were standardized as z-scores to match the World Bank's standardized scores for Rule of Law. Alone, these two variables explained 67 percent of the variance in RL, as shown in Equation 11, which reports *beta* values for the coefficients as for all equations from this point.

Although party seat data were collected for 189 countries, the analysis in *Party Systems and Country Governance*, covered all 211 countries scored by the World Bank. It included the missing 23 countries by adding two variables: **NoParties** was a dummy variable scored 1 for the

⁵⁰ See Worldwide Governance Indicators at http://info.worldbank.org/governance/wgi/pdf/rl.pdf.

⁵¹ Niue is a 100 square mile country with fewer than 2,000 inhabitants about 1,500 miles northeast of New Zealand.

⁵² Sarah Leary, "Electoral Authoritarianism: A Cross-National Study of the Influence of Elections on Responsiveness to the People and Regime Longevity" (paper presented at the annual meeting of the Midwest Political Science Association, Chicago, Illinois, April 22–25, 2010), 3.

⁵³ Adam Przeworski and Henry Teune, *The Logic of Comparative Social Inquiry* (New York: Wiley Interscience, 1970), 34–35.

15 countries that had no elections and no parties seated in parliament; otherwise 0; and **NonPartisan** was scored 1 for the 8 countries that had nonpartisan elections and thus no parties in parliament; otherwise 0. In the interest of brevity, these two variables were dropped from this paper, which considers only the 189 countries that seated parties in parliament. All 189 are included in regression analyses involving the two measures based on party seats. Because party vote data were available only for 137 countries and for other methodological peculiarities noted above, the number of countries sometimes dropped to 131.

The validity test seeks to determine—after controlling for country size and wealth—the measures of party system competitiveness that have significant effects on Rule of Law and the magnitudes of their effects. Given that size and wealth alone have a multiple R of .82 with Rule of Law and already explain 67 percent of the variance in RL in 2007, one should anticipate a ceiling effect and not expect much increase in explained variance. Instead, we are testing whether party system competitiveness exerts *any* significant independent effects on RL. Figure 11 displays results from OLS regressions using each of the alternative measures individually and more reliable scales combining two or more measures.



Figure 11: Regressions with Alternative Measures of Party System Competition

^aSignificance is judged at the .05 level using a one-tailed test.

As shown in Figure 11, measures based solely on the size of the largest party had no significant effects on Rule of Law independent of country size and wealth. Moreover, the

measure based on the Effective Number of Parties (ENP) also had no significant effect on RL. Even the highly reliable scale built from P1v, P1s, and ENP had no effect on RL.

Both measures based on the strength of the second party had significant effects on RL as did the reliable scale built from both indicators. Strength based on votes won had a slightly greater effect than strength computed on seats won. The associated beta coefficients for both indicators can be interpreted as follows: An increase of 1 standard deviation in the percentage of votes for the second party (P2v) increases RL .12, while a 1 standard deviation increase in the percentage of seats (P2s) increases RL .10. Translated into raw scores and roughly speaking, an increase of 1 percentage point in either votes or seats won by the second party increases RL by .01—a small but significant gain. The more reliable scale that combined votes and seats provided no appreciably different explanatory power, so there is little advantage in using it.

The alternative measures for margin of victory returned conflicting results. MsLog, the logarithm of the victory margin in seats, fell short of significance. However, MvLog, the parallel indicator based on votes, just barely achieved significance.⁵⁴ Because high victory values imply low party system competition, its beta value, -0.08, appropriately signified a negative effect. Combining the two measures in a more reliable scale slightly increased the effect on RL.

Finally, Rae's F came out rather well as a measure of party system competition, far better than ENP to which it is curvilinearily related. F—which ranges theoretically from 0 to 1—has been overshadowed by ENP, which offered the "crucial advantage" of expression in integers interpreted as the "effective number of parties."⁵⁵ Recall that F did not load on either the Government or Opposition factors in Table 1, yet F had an effect on RL equivalent to that for the simple measures of second party strength.

Conclusion

This analysis of the concept of party system competition, and the attendant review of alternative measures and their application in testing a proposition concerning the effect of party system competition on country governance, produced several findings:

- 1. Measures of party system competition based on strength of the largest party and on the Effective Number of Parties do not support the theoretical proposition tested. They may support propositions from other theories, but not that one.
- 2. Measures based on the strength of the second party do support the proposition. This finding is consistent with the proposed definition of **party system** *competitiveness* as the extent of uncertainty concerning the governmental party's continued control of government. Operationalizing party system competitiveness in terms of the strength of the second party amounts to measuring the strength of the opposition party.

⁵⁴ SPSS calculated the significance of MvLog at .093 for a two-tailed test, which falls just below .05 in a one-tailed test.

⁵⁵ Grigorii V. Golosov, "The Effective Number of Parties," *Party Politics*, 16 (March 2010), 171-192, at p. 174..

- 3. While Rae's F also supports the proposition almost as well, F requires data on multiple parties seated in each system. Measures based on the strength of the second party require only one item of information. Adding information for other parties does not add explanatory value.
- 4. Measuring party system competition by the margin of votes won by the largest party over the second party also supports the proposition, but more tenuously. Also, it requires two items of electoral data, which are harder to obtain than seat data.

Finally, three topics deserve to be addressed in this conclusion: (1) The information contained in measures of party system competition, (2) methodological issues in choosing measures based on votes or seats, and (3) the payoff from holonational research on party systems.

Information content in measures of party system competition: Strength of the second party relies on a single item of information. The margin of victory employs two items—strength of the largest party *and* strength of the second. Does the margin of victory tell us more as a result? Consider the information in the margin of victory concerning these scenarios: (A) a two-party system in which the parties split 52 to 48 in percentage of seats held, and (B) a multiparty system in which the two largest parties split 30 to 26. In both cases the margin in percentage of seats is 4 points, but the strength of the opposition party is 48 in (A) and 26 in (B). According to the margin of victory, systems (A) and (B) are equally competitive. But according to the strength of the opposition, (A) is more competitive than (B). Why? Perhaps this explanation may help. The 4 points in seats needed to reverse the parties' positions in (A) requires the party with 48 percent of the seats to gain only 8 percent more, while the party with 26 percent in (B) must gain 15 percent more. Given that the opposition party in (B) has to gain more to replace the governing party, is not (A) more competitive—despite the identical margin in seats?

Consider also the valid inferences about other parties that can be drawn from the strength of the opposition versus the margin of victory. In either scenario above, the 4-point margin implies nothing about the size of *any* party in the system. However, the size of the second party implies information about both the largest and the third largest parties for both scenarios. Knowing that the second-largest party in (A) holds 48 percent of the seats, one can infer that the largest party has at most 49 percent and that the third largest has at most 3 percent. (This assumes rounding to whole percentages and total seats equaling 100 percent.) For scenario (B), knowing that the second party has 26 percent means that the largest party has at least 27 percent and that the third has at most 25 percent. There is more information in the strength of the second party than in the margin of victory between the top two parties.

Using votes versus seats to measure party system competition: The regression coefficients in Figure 11 for measures based on party votes are marginally but consistently higher than those based on party seats. So it seems that the percentage of votes won in elections expresses opposition parties' strength better than the percentage of parliamentary seats they hold. This finding fits with the conception of party system competitiveness as uncertainty about retaining power. Politicians in government may pay more attention to the percentage of votes

won by the opposition than to the oppositions' percentage of seats. While that view argues for measuring party system competition using votes and not seats, the counter argument is that fewer countries can qualify for inclusion in holonational studies. First, electoral data is simply hard to collect for many small countries; and second, numerous countries seat political parties in parliament without holding competitive elections to put them there.

The value of holonational studies: This paper revives the term, "holonational," which was introduced by anthropologist Raoul Naroll in the 1970s, promoted by political scientist Lee Sigelman,⁵⁶ but used sparingly since the 1980s. Today, a Google Scholar Internet search returns fewer than fifty mentions. A useful term, holonational describes the broadest type of crossnational research—that which virtually includes *all* countries, or a random sample of all countries. Holonational studies aim at eliminating the "selection bias" that complicates crossnational research using non-random samples. Simon Hug addressed several guises of selection bias.⁵⁷ We are concerned with three manifestations of the problem: selecting cases according to (1) the dependent variable, (2) the independent variable, and (3) the availability of data. When cases are selected by scores on the dependent variable (e.g., Rule of Law), the selection affects the range of variation to be explained. That problem does not arise in this research because the World Bank scored virtually all countries on Rule of Law—it conducted a holonational study.

If cases are selected on the independent variable (e.g., party system competition), it affects the range of variation in the explanatory variable. This becomes a special problem for the comparative study of party politics, for which cross-national analysis is typically conducted only using countries where parties are relatively strong. Let me illustrate by citing G. Bingham Powell's pioneering 1981 study of the relationship between party systems and government performance in 28 countries,⁵⁸ which in objective and method is very similar to my research on party systems and country governance. His sample included "all independent nations of over one million persons that seemed to have both *competitive elections* [emphasis added] and enfranchisement of the majority of citizens for a five-year period before and during the late 1960s."⁵⁹ Powell's study could not disclose the effects on government performance of having weak parties or no parties. It had no such countries. Studying only countries with competitive elections with weak and no party systems to estimate the effects of party system competition on governance. These countries are automatically represented in holonational studies.⁶⁰

⁵⁶ Naroll, "A Holonational Bibliography;" and Lee Sigelman and Raoul Naroll, "Holonational Bibliography: First Supplement," *Comparative Political Studies*, 7 (October, 1974), 357-382.

⁵⁷ Simon Hug, "Selection Bias in Comparative Research: The Case of Incomplete Data Sets," *Political Analysis*, 11 (2003), 255-274.

⁵⁸ G. Bingham Powell, Jr., "Party Systems and Political System Performance: Voting Participation, Government Stability and Mass Violence in Contemporary Democracies," *American Political Science Review*, 75 (December 1981), 861-879.

⁵⁹ Powell, 861.

⁶⁰ Incidentally, the two variables, **NoParties** and **NonPartisan**, omitted from this paper but included in the book, *Party Systems and Country Governance*, each had significant effects on Rule of Law. The beta coefficient was 0.11 for NonPartisan, which applied to the 8 countries that elected parliamentary deputies in nonpartisan elections. The coefficient was -.09 for the NoParties, which applied to the 15 countries which had parliamentary parties but held no elections.

The third issue—selecting cases according to data availability—is not resolved simply through holonational research. Hug reports that selection bias often arises when the units of analysis are not countries but events, such as leadership changes or the rise of new parties. In the present instance, "available data" bias could occur by using party votes instead of party seats to select countries to study for party system competition. Electoral data on parties were available for only 137 countries, while party seat data were collected for 189 countries. Selecting countries on the basis of votes rather than seats would eliminate 52 countries. In this particular research, separate analyses comparing the effects of party votes v. seats for the 137 countries scored together revealed almost identical results, but such results cannot be guaranteed when so many countries are lost because of missing data. As Hug says, relying on incomplete samples exposes researchers "potentially to serious symptoms of selection bias."⁶¹ Measuring party system competitiveness using party seats instead of votes addresses this problem by including more countries in the analysis.

Holonational research, of course, conforms to the "most different systems" design followed in this paper. By including virtually all the world's countries, it estimated the effects of all levels of party system competitiveness on Rule of Law. But the strength of the most different systems design—concentrating on the possible variations in party systems—is also a potential weakness. It leads away from considering non-party factors that affect Rule of Law. To some extent, we provide for other factors by including country size and country wealth in our analyses. But the research neglected much. For example, it did not consider the difference between presidential and parliamentary forms of government, an important difference stress by other scholars.⁶² Nor did it consider the *nature* of individual parties in the party system. Introducing additional factors in more developed explanatory models may enhance the effects of party system competitiveness, but it may also dissolve their effects. That research remains to be done.

Because it neglected so many variables, the results are the more remarkable. Even without controlling for important variables—such as the form of government, the nature of parties, the type of electoral system, colonial history, length of time as an independent country, and so on—party system competition manages to exert statistically significant effects on Rule of Law, surfacing above the uncontrolled variables operating across nearly two hundred countries.

⁶¹ Hug, 256.

⁶² In his early research, Powell found important differences between parliamentary and party systems. More recently, the differences were emphasized by David J. Samuels and Matthew S. Shugart, *Presidents, Parties, and Prime Ministers* (New York: Cambridge University Press, 2010).