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Notes and Comments

The Comparative Analysis of Coalition Formation and Duration: Distinguishing Between-Country and Within-Country Effects

BERNARD GROFMAN

Dodd is generally credited with providing clear empirical support for the proposition that, in the period after the Second World War, minimal winning coalitions in European party governments will tend to last longer in office than non-minimal winning coalitions.¹ There has been a considerable body of research on this and related questions. Dodd, as well as most other authors treating cabinet coalition formation, has attempted to model features of cabinet formation such as cabinet duration or cabinet type (e.g. minimal winning v. minority government v. oversized coalitions) largely or entirely using data pooled from all cabinets in each of a number of different countries over some considerable time period. One difficulty with this method is that system-level variables (such as number of parties, or the presence of large anti-system parties), which might be able to explain aggregate-level *between-country* variations in cabinet type or cabinet durability, are not likely to be the same variables that are useful in explaining *within-country* differences. A second difficulty is that certain system-level characteristics such as effective number of parties or number of cleavage dimensions are highly correlated with both cabinet type and cabinet duration² and, as a consequence, these variables are highly correlated with one another when pooled cross-national data are used. Thus, if the analyst is not very careful, results of pooled cross-national data may lead to mistakes about causal structure and a confusion of within-country and between-country effects.

For example, Taylor and Herman,³ studying *individual* cabinet durability in nineteen

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¹ Lawrence D. Dodd, *Coalitions in Parliamentary Government* (Princeton, NJ: Princeton University Press, 1976).

² See, for example, Paul Warwick, 'The Durability of Coalition Governments in Parliamentary Democracies', *Comparative Political Studies*, 11 (1979), 465–98; Hans Daalder, 'Cabinets and Party Systems in Ten European Democracies', *Acta Politica*, 6 (1971), 282–303; David Sanders and Valentine M. Herman, 'The Stability and Survival of Governments in Western Democracies', *Acta Politica*, 12 (1977), 346–77; Kaare Strom, 'Party Goals and Government Performance in Parliamentary Democracies', *American Political Science Review*, 79 (1985), 738–54; Arend Lijphart, *Democracies: Patterns of Majoritarian and Consensus Government in Twenty-one Countries* (New Haven, Conn.: Yale University Press, 1984); Arend Lijphart, 'Measures of Cabinet Durability: A Conceptual and Empirical Evaluation', *Comparative Political Studies*, 17 (1984), 265–79; Arend Lijphart, 'A Note on the Meaning of Cabinet Durability', *Comparative Political Studies*, 17 (1984), 163–6.

³ Michael Taylor and Valentine M. Herman, 'Party Systems and Government Stability', *American Political Science Review*, 65 (1971), 28–37.

stable democracies in the period after the Second World War find a correlation of only -0.44 between the Rae fractionalization index⁴ and cross-national pooled data on cabinet durability. In contrast, Lijphart⁵ finds a much higher correlation of -0.80 between *mean* cabinet duration and *mean* effective number of parties in a virtually identical set of twenty-one countries for the period after the Second World War. The effective number of parties is equal to the inverse of one minus the Rae fractionalization index.⁶ The difference in fit between Taylor and Herman⁷ and Lijphart⁸ is not due to differences in the countries examined or in the time period considered, but almost certainly to the fact that Lijphart,⁹ by looking at mean duration and mean effective number of parties, is 'smoothing out' the within-country variations. This would tend to lower the correlation because the principal effect of the Laakso-Taagepera index is to specify a variable which effectively predicts cabinet durability in terms of a *country*-level attribute such as party system.

The central aim of this Note is to demonstrate that it is largely the *cross-country* variation in number of parties and in type of party system that is the underlying 'cause' of the observed correlation between cabinet longevity and effective number of parties. I look at the relationship between cabinet longevity and cabinet type, controlling for effective number of parties and controlling for number of ideological cleavages (using Lijphart's 1984 specification of the number of ideological cleavages in the same set of twenty-one post-Second World War democracies). I argue that the well-known correlation between minimum winning size of cabinets and cabinet durability¹⁰ largely vanishes once system-level variables temporally antecedent to cabinet type are controlled.

A REFORMULATION OF DODD'S (1976) MODEL

Dodd proposes that 'minimum winning cabinets will be quite durable. Oversized and undersized cabinets will be more transient'.¹¹ He tests this hypothesis by 'examining the covariation of relevant variables'.¹² However, he explicitly rejects the strategy of examining either between-country variation or temporal patterns. Rather, all cabinets in all countries are to be simultaneously analysed regardless of within-country sequence. In pooling the data in this fashion it is easy to miss confounding effects of cross-national variation in system-level characteristics.

⁴ Douglas Rae, *The Political Consequences of Electoral Laws*, 2nd edn (New Haven, Conn.: Yale University Press, 1971).

⁵ Lijphart, *Democracies*.

⁶ See Marku Laakso and Rein Taagepera, 'Effective Number of Parties: A Measure with Application to West Europe', *Comparative Political Studies*, 12 (1979), 3–27; Rein Taagepera and Bernard Grofman, 'Effective Size and Number of Components', *Sociological Methods and Research*, 10 (1981), 63–81; Rein Taagepera and Bernard Grofman, 'Rethinking Duverger's Law: Predicting the Effective Number of Parties in Plurality and PR Systems – Parties Minus Issues Equals One', *European Journal of Political Research*, 13 (1985), 341–52.

⁷ Taylor and Herman, 'Party Systems'.

⁸ Lijphart, *Democracies*.

⁹ Lijphart, *Democracies*.

¹⁰ Dodd, *Coalitions*.

¹¹ Dodd, *Coalitions*, p. 18.

¹² Dodd, *Coalitions*, p. 24.

Dodd has five central propositions.¹³ Here we focus on the first four, which we restate as follows:

Proposition 1: Minimum winning cabinets tend to form in multi-party systems that are defractionalized (stable) and not extremely polarized.

Proposition 2: Oversized cabinets tend to form in multi-party systems that are fractionalized (unstable) and non-conflictual.

Proposition 3: Undersized cabinets tend to form in multi-party systems that are fractionalized (unstable) and highly conflictual.

Proposition 4: Minimal winning coalitions will tend to be more durable than either undersized or oversized cabinets.

The first three of these propositions deal with type of cabinet. The fourth links cabinet type to cabinet durability. I shall begin with the first three of these propositions. For reasons that will become clear, I prefer to omit the stability–instability clause in these three propositions and to focus on the 2 × 3 table in Table 1 as a way of summarizing Propositions 1–3 in Dodd.¹⁴

TABLE 1 *A Simplified Restatement of Three Propositions about Cabinet Size**

		<i>Conflict level</i>		
		Consensual	Intermediate	Polarized
<i>Fractionalization</i>	High	Oversized cabinets 1	2	Undersized cabinets 3
	Low	4	Minimum winning coalitions 5	6

* In Dodd, *Coalitions in Parliamentary Government*.

In Table 2 we classify the twenty-one post-Second World War democracies analysed in Lijphart¹⁵ according to their effective number of parties (less than three, more than three) and according to degree of conflict (using a classification based in part on Luebbert¹⁶ and in part on the presence of anti-system parties with blackmail potential). In Table 3 I show the percentage of minimal winning coalitions and the percentage of minority governments for each of these countries. It is apparent from inspection of Table 3 that while Dodd's first proposition is supported (cell 5), his last two propositions are not.

¹³ Dodd, *Coalitions*, pp. 28–9.

¹⁴ Dodd, *Coalitions*.

¹⁵ Lijphart, *Democracies*.

¹⁶ G. M. Luebbert, *Comparative Democracy: Policymaking and Governing Coalitions in Europe and Israel* (New York: Columbia University Press, 1986).

TABLE 2 Location of Countries in Cells of Table 1 and Effective Number of Parties in Each*

		Conflict level		
		Consensual	Intermediate	Polarized
Fractionalization	High	Denmark (4.3) Norway (3.2) Sweden (3.2) Mean 1 3.6	Belgium (3.7) Israel (4.7) Netherlands (4.9) Switzerland (5.0) Luxem- bourg (3.5) Japan (3.1) Iceland (3.5) Mean 2 4.1	France IV (3.3) France V (4.9) Italy (3.5) Finland (5.0) Mean 3 4.2
	Low		Germany (2.6) United Kingdom (2.1) Ireland (2.8) Canada (2.4) Austria (2.2) Australia (2.5) New Zealand (2.0) Mean 5 2.4	
		4	5	6

* Numbers in parentheses are effective number of parties (inverse of one minus Rae fractionalization index) for post-Second World War period.

Source: Fractionalization data from Lijphart, *Democracies*, p. 125. Conflict classification is the author's own, based in part on Luebbert, *Comparative Democracy*.

With respect to Proposition 2, we find that (in cell 1) consensual systems with high fractionalization tend to have *undersized* cabinets, not *oversized* cabinets. With respect to Proposition 3 we find that conflictual systems with high fractionalization (in cell 3) do not manifest a preponderance of undersized cabinets. Indeed, the contrary is true. Thus, I was led to the following revised set of propositions:

Proposition 1': Multiparty systems with high fractionalization which are consensual tend to give rise to minority cabinets.

Proposition 2': Multiparty systems with high fractionalization which are highly conflictual tend to give rise to a mix of undersized and oversized cabinets, and few minimal winning coalitions.

Proposition 3': Party systems with low fractionalization tend to have minimal winning coalitions. (Note that we have data only for those countries with high fractionalization which are intermediate on the conflict variable.)

In support of Proposition 1', see cell 1 in Table 3.

TABLE 3 *Minimal Winning Coalitions and Minority Governments of Total Cabinet Duration for Countries as Located in Cells of Table 1**

		Conflict level		
		Consensual	Intermediate	Polarized
High	Denmark (0.32, 0.68)	Belgium (0.75, 0.03)	France IV (0.00, 0.40)	
	Norway (0.67, 0.33)	Israel (0.17, 0.01)	France V (0.37, 0.00)	
Low	Sweden (0.32, 0.65)	Netherlands (0.25, 0.04)	Italy (0.17, 0.36)	
		Switzerland (0.0)	Finland (0.25, 0.25)	
Fractionalization		Luxembourg (0.96, 0.00)		
		Japan (0.77, 0.08)		
	Mean 1 (0.43, 0.55)	Iceland (0.86, 0.04)	Mean 3 (0.20, 0.25)	
	1	Mean 2 (0.54, 0.03)	3	
		Germany (0.78, 0.00)		
		United Kingdom (0.90, 0.10)		
		Ireland (0.78, 0.22)		
		Canada (0.73, 0.27)		
		Austria (0.84, 0.04)		
		Australia (0.86, 0.00)		
		New Zealand (1.00, 0.00)		
	4	Mean 5 (0.70, 0.09)	6	

* First entry in vector is proportion of minimal winning coalitions; second entry is proportion of time minority governments are in power (in months).

Source: Cabinet type data from Lijphart, *Democracies*, p. 61.

In examining Proposition 2', we find that France IV had 0 per cent minimal winning coalitions (mwc), France V had only 37 per cent mwc, Italy had only 17 per cent mwc, and Finland had only 25 per cent mwc. Thus, Proposition 2 is supported.

In testing Proposition 3' we note that the percentage mwc among the countries in cell 5 of Table 3 ranged from 78 per cent to 100 per cent. Thus, Proposition 3 is supported.

Note that multiparty systems with high fractionalization and an intermediate level of conflict tend to give rise to a mixed pattern. Belgium, Luxembourg, Iceland and Japan do, however, appear different from the three other countries in that cell.

Luebbert has proposed a model which can account for the predictive fit of our revised hypothesis 1'-3'.¹⁷ He proposed that consensual governments (cell 1) can 'afford' minority governments since consensus politics continues to operate much as usual regardless of the size of the governing coalition. In contrast, in polarized polities (cell 3) the existence of anti-regime parties tends to lead to oversized coalitions in order to enhance the legitimacy of the actions taken by the governing coalition. (Of course with consensual politics the plurality party is likely to be relatively centrist *vis-à-vis* the ideological spectrum in the country.) Finally, when fractionalization is low and competition is at an intermediate

¹⁷ Luebbert, *Comparative Democracy*, pp. 85-6.

level (cell 5), with legitimacy not threatened, 'ordinary politics' operated to minimize concessions and create a bare winning coalition in the manner of Riker.¹⁸

Now we turn to Dodd's fourth proposition and look at cabinet durability. I show in Table 4 the mean cabinet durations for each of Lijphart's twenty-one democracies, again arranged according to the categories of Table 1. A very different way of conceptualizing the link between cabinet type, party system, and cabinet durability from that found in Dodd's Proposition 4 is suggested by an analysis of the data reported in Table 4. In particular, I propose:

Proposition 4'(a): Countries with low fractionalization will tend to have durable cabinets (cell 5 in Table 4). Countries with fractionalized party systems but without polarization will have intermediate cabinet durability (cells 1 and 2 in Table 4). Cabinet durability will be least in countries characterized by both high fractionalization and high polarization (cell 3 in Table 4).

Clearly Proposition 4'(a) is supported by the data: mean cabinet duration ranges from 17 months in cell 3, to 39 months and 54 months, in cells 1 and 2, respectively, to the high of 81 months for the low fractionalization countries in cell 5.

The important point to appreciate about Proposition 4'(a) (as contrasted to Proposition 4) is that Proposition 4'(a) makes no mention of any link between cabinet type and cabinet durability. Rather, the hypothesis is expressed in terms of fractionalization (effective number of parties) and degree of polarization of the party system.¹⁹

I believe it is sensible to take party system to be a determinant of both cabinet type and cabinet durability. Thus, the well-known direct relationship between cabinet type and cabinet durability should essentially vanish as spurious; i.e., I posit the relationship shown in Figure 1.

It still might be the case, however, that within a given country, cabinet type might affect cabinet durability, *but it could only do so relative to the average durability of cabinets in that country*. In fact in only four of the twenty-one countries we examined – Canada, Denmark, Luxembourg and Norway – was cabinet type (1 = mw, 0 otherwise) a statistically significant predictor of cabinet duration. In only two countries, Denmark and the United Kingdom, was the effective number of parties a statistically significant predictor of cabinet durability in the country.²⁰ Thus, the principal variation in cabinet durability

¹⁸ William Riker, *The Theory of Political Coalitions* (New Haven, Conn.: Yale University Press, 1962).

¹⁹ While we might propose Hypothesis 4'(b): 'Countries with either oversized or undersized coalitions will tend to be low in cabinet durability; and cabinet durability will be least in countries where both oversized and undersized coalitions are common. In contrast, countries with minimum winning coalitions will tend to have durable cabinets', we find that Proposition 4'(a) fits the data marginally better than Proposition 4'(b) because Iceland, Japan, Luxembourg and Belgium, which belong to cell 2 due to fractionalization, are, unlike the other countries in cell 2, not characterized by either undersized or oversized coalitions. Thus, according to Proposition 4'(b), we should expect them to have long-lived cabinets. In fact, cabinet longevity in these countries is at an intermediate level.

²⁰ Instead of regressing the variable 'cabinet duration' on cabinet type, we might be better advised to regress a variable which expressed cabinet duration *relative to a country's own norm* against cabinet type. Pooling data for seven countries (from Finland to Israel) we obtain a correlation of 0.14 between relative cabinet duration and cabinet type compared to a correlation of 0.434 for the non-normalized bivariate relationship between cabinet duration and cabinet type. Thus, this line of approach does not seem promising.

TABLE 4 Mean Cabinet Duration of Twenty-One Countries as Located in Cells of Table 1*

		Conflict level		
		Consensual	Intermediate	Polarized
Fractionalization	High	Denmark (34) Norway (55) Sweden (74) Mean 1 54	Belgium (26) Israel (28) Netherlands (34) Switzerland (30) Luxem- bourg (58) Japan (58) Iceland (37) Mean 2 39	France IV (9) France V (29) Italy (17) Finland (13) Mean 3 17
	Low		Germany (47) United Kingdom (81) Ireland (70) Canada (104) Austria (100) Australia (102) New Zealand (64) Mean 5 81	
		4	5	6

* Numbers in parentheses is mean post-Second World War cabinet duration in months.
 Source: Cabinet duration data is from Lijphart, *Democracies*, Table 5.3, p. 83.

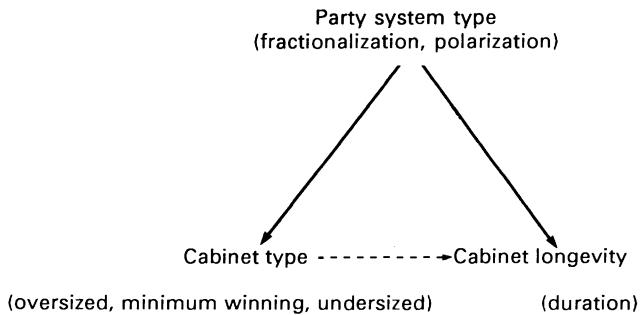


Fig. 1. A spurious relationship between cabinet type and cabinet longevity

appears to be generated by *between-country* effects which are a function of party-system variables such as the effective number of parties.²¹

EFFECTIVE NUMBER OF PARTIES AND PARTY CLEAVAGE STRUCTURE

Lijphart has sought to identify key aspects of party systems.²² He focuses on (1) prevalence of minimal winning cabinets, (2) cabinet durability, (3) effective number of parties, (4) number of issue dimensions and (5) electoral disproportionality (which is related to type of electoral system). Lijphart finds that these variables tend to be highly interrelated, but he has not sought to establish a causal sequence among them. I believe that, at least among the first four, the number of issue dimensions is temporally antecedent to the other variables;²³ although the effective number of parties may, over time, affect the dimensionality of issue conflict within a polity, since not all potential conflicts will be fought out within the political arena.²⁴

Lijphart finds a correlation across his twenty-one countries of 0.8 between mean effective number of parties and number of issue cleavages.²⁵ Taagepera and Grofman²⁶ point out that the relationship between effective number of parties (N) and number of issue dimensions (I) is very nicely fitted by the linear relationship

$$N = I + 1. \quad (1)$$

Taagepera has suggested that one model to account for this relationship is in terms of the creation of a new party orthogonal to the existing issue dimensions when new issue cleavages arise in the society.²⁷

Taagepera and Grofman also point out that the electoral system is highly correlated with number of issue dimensions;²⁸ the more dimensions of issue conflict within a society, the more likely the polity is to make use of a PR or semi-PR electoral system. Of course, as they note, the causal direction of this sequence is not clear and probably involves reciprocal causation. They argue that the evidence for the link between electoral system and number of parties posited by Duverger's Law and Duverger's Hypothesis can better be interpreted in terms of a system-level relationship between number of issue cleavages and effective number of parties.²⁹ They claim that the relationship between electoral sys-

²¹ For an alternative approach see Rein Taagepera, 'Reformulating the Cube Law for Proportional Representation Elections', *American Political Science Review*, 80 (1986), 489–504, which proposes a new model to account for parameter values of a posited non-linear relationship.

²² Lijphart, *Democracies*.

²³ Taagepera and Grofman, 'Rethinking Duverger's Law'; Giovanni Sartori, 'The Influence of Electoral Systems: Faulty Laws or Faulty Method?' in B. Grofman and A. Lijphart, eds, *Electoral Laws and Their Political Consequences* (New York: Agathon Press, 1986).

²⁴ See E. E. Schattschneider, *The Semi-Sovereign People* (New York: Holt, Rinehart, 1968).

²⁵ Lijphart, *Democracies*.

²⁶ Taagepera and Grofman, 'Rethinking Duverger's Law'.

²⁷ Taagepera, 'Reformulating the Cube Law'.

²⁸ Taagepera and Grofman, 'Rethinking Duverger's Law'; (personal communication, February 1987).

²⁹ See Maurice Duverger, 'The Influence of Electoral Systems on Political Life', *International Social Science Bulletin*, 3 (1951), 314–52; Maurice Duverger, 'Duverger's Law: Forty Years Later', in Grofman and Lijphart, eds, *Electoral Laws and Their Political Consequences*; William Riker, 'The Two-Party System and Duverger's Law: An Essay on the History of Political Science', *American Political Science Review*, 76 (1982), 753–66; and Giovanni Sartori, 'Political Development and Political Engineering', *Public Policy*, 17 (1968), 261–98.

tem and number of parties is in large part spurious and disappears when the number of issue dimensions is controlled. They also assert that the standard rationale for Duverger's Hypothesis (the 'mechanical effect' plus the 'psychological effect') only makes sense in a one-dimensional setting.

Taagepera and Grofman's argument that the link between electoral system and effective number of parties disappears when the number of issue dimensions is controlled suggests that, in similar fashion, the observed bivariate correlation between mean cabinet durability and effective number of parties might disappear when the number of issue dimensions is controlled.³⁰ However, number of parties has a more substantial effect in accounting for variation in cabinet duration than number of issue dimensions. The bivariate correlation between mean effective number of parties (N) and mean cabinet duration (for the Lijphart data set)³¹ is, as previously noted, -0.80 . The bivariate correlation between number of issue dimensions (I) and cabinet duration (D) for that data set is -0.70 . The multivariate relationship between two variables (I and N) and cabinet duration (D) is given by

$$D = -16.5N + -10.1I + 133.49 \quad (2)$$

and has an R^2 value of 0.82 (adjusted $r^2 = 0.63$).

Table 5 shows a correlation matrix for a number of variables that have been posited to

TABLE 5 *Correlation Matrix of Variables Related to Mean Cabinet Duration for Twenty Democracies in the Post-Second World War Period*

	Duration	Effective number of parties	Number of issue dimensions	Polarization	Consensus	Percentage MWC	Percentage minority governments
Duration	x	-0.80	-0.70	-0.61	0.03	0.67	-0.13
Effective number of parties		x	0.76	0.43	0.09	-0.80	0.27
Number of issue dimensions			x	0.58	0.19	-0.70	0.25
Polarization				x	-0.21	-0.63	0.19
Consensus					x	-0.21	0.76
Percentage minority governments						x	-0.52

Source: Coding for all variables except Polarization and Consensus is Lijphart, *Democracies*. Polarization and Consensus values were assigned by the author (cf. Powell and G. Bingham, *Contemporary Democracies* (Cambridge, Mass.; Harvard University Press, 1982); Luebbert, *Comparative Democracy*). France IV and France V are treated separately; Switzerland and the United States are omitted. All countries other than Denmark, Norway and Sweden are 0 on the Consensus variable. All countries other than Italy, Finland, France IV and France V are 0 on the Polarization value.

³⁰ Taagepera and Grofman, 'Rethinking Duverger's Law'.

³¹ Lijphart, *Democracies*.

be linked to cabinet durability.³² Entering these variables into a stepwise regression with duration as the dependent variable, effective number of parties (N) and polarization (P) are the only significant variables:

$$D = -20.3 N + -23.1 P + 124.8,$$

with a correlation of 0.85 and an adjusted r^2 of 0.69.

When we include data from four additional countries (Switzerland, Greece, Portugal and Spain, with data taken from Lijphart *et al.*)³³ N and P remain the only significant variables:

$$D = -18.4 N + -24.9 P + 117.7$$

with a correlation of 0.85 and an adjusted r^2 of 0.70.

DISCUSSION

The approach in this Note is similar to that of Lijphart, Luebbert, and Schofield.³⁴ Luebbert's position is that the most promising approach to understanding cabinet formation is 'typological-rational', in which country-specific differences in political motivation and political context are recognized. However, like Lijphart, Schofield, and Taagepera,³⁵ I find that quite general features of party systems, such as the effective number of parties, allow one to account well for much of the cross-national variation in both cabinet duration and cabinet type.³⁶ The other variable of independent importance seems to be the existence of polarized politics as signalled by the presence of anti-system parties with blackmail potential. The number of issue cleavages is a further potentially important factor, one which has been neglected in previous work on cabinet durability. Although it has no independent effect once we control for effective number of parties, it appears to be a variable at least in part temporally antecedent to, and highly correlated with, effective number of parties. Thus, there may be theoretical reasons why we should use it rather than effective number of parties as our major explanatory variable – since we sacrifice only a few hundredths of a point in r^2 .³⁷

³² There are other ways in which the cabinet duration variable might have been operationalized, but it is not likely that such differences would have affected our results (see Lijphart, 'Measures of Cabinet Durability'). However, like Lijphart ('A Note on the Meaning of Cabinet Durability'), I would caution against 'the facile assumption that cabinet durability necessarily spells regime stability' in some broader meaning of the latter term. Like Lijphart, I find cabinet duration to be a variable of sufficient intrinsic interest to be worthy of study.

³³ Arend Lijphart, Thomas C. Bruneau, P. Nikiforos Diamandouros and Richard Gunther, 'A Mediterranean Model of Democracy: The Southern European Democracies in Comparative Perspective', *West European Politics*, 11 (1988), 7–25.

³⁴ See Lijphart, *Democracies*; Luebbert, *Comparative Democracy*; and Norman Schofield, 'Coalitions in West European Democracies: 1945–1986', in N. Schofield, ed., *Coalition Models* (Boston, Mass.: Kluwer-Nijhoff, 1989, forthcoming).

³⁵ Taagepera, 'Reformulating the Cube Law',

³⁶ See also Jean Blondel, 'Party Systems and Patterns of Government in Western Democracies', *Canadian Journal of Political Science*, 1 (1968), 180–203.

³⁷ If I replaces C , and with D (as usual) the dependent variable, we obtain a multivariate equation with I , MWC and P which has a multiple correlation of 0.77. If the mean vote share of the largest party replaces N (with data for twenty countries, 1945–80, from Manus Midlarski, 'Political Stability of Two-Party and Multiparty Systems: Probabilistic Bases for the Comparison of Party Systems', *American Political Science Review*, 78 (1984), 929–57, p. 944), we obtain a multiple correlation of 0.8,

If the central thesis of this Note is correct, we currently lack an adequate theory to account for *within*-country variations in cabinet duration. None the less, I remain sceptical that the process of cabinet dissolution is best described purely in terms of a random-events, Poisson-type model.³⁸ One plausible possibility is that the answer is in terms of a model which characterizes the set of alternatives to the prevailing coalition – the more such alternatives and the more viable they are on balance, the more likely that the coalition in place will be replaced when some exogenous shock affects its ability to govern.³⁹ Moreover, the high correlation between system-level variables which tap the effective number of parties and the dimensionality of issue conflict with cabinet durability is a finding in need of an explanation. Very recent theoretical work on spatial games suggests ways of characterizing the extent to which a governing coalition is vulnerable to dissolution because of the temptation of competing coalitions.

One possible approach is inspired by the work of Richard McKelvey and his colleagues. McKelvey, and Ferejohn, McKelvey and Packel have introduced the concept of the *yolk*.⁴⁰ In two dimensions the *yolk* is the minimum circle which intersects all median lines. (Median lines are those which cut the plane so that the preferred policy positions of at least half the legislators are on or to either side of the line.) The larger the radius of the *yolk* relative to the area occupied by the set of party/legislation locations, the further away we are from a single *core* element (i.e., an alternative that can defeat all other possible issue locations). Properties of the *yolk* have been investigated by Feld *et al.* and by Feld, Grofman and Miller.⁴¹ I conjecture that the greater the size of the *yolk* (relative to

again with *P* as the second significant variable. If mean total number of parties in the legislature replaces *N* (data for eighteen countries for the period 1964–74 taken from Mayer, 'Party Systems and Government Stability', in Peter H. Merkl, ed., *Western European Party Systems: Trends and Prospects* (New York: Free Press, 1980), pp. 335–57, p. 342), we obtain a multiple correlation of 0.77, with *i* rather than *P* as the second significant variable. In a stepwise regression with eight independent variables available, *N* and *P* are the two variables which enter as significant at an *F* cutoff of 2.0.

³⁸ See Eric C. Browne, John Frensdreis and Dennis Gleiber, 'An "Events" Approach to the Problem of Cabinet Stability', *Comparative Political Studies*, 17 (1984), 167–97; Eric C. Browne, John Frensdreis and Dennis Gleiber, 'Dissolution of Governments in Scandinavia: A Critical Events Perspective', *Scandinavian Political Studies*, 9 (1986), 93–110; Eric C. Browne, John Frensdreis and Dennis Gleiber, 'The Process of Cabinet Dissolution: An Exponential Model of Duration and Stability in Western Democracies', *American Journal of Political Science*, 30 (1986), 628–50; Claudio Cioffi-Revilla, 'The Political Reliability of Italian Government: An Exponential Survival Model', *American Political Science Review*, 78 (1984), 318–37; and John P. Frensdreis, Dennis Gleiber and Eric C. Browne, 'The Study of Cabinet Dissolutions in Parliamentary Democracies', *Legislative Studies Quarterly*, 11 (1986), 619–28.

³⁹ See John D. Robertson, 'The Political Economy and the Durability of European Coalition Cabinets: New Variations on a Game-Theoretic Perspective', *Journal of Politics*, 45 (1983), 933–57; and John D. Robertson, 'Toward a Political-Economic Accounting of the Endurance of Cabinet Administrations: An Empirical Assessment of Eight European Democracies', *American Journal of Political Science*, 28 (1984), 693–709.

⁴⁰ Richard McKelvey, 'Covering, Dominance, and Institution Free Properties of Social Choice', *American Journal of Political Science*, 30 (1986), 283–315; and J. A. Ferejohn, R. D. McKelvey and E. W. Packel, 'Limiting Distributions for Continuous State Markov Models', *Social Choice and Welfare*, 1 (1984), 45–67.

⁴¹ Scott L. Feld, Bernard Grofman, Richard Hartley, Mark O. Kilgour and Nicholas Miller, 'The Uncovered Set in Spatial Voting Games', *Theory and Decision*, 23 (1987), 129–56; and Scott L. Feld, Bernard Grofman and Nicholas R. Miller, 'Limits of Agenda Control in Spatial Voting Games', *Mathematical Modelling* (1988, forthcoming).

the Pareto set), the greater the instability of any given winning coalition. In particular the size of the yolk (relative to the Pareto set) should be inversely related to cabinet longevity. *Ceteris paribus*, the higher the number of issue dimensions, the larger the expected size of the yolk.⁴²

Another potential explanation of the inverse link between number of parties and cabinet durability is based on the relationship between dimensionality and the relative size and location of the largest party. Schofield, Grofman and Feld show that the higher the number of issue dimensions, the less the likelihood of a political party large enough to be a 'stable core' party.⁴³ A *core party* is located at an issue position which cannot be defeated by any majority coalition. A core party is *stable* if small changes in party locations do not change its status as a core party. They regard the absence of a stable core party as leading to cabinet break-up because, if exogenous events change party preferences even slightly, there are competing winning coalitions that could form with outcomes preferred to that produced by the present coalition. Taagepera and Grofman show that, empirically, the higher the effective number of political parties, the higher the expected number of issue dimensions;⁴⁴ thus this line of approach suggests why a large number of political parties may be associated with low cabinet durations.

Testing models such as those of McKelvey or Schofield, Grofman and Feld requires data on spatial maps of party/policy dimensions which have only recently become available as a result of the efforts of the European Party Manifesto Project.⁴⁵ Thus, the next few years should be exciting ones in terms of new developments in cabinet coalition research.

⁴² See Norman Schofield, Bernard Grofman and Scott L. Feld, 'The Core and Stability of Group Choice in Spatial Voting Games', *American Political Science Review*, 82 (1988), 196–211.

⁴³ Schofield, Grofman and Feld, 'The Core and Stability'.

⁴⁴ Taagepera and Grofman, 'Effective Size'; 'Rethinking Duverger's Law'. Taagepera, 'The Inverse Square Law', offers a similar sort of explanation, although its inspiration is not in game theoretic models but in terms of his own earlier work on seats–votes relationships (see Taagepera, 'Reformulating the Cube Law').

⁴⁵ See Ian Budge and Michael Laver, 'Party, Ideology and Party Distance: Analysis of Election Programmes in 19 Democracies', *Legislative Studies Quarterly*, 11 (1986), 607–17; and Ian Budge, David Robertson and Derek Hearl, eds, *Ideology, Strategy and Party Movement: A Comparative Analysis of a Post-war Election Programme in Nineteen Democracies* (Cambridge: Cambridge University Press, 1987).