

Duverger's law is an unusually simple and specific elaboration on *exactly how* political institutions "matter": It proposes that plurality rule elections result in two-party competition. Canada is commonly thought to violate the law at the national level, but to match its predictions at the district level, and thus not to constitute a genuine counterexample. In fact, analysis of a vast data set of Canadian election returns reveals that these elections are multicandidate events, district by district, year after year. An explanation for this multipartyism may lie in the complicating factor of federalism, because Canadian provinces often feature strikingly different national and provincial party systems. Generally, the Canadian case illustrates that theories relating party systems to electoral law but not to other institutions are unrealistically parsimonious.

DUVERGER'S LAW AND THE MEANING OF CANADIAN EXCEPTIONALISM

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Duverger's law is surely one of the most famous and most often cited generalizations of comparative politics. It has spawned a literature on the relationships between electoral laws and party systems (see, e.g., Lijphart, 1994) and has helped to inspire a number of works on how best to count the number of relevant parties competing in an election or sitting in a legislative chamber. Yet, there are fundamental ambiguities in the "law" that are not often addressed head-on. It is not clear whether it purports to describe party competition at the level of the nation, the region, or the district. Moreover, it is nearly always stated in a way that assumes the existence of only one electoral law for a given nation (or state, province, district, etc.), whereas many polities actually have multiple electoral arenas with many and varied electoral laws. The law thus fails to address how party systems develop when

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a set of voters is enfranchised to participate in a variety of elections, under a diversity of rules.

In this article, I consider one half of Duverger's claim, that plurality breeds duality, and focus in particular on the oft-noted exception of Canada. My first goal is to clarify the nature of the Canadian party system, thereby exposing a myth that Canada is not "really" an exception to Duverger's law at all. I propose, moreover, that an examination of Canadian elections illustrates a bigger point and that the investigation of how electoral institutions shape party systems has focused too little on the diversity of institutions, thereby obscuring the issue of precisely where Duverger's law applies and why it works or fails to work.

DUVERGER'S LAW IN THEORY AND PRACTICE

Duverger (1964/1978) proposed that "the simple-majority single-ballot system favours the two-party system" and also that "both the simple-majority system with second ballot and proportional representation favour multipartism" (pp. 217, 239). Despite his cautious language, these two generalizations have, over time, become known as "Duverger's *law*."¹ The accuracy of the propositions has been the subject of much debate, but this debate has relied to a surprising extent on informal stylized facts, rather than close examination of data. Where data have been introduced, moreover, they usually have been national vote totals.

This focus on national-level data is entirely appropriate if it is maintained that whatever it is about "first past the post" elections that causes two-party competition must operate at the level of the nation as a whole. But few have ever argued explicitly that this is the case. The law came into existence—even before Duverger's name and the status of "law" were attached to it—not as a finding of equilibrium behavior in a fully specified formal model but as an alleged empirical regularity.² Hence, it is useful at the outset to consider what reasons have been advanced for electoral rules determining the shape of party competition and to assess whether it is clear where these connections should hold.

1. Some distinguish between the two claims by treating the first of Duverger's generalizations as a "law" and the second as a "conjecture" or "hypothesis." Hence, it is frequently only the alleged connection between plurality elections and two-partyism—the subject I address here—that people have in mind when they refer to "Duverger's law."

2. Riker (1982) cites many examples of arguments anticipating Duverger, from the 19th century onward.

Duverger proposed both “mechanical” and “psychological” effects underlying his law: The former concern how votes are translated into seats, and the latter are therefore prior and directly reflected in votes. Thus, if one’s interest lies in voter behavior, and hence in vote shares, the plurality-duality connection is normally thought to originate in a tendency for voters to abandon preferred parties that seem certain not to do well, in favor of parties they like less but that appear to have at least some chance of victory. The law might describe an equilibrium that is reached only over a series of elections. Or, if there is common, imperfect knowledge about party prospects such as might exist when opinion polling is widespread, this tendency to switch from the weak to the (relatively) strong could result in only two parties actually getting any significant number of votes in every election. One important point for this account is *which* outcome voters strategize about. If they make estimates about who will win the local (district) race, we could expect two-party competition district by district, but not necessarily in the aggregate. Voters might, however, make tactical judgements not (just) about local races but (also) about who will form the government (in a parliamentary context) or organize the particular legislative chamber (in a separation-of-powers context). Once again, though, the result of such strategizing is *not* clearly that there will be two-party competition in the nation as a whole.

Consider a stylized example. In each of the three first-past-the-post districts in a nation, candidates from a left-wing party L , a center-left party C_L , and a right-wing party R compete. Party C_L being closer to L than to R , all C_L supporters prefer L to R . All R supporters like C_L second most and L least, whereas all L supporters like C_L second most and R least. Table 1 shows the results of a preelection public opinion poll, and two possible election outcomes, under different assumptions about how voters strategize given the information in the poll. (The winners’ final vote shares are italicized.) Assume, for simplicity, that the poll is fully accurate but is thought by voters to have margins of errors such that a lead of 20 points or more is insurmountable, whereas a lead of less than 20 points leaves some doubt about the true gap.

When voters are *locally* oriented and strategic, the closeness of District 1’s race results in the C_L supporters shifting to the L candidate, their favorite of the two plausible winners. In District 2, the R supporters will similarly shift, to the C_L candidate. In District 3, by contrast, the R candidate is so far ahead that all voters will regard the poll as certain confirmation that he will win.

Assuming that they all nevertheless vote, the L and C_L supporters have no cause to be strategic, so the outcome in District 3 will match the poll. I label these results the “LOV Outcome,” for locally oriented voters.

Table 1
An Example of Strategic Vote Shifting (in percentages)

District	Party	Poll	LOV Outcome	NOV Outcome
1	<i>L</i>	45	65	45
	<i>C_L</i>	20	0	55
	<i>R</i>	35	35	0
2	<i>L</i>	55	55	55
	<i>C_L</i>	40	45	45
	<i>R</i>	5	0	0
3	<i>L</i>	5	5	5
	<i>C_L</i>	15	15	15
	<i>R</i>	80	80	80

Note: The winners' final vote shares are italicized.

Voters might, instead, be *nationally* oriented and strategic. If so, Districts 2 and 3 will be unchanged: The latter is too lopsided for strategy to matter, whereas in the former, *R* voters cannot expect support from *C_L* voters, who rate majority government by *R* their least favorite outcome. Hence, the *R* supporters can only, again, shift to *C_L* in an attempt to make an *L* government less likely. Observing that *R* will elect a candidate in District 3 and that District 2 will go either to *L* (more likely) or to *C_L* (less likely), how would voters in District 1 react? The *R* supporters have an incentive to shift their support to the candidate for *C_L*, because they prefer the possibility of a *C_L-L* coalition to majority government by *L*, and they know that *C_L* supporters will never strategically assist in the formation of an *R* government. Hence, District 1 again features bipolar competition, but with a different pair of "finalist" parties.

The point of the example is that strategic voting does not lead to only two parties actually receiving votes across the nation, whether voters attend to local or national outcomes. In individual districts, on the other hand, we do observe roughly two-party politics, despite there being underlying support for three parties. That result seems to suggest a focus on district results in empirical work. Of course, parties and candidates can also be strategic, and the collapse of the (national) party system could occur at the elite rather than the mass level. A complete formal treatment of the effect might feature uncertainty, strategy by both voters and parties, the possibility of abstention by voters, and a genuine dynamic element. By means of such complications, one might be able to generate an equilibrium prediction of two-party politics in a heterogeneous nation.

There are already, of course, a large number of formal models that bear in some manner on the Duvergerian effect in plurality elections. None,

however, have obtained a clear prediction of *national* two-partyism, without simplifying the context to make “national” meaningless. For the most part, models have ignored or abstracted away the geography of elections. Riker (1976), for example, makes clear that he views Duverger’s law as a prediction about constituency-level competition, and he dismisses cases “wherein the nation as a whole has more than two parties because the pair of parties offering candidates varies from constituency to constituency” as “trivial exceptions” that “violate the crude phrasing of the law but not the spirit of the argument about wasting votes” (p. 94). His formal analysis, however, sidesteps the question by assuming a single national constituency. His empirical analysis, moreover, consists of vague generalizations rather than data analysis (see also Riker 1982).

Palfrey (1989) is similarly inattentive to questions of aggregation: His model of Duverger’s law describes competition in a single district, and he says little about how it relates to national party systems. By claiming that India is “the proverbial exception that proves the rule” (p. 71), however, he reveals that he recognizes no problem of aggregation from his single-seat analysis to the case of a multidistrict nation. (Prior to Chhibber & Kollman, 1998, it was analysis of national vote totals that led to the characterization of India as being an exception to Duverger’s law.) Ledyard (1984, 1989), Palfrey’s immediate predecessor, also draws no distinction between the theory of electoral competition in the district and the aggregation of district competition into a national party system. Feddersen (1992) modifies Palfrey’s model, but he does not alter the fact that distinct districts do not appear. Feddersen, Sened, and Wright (1990) and Fey (1997) also make distinctive contributions to the formal edifice—respectively, endogenizing candidate entry and exploring how polls facilitate coordination by rational voters—but they, too, stick to the tradition of disregarding the distinction between competition in multiple districts and competition in a single political unit.

Finally, Cox (1994) models rational voter behavior for elections using the single, nontransferable vote system (of which plurality elections are a special case) in search of “Duvergerian” equilibria. He makes clear both in his theoretical model and in his subsequent empirical tests that he understands the strategy from which these equilibria spring to occur in districts. However, he neither explicitly discusses aggregation nor comments on his break with the norm of examining national rather than district data when evaluating the accuracy of Duverger’s law. Moreover, his empirical tests rely on a curious statistic, the *SF* ratio, of second-loser to first-loser vote totals. He expects values near 0 (when there is a sharp drop-off from the first runner-up to all others, the “Duvergerian” case, by his telling) and 1 (the “non-Duvergerian

case,” in which voters were unable to coordinate on which party to flee and which to prop up, leaving two losers nearly tied). He tests Japanese data for modes near those two values, with some success.

But this is quite a different prediction from the original specification of Duverger and is not what most people mean when they invoke his law. Consider two actual Canadian election races having *SF* ratios near 1. In the 1993 election, the riding of Eglinton-Lawrence in Ontario had an *SF* value of 0.98, the Liberal candidate having won about 72% of the vote, candidates for the Reform Party and the Conservative Party each having won about 11% (hence the *SF* close to 1), and another four candidates having split the remaining 6%.³ This is an example of two-or-less party competition to most eyes. In the 1935 election, Verdun, Quebec, had an *SF* of 0.90, again indicating a neck-in-neck finish between the top two losers. In this instance, though, the seat itself, not just the meaningless “second-place race,” was highly competitive. The winning Conservative candidate received 22% of the vote; the CCF (socialist) candidate, 19%; an independent, 17%; a Labourite, 15%; two different Liberals, 11% and 8%; a Reconstruction Party (a Conservative breakaway) candidate, 5%; and four others, roughly 2% between them. This race seems a clear example of multiparty competition, and any statistic that groups it with the 1993 Liberal landslide in Eglinton-Lawrence as equally “Duvergerian” might raise doubts. What statistic would better measure whether competition in districts is bi- or multipartisan? Fortunately, there is a whole literature on what is the best counting rule for electoral competition among parties and candidates.

HOW TO COUNT PARTIES

In his original work, Duverger (1964/1978) distinguished between major and minor parties by presenting data not only on the total number of parties contesting elections but also on the number receiving more than 5% of the vote (e.g., Figure 25, 219; Figure 30, 254). The importance of making such adjustment is obvious: A simple count of the number of parties contesting elections and receiving any votes would reveal that multipartyism is nearly ubiquitous. It is unnecessarily strict to treat every minor candidate as equally strong evidence of the law’s failure. As authors strove to make the quantification of marginality more systematic, they developed formulae for converting the vote shares won by multiple parties into single number-of-effective-parties

3. *Riding* is the Canadian term for district or constituency.

indices, which weight parties according to their relative sizes. Laakso and Taagepera (1979) proposed an index that has become the standard measure of the effective number of parties. When k parties split the total vote in the proportions p_1, p_2, \dots, p_k then:

$$N = \left(\sum_{i=1}^k p_i^2 \right)^{-1}$$

Hereafter, I rely mainly on the Laakso-Taagepera index to describe competition in Canadian electoral races. To address both the behavior of voters and of elites, one could analyze the number of "effective" parties and also the raw number of parties (or candidacies), as do Blais and Carty (1991) and Ordeshook and Shvetsova (1994). However, because I am making the case that Canada has more parties than is usually thought, looking only at an index that rounds the raw number *down* by weighting is an appropriately conservative approach. Finally, I supplement this weighted count of effective parties with a simpler, more intuitive value. The further from 100% is the total share of the vote won by the top two vote getters, the less well Duverger describes an election. Hence, data on vote shares of the top two finishers are also illuminating.⁴

Most analyses making use of N indices have applied the formulae to national vote totals (e.g., Lijphart, 1994; Rae, 1967; Taagepera & Grofman, 1985; Taagepera & Shugart, 1989; Wildgen, 1971, 1972). Taagepera and Shugart (1989, 1993) are partial exceptions, but the former work includes analysis of subnational data in only one short chapter, whereas the latter discusses district-level effects in its theoretical sections but focuses on national-level data in its empirical section. Hickman (1992) does report analysis of district-level candidacies in Japan, and Chhibber and Kollman (1998), comparing India and the United States, make use of mean district-level measures, but not of variance across districts. With only a few exceptions, then, the empirical literature has made a very strong assumption about the domain of Duverger's law, without justifying that move. National party totals are more easily obtained and analyzed than are district-level figures, but they completely discard information about dispersion in favor of centeredness. An especially curious fact about Canada's status as a potential problem for Duverger's law is that several authors have made claims about the nature of Canadian multipartyism that could follow from district-level analysis, but no one seems actually to have done such an analysis.

4. I thank an anonymous referee for suggesting this measure.

CANADIAN EXCEPTIONALISM?

First Duverger (1964/1978, p. 223) himself, then Rae (1967, pp. 94-95), Sartori (1976, pp. 188-189), Riker (1982, pp. 760-762), and Dobell (1986) have all noted and sought to explain Canada's status as an apparent exception to the first part of the law, that two-party systems appear wherever election is won by plurality. Rae's explanation, that Canada violates the rule because of geographic variation, has become something of a consensus. Oddly, though, whereas Rae put forth that argument as a modification of the law, concluding, "the Canadian exception is a valid and important one" (p. 94), others have treated regional variation as the reason why Canada does *not*, in fact, contradict Duverger. Palfrey (1989), as a preface to his formal "proof" of Duverger's law provides the consumer's view of this conventional wisdom. "The most well-known exception is Canada, where provincial party systems are bipartisan, but not all provinces have the same two dominant parties. This produces a patchwork national party system that is a conglomeration of strong regional parties" (p. 69). Taagepera and Grofman (1985), similarly, note, "Canada, which might appear another exception, with three major parties, has at the local level two-party politics—the parties are simply not always the same two throughout the country" (p. 342).

Table 2 illustrates that this claim about Canadian federal general elections, as a "stylized fact," emphasizes the adjective at the expense of the noun—it is scarcely a fact at all. For all national elections since 1935, I compare the N obtained by using national party totals and the individual N s calculated for each province, using party vote totals across that province's ridings. The national data do, of course, yield party counts that are consistently above 2 and almost always above 3. But so do the province-level counts, with few exceptions. The smallest provinces, Prince Edward Island (which has a mere 4 seats out of 245-295 total) and Newfoundland (7 seats), featured approximately two-party competition in many years. Nova Scotia and New Brunswick, the other Atlantic provinces, have had low N s most years, averaging less than 2.5. Alberta, which has seen the most variation from year to year, briefly had a period of roughly two-party competition in the 1970s and 1980s.

But, otherwise, these data do not support the bipartisan-provinces claim. With exactly two parties in competition, N cannot exceed 2; yet, there are only 9 cases out of 177 (or roughly 5%) of a province having an N of 2 or less. About one third of the provincial party counts are greater than 2.5, and British Columbia has had as many or more parties competing as has the nation as a whole, election after election. The largest provinces, Ontario and Quebec, have averaged more than two-and-a-half effective parties, and the whole of

Table 2
The Effective Number of Parties in Canadian Federal Elections

Year	Canada	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
1935	3.3	—	2.1	2.5	2.3	2.6	3.1	3.6	3.6	3.2	3.6
1940	2.7	—	2.0	2.4	2.1	2.3	2.3	3.0	3.4	3.4	3.2
1945	3.7	—	2.2	2.7	2.5	3.5	2.8	3.5	2.9	4.0	3.9
1949	2.8	1.7	2.1	2.3	2.2	2.3	2.7	2.9	2.7	3.4	3.2
1953	2.9	1.9	2.0	2.2	2.2	2.2	2.5	3.4	2.8	3.2	3.9
1957	3.0	1.9	2.0	2.2	2.1	2.3	2.6	3.7	3.5	3.3	3.9
1958	2.4	2.0	1.9	2.1	2.1	2.2	2.3	2.5	2.6	2.3	2.9
1962	3.2	2.1	2.2	2.4	2.4	3.2	2.8	3.2	2.8	3.2	3.8
1963	3.2	2.0	2.1	2.3	2.5	3.1	2.7	3.1	2.6	3.1	3.7
1965	3.3	1.9	2.0	2.4	2.4	3.4	2.8	3.1	2.8	3.1	3.8
1968	3.0	2.2	2.1	2.2	2.2	2.7	2.8	3.0	3.0	2.6	3.1
1972	3.3	2.3	2.3	2.4	2.5	3.0	2.9	3.0	3.0	2.4	3.2
1974	3.0	2.4	2.2	2.5	2.9	2.7	2.8	2.8	3.1	2.2	2.9
1979	3.1	2.9	2.2	2.7	2.6	2.3	2.8	2.9	2.9	2.0	2.8
1980	2.9	2.6	2.3	2.8	2.6	2.0	2.9	3.0	2.9	2.1	2.9
1984	2.7	2.1	2.3	2.5	2.4	2.6	2.8	3.2	2.8	2.0	2.7
1988	3.0	2.5	2.3	2.5	2.6	2.6	3.0	3.2	2.8	2.9	3.3
1993	3.9	1.9	2.1	2.9	2.5	2.7	2.8	3.4	3.8	2.8	3.9
Average	3.1	2.2	2.1	2.4	2.4	2.7	2.7	3.1	3.0	2.8	3.4
<i>SD</i>	0.4	0.3	0.1	0.2	0.2	0.4	0.2	0.3	0.3	0.6	0.4

Note: See appendix for miscellaneous explanatory notes.

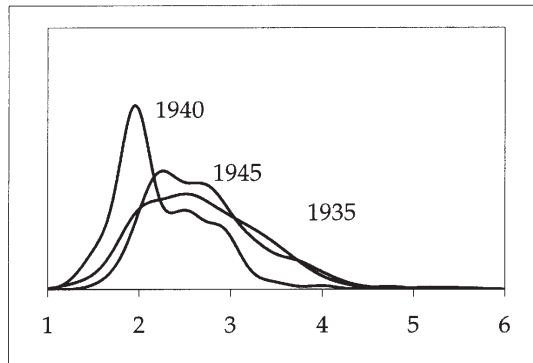


Figure 1. Effective-number-of-parties distribution for Canadian ridings.

the West (Manitoba, Saskatchewan, Alberta, and B.C.) has seen roughly three-party competition during the past 18 general elections.

Most authors have maintained, with Palfrey, that Canada has bipartisan provincial politics. But perhaps Grofman and Taagepera's choice of the term *local* politics is significant: It could be that the aggregation effect recurs in the provinces and that it is in the ridings themselves that competition is genuinely bipartisan. It is riding by riding, after all, where members of parliament (MPs) are elected by being "first past the post," and, thus, where the bite of plurality rule is felt.

Figures 1 through 6 address this hypothesis. Each figure presents kernel density estimates of the distribution of N for nearly all Canadian ridings (see appendix) in a given election.⁵ The figures group general elections by electoral maps—for instance, the electoral boundaries were redrawn between 1945 and 1949, then again between 1949 and 1953, but were not changed again until after 1965.

There is no simple standard for assessing how well Duverger's law is supported by the riding-level party counts reflected in these figures, but examination quickly reveals that most of these elections do not seem to fit the

5. These "smoothed histograms" are nonparametric estimates of the probability density functions, assuming that the riding N s may be considered draws from a (single) continuous univariate distribution. I use a Gaussian kernel (the choice of kernel is rarely important) and choose a smoothing parameter to minimize mean integrated square error (MISE), without making any correction for the left bound on the domain. For technical details on the density estimation, see Silverman (1986).

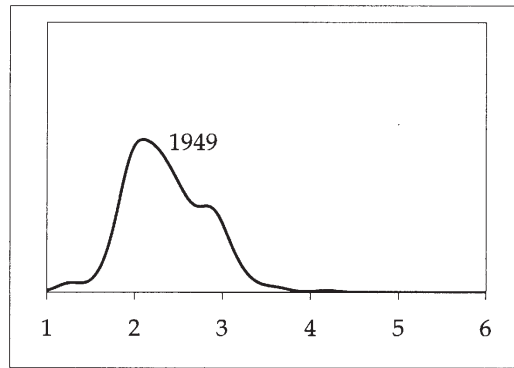


Figure 2. Effective-number-of-parties distribution for Canadian ridings.

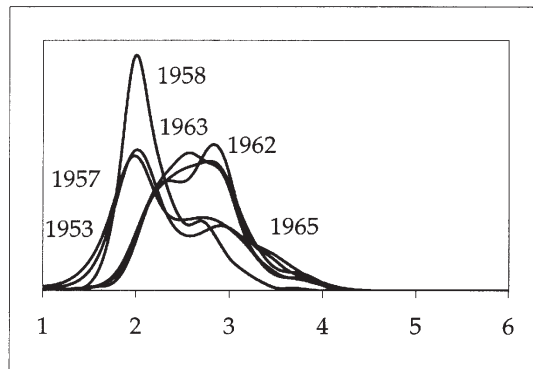


Figure 3. Effective-number-of-parties distribution for Canadian ridings.

generalization that Canada has bipartisan electoral districts. Consider first that many of the distributions peak well beyond 2. The main exceptions are 1940 and the elections of the 1950s, where (effectively) two-party ridings were, in fact, modal. Only 1958, though, has a highly peaked, thin-tailed curve reflecting relatively few districts having had N s very much greater than 2.

Consider next the trend over time. Duverger's law can be interpreted as a dynamic prediction, that the number of parties should decline during a series of elections to an equilibrium level of two. Perhaps redrawing the electoral

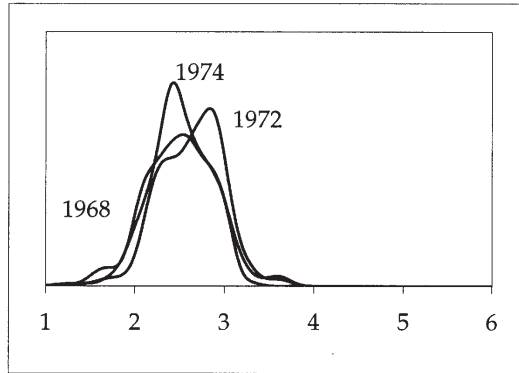


Figure 4. Effective-number-of-parties distribution for Canadian ridings.

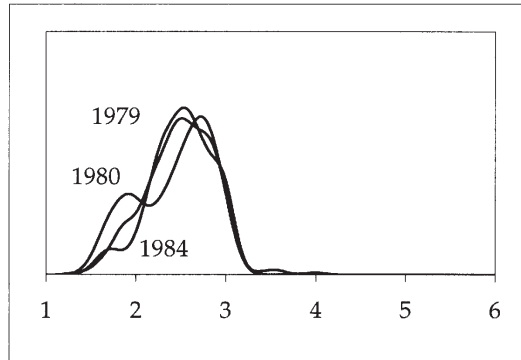


Figure 5. Effective-number-of-parties distribution for Canadian ridings.

map “punctuates” the equilibrium, so that we should expect only that there is a trend toward bipartisan district politics during reapportionment periods. The 1935 election featured a wide range of N s; hence, the distribution is low and flat. In the 1940 figure, then, one might detect a Duvergerian dynamic, because two-party districts had become much more typical. The structure on the right of that distribution, however, reflects a substantial number of districts still having had “too many” parties. Moreover, 1945 looks much like 1935, in terms of multipartyism. If 1940 saw movement in the Duvergerian

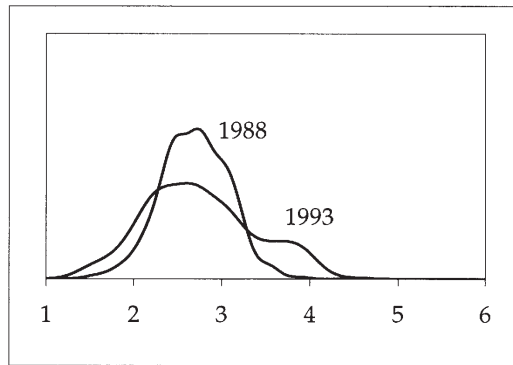


Figure 6. Effective-number-of-parties distribution for Canadian ridings.

direction, 1945 undid that change. The next four elections, by contrast, suit Duverger's law well: The distributions tighten up and shift left, and by 1958, the ridings are overwhelmingly bipartisan in electoral competition. The following three elections, however, reveal a renewal in greater-than-two party competition, again thwarting the within-periods-Duvergerian-dynamic hypothesis. By 1972, the mode is very nearly 3. There is little change through 1988, and then 1993 has a still less peaked, more right-shifted distribution. The end of the series, in other words, is remarkably like the beginning: Canadian ridings span the two- to four-party continuum, and two-party politics is not the norm. Nor does there appear to be evidence, in the whole set of ridings, of there being a Duvergerian trend within the sets of elections that were uninterrupted by redistricting.

Table 3 provides summary statistics on these distributions, to retell the story more precisely but less dramatically. Not just in the aggregate at the national level, and not just in the aggregate at the provincial level, but *district by district, year after year*, Canadian elections are not normally two-party (or two-candidate) events.

Another way to make the same point is to consider what share of the total vote went to the top two vote getters, race by race. Table 4 provides summary statistics on the full set of these values for each year in the Canadian series. In this case, the Duvergerian standard is 100%, and the occurrence of significant numbers of districts well below that threshold—evident in means, medians, minima, and standard deviations—is the sign of surplus candidates. Again, the table reveals frequent wide discrepancies from the 100% Duvergerian standard.

Table 3
Effective-Numbers-of-Parties Distributions for Canadian Ridings

Year	Mean	Median	SD	Minimum	Maximum	Skewness	Kurtosis
1935	2.68	2.60	0.67	1.24	5.54	0.80	4.38
1940	2.26	2.00	0.49	1.25	4.80	0.54	5.85
1945	2.70	2.61	0.57	1.60	4.51	0.70	2.98
1949	2.36	2.28	0.46	1.17	4.18	0.43	3.50
1953	2.37	2.24	0.57	1.00	4.10	0.50	2.81
1957	2.46	2.24	0.60	1.00	4.11	0.57	2.41
1958	2.24	2.12	0.38	1.57	3.69	0.99	3.49
1962	2.70	2.72	0.44	1.47	3.98	0.29	2.98
1963	2.64	2.62	0.44	1.39	3.96	0.42	3.36
1965	2.69	2.67	0.45	1.64	4.02	0.42	3.04
1968	2.52	2.52	0.40	1.21	3.66	-0.01	3.37
1972	2.64	2.67	0.35	1.50	3.72	-0.12	3.19
1974	2.51	2.49	0.32	1.44	3.32	-0.17	2.82
1979	2.48	2.51	0.36	1.36	3.12	-0.46	2.63
1980	2.43	2.52	0.42	1.48	3.12	-0.46	2.03
1984	2.53	2.53	0.37	1.52	4.04	-0.09	3.81
1988	2.69	2.70	0.38	1.51	3.88	-0.06	3.08
1993	2.75	2.68	0.62	1.42	4.53	0.31	2.54

Note: See appendix for notes.

The preceding analysis concerns the Canadian ridings en masse, but it does not examine riding-level dynamics. Perhaps a micro-level analysis is needed to detect a pattern of declining numbers of effectively competing parties. It is obvious from the aggregate picture that many ridings violate the rule of two parties in every election, but that does not rule out the possibility of some ridings—even a majority—more and more closely conforming to bipolar competition, in a series of elections. To test this hypothesis, I estimated the interelection trend in N s for each of the electoral maps. With riding N s as observations, I consider a fixed-effects model:

$$N_{it} = \alpha_i + \eta_t + \varepsilon_{it}, \quad (1)$$

where $i = 1, \dots, R$; $t = 1, \dots, T$. Here, α_i is the normal N for riding i , and year-specific trends are measured by η_t (see, e.g., Baltagi, 1995). T , the number of elections, is not subscripted over i because the nearest these data come to being missing is the uncontested win, and these (very rare) cases are included as $N = 1$. Because I use apportionments as periods, R (the total number of ridings) need not be subscripted by t . The data, then, constitute a series of completely balanced panels. The specification allows for

Table 4
Vote-Shares-of-Top-Two-Parties Distributions for Canadian Ridings

Year	Mean	Median	SD	Minimum	Maximum	Skewness	Kurtosis
1935	81.6	83.1	12.4	41.5	100	-0.29	2.52
1940	90.6	95.9	11.2	52.8	100	-0.96	2.95
1945	81.5	81.6	11.5	55.2	100	-0.24	2.00
1949	88.0	90.6	9.6	62.4	100	-0.55	2.17
1953	88.1	91.2	11.5	57.8	100	-0.63	2.22
1957	86.1	89.3	12.9	51.9	100	-0.48	1.93
1958	90.3	92.8	9.2	61.4	100	-0.69	2.48
1962	80.9	80.5	9.8	52.7	100	-0.06	2.52
1963	81.8	81.7	9.7	55.6	100	-0.06	2.59
1965	80.4	79.3	9.8	53.4	100	0.04	2.52
1968	83.7	83.9	8.2	61.0	100	-0.27	2.48
1972	80.6	80.6	7.4	63.8	98.2	0.11	2.25
1974	83.2	83.3	6.6	65.3	100	-0.16	2.59
1979	81.8	82.2	5.9	67.5	95.5	-0.26	2.78
1980	82.5	83.1	6.0	67.0	96.1	-0.37	2.85
1984	82.9	83.6	6.6	61.3	96.6	-0.35	3.24
1988	80.4	81.4	7.2	58.8	96.3	-0.13	2.42
1993	77.4	77.9	8.8	56.3	98.0	-0.13	2.62

Note: See appendix for notes.

heterogeneity in the ridings' levels of partisan polarity: Only a negative sign on the yearly trend variables is required for confirmation of a Duvergerian effect. That is, a Canadian propensity toward multipartyism is accommodated, and the question under investigation is revised to, "Does this multipartyism subside at all during a series of elections?"

Table 5 shows estimates of the interelection trends as measured by the η_t terms.⁶ To give Duverger's law one more chance, it also shows the results of an alternative specification, in which separate trend variables were estimated for (a) those ridings in which the set of parties contesting the election did not change from the previous elections and (b) all other ridings in which there was entry or exit by any party (including independents). This specification tests the proposition that Canadian voters behave as Duverger predicted, causing a decline in the effective number of parties, provided that their strategic shifting is not thwarted by elite-level disturbances in the form of new parties appearing or old parties disappearing. If redistricting can be thought of as

6. Because not all of the year effects are identified, I adopt the normalization that $\eta_1 = 0$, so that the table entries represent trends from the first election in the data range (either for the whole nation or for the "unchanged" subsample described hereafter).

Table 5
Interelection Trends in N for Canadian Ridings

Years	All Ridings	(t)	Interelection Trends			
			Change in Parties	(t)	No Change in Parties	(t)
1935-1940	-0.42	(-11)	0.20	(1.9)	-0.44	(-10)
1940-1945	0.43	(11)	-0.49	(-4.8)	0.49	(12)
1953-1957	0.09	(3.2)	-0.19	(-3.9)	0.15	(4.7)
1957-1958	-0.22	(-7.5)	0.18	(4.0)	-0.27	(-7.2)
1958-1962	0.45	(16)	-0.09	(-1.8)	0.48	(15)
1962-1963	-0.06	(-2.1)	-0.08	(-1.8)	-0.03	(-0.9)
1963-1965	0.05	(1.7)	0.01	(0.3)	0.03	(0.9)
1968-1972	0.12	(5.6)	-0.05	(-1.2)	0.13	(5.3)
1972-1974	-0.13	(-6.3)	0.04	(1.2)	-0.15	(-5.8)
1979-1980	-0.05	(-2.1)	-0.08	(-1.8)	0.01	(0.3)
1980-1984	0.09	(3.9)	0.24	(5.7)	-0.02	(-0.6)
1988-1983	0.06	(1.7)	0.18	(2.0)	0.03	(0.7)

Note: Large-scale redistricting preceded elections in 1935, 1949, 1953, 1968, 1979, and 1988.

an exogenous shock, upsetting any equilibria in the “partyism” of an electoral arena, party entry or exit should be at least as disruptive. Is the Canadian voter, then, a rational Duvergerian, at least in those cases when non-Duvergerian parties are not getting in his way?⁷

Table 5 answers, no. When a single between-election trend is estimated for all ridings, it is sometimes negative, as predicted, but just as often positive. Sometimes the second election in a trio saw a decline in *Ns*, whereas that trend was reversed in the third election; other times, a rise came first, followed by a decline. In general, ridings do not seem to move toward bipartisan competition over time. The last column shows the results of interacting the trend variables with the dummy variable, indicating that no parties had appeared or disappeared. Again, there is no pattern of consistently negative shifts. Considering only these ridings with unchanged sets of parties, three elections featured a significant downturn in *Ns* (1940, 1958, and 1974), four

7. One might prefer to isolate only the districts in which no new parties entered, reasoning that party exit is part and parcel of the Duverger effect. I focus here on the changed versus unchanged dichotomy to get the cleanest sense of mass behavior *conditional on constant elite behavior*.

saw a significant increase in *N*s (1945, 1957, 1962, 1972), and in five cases whatever change occurred was not statistically distinguishable from no change at all.⁸

WHY DOES CANADA OVERPRODUCE CANDIDATES?

One explanation for the proliferation of candidates in Canada is that although the logic of Duverger's law is not faulty, Canadian voters (and/or politicians) are unusually illogical or irrational. "Cultural" explanations of this kind are suspiciously ad hoc and are hard to test if taken seriously. They are, at best, a last resort after all other explanations fail. In this case, there are several alternatives. Some of these differ from Duverger's law by relating the entropy of party systems not (only) to electoral institutions but (also) to other factors such as the ethnic diversity of the polity. There are also candidate explanations for Canadian (riding) multipartyism that follow the Duvergerian spirit by focusing on electoral law, and I first consider one such parsimonious alternative.

VARIATIONS IN ELECTORAL LAW

Not all Canadian elections have been held in single-member districts under plurality law, so Canadian multipartyism might not vitiate Duverger's law so much as demonstrate that it is an error to expect rules in one electoral arena (national elections) to operate independently from rules in other arenas (provincial elections). The voters whose behavior is being conditioned by these institutional environments are, after all, one and the same. Given federalism, party systems can be hybrids in which Duverger's two laws are in competition, especially if the fates of parties at different levels are not independent or if voters tend to form attitudes about parties without distinguishing between their different branches.⁹

8. To push the argument further, one could examine the lowest level of aggregation in Canadian election reporting, the polling station. The number of votes cast at Canadian polling stations in 1984, for example, ranged from 1 to 579, with a mean of 179.5 and a standard deviation of 52.3. A figure reproducing the 1984 effective-number-of-parties distribution, from Figure 5, but superimposing over it the 1984 distribution using 65,723 polling stations rather than 282 ridings, is available from the author. At the very local level, the evidence for lurking bipolar competition again seems very weak.

9. The different electoral arenas should probably be of roughly comparable importance. Cambridge, Massachusetts, and some other American cities elect councils by single-transferable vote (STV), but one would not necessarily expect different voting behavior in congressional

In the period 1935-1993, only two provinces deviated at all from the norm of single-member plurality districts for national elections: Nova Scotia and P.E.I. each had one two-member district from 1935 to 1965.¹⁰ On the other hand, there has been more experimentation in provincial elections. Alberta, Manitoba, and British Columbia all used the single-transferable vote (STV) in the 1935-1993 period: Alberta used STV in districts varying in magnitude from 1 to 8 for six elections between 1935 and 1955; Manitoba used STV in five elections during that period, mostly using single-member districts, but with the city of Winnipeg being a 10-member district; British Columbia used STV in 1952 and 1953, on single-member ballots in districts that featured one, two, or three different ballots each.¹¹ All remaining provincial elections held between 1935 and 1993 used the plurality formula, with single-member districts being most common and dual-member districts next most common.

A glance back at Table 2 suggests that there may be some merit in the multiple-electoral-law thesis. The Alberta, Manitoba, and British Columbia province-wide *N*s for their periods of STV are among the highest values in the table. A simple comparison of means reveals a significant difference between the mean *N* for the 13 national elections held in provinces that had

elections in those cities, even when they are large enough to encompass whole congressional districts. On the other hand, the expectation that Canadian provincial and national party systems bleed together could be extended to at least one American case: The Illinois party system might be hypothesized to have been different from those of all other states for most of the 20th century, because, until 1980, Illinois was unique among American states in using the semiproportional "cumulative voting" system. I have not tested that hypothesis, but a casual acquaintance with the data on Illinois's two party systems leaves me pessimistic about the prospect of finding evidence of much multipartyism at either the state or national level.

10. These were traditional Anglo-American dual-member seats, wherein voters were able to cast up to two votes, with no more than one vote for any candidate (no cumulation). District magnitude is widely viewed as a critical feature of proportional electoral systems, but its effects under plurality rule are less well understood.

11. In Manitoba and Alberta, STV was introduced by farmer-based, progressive organizations in an attempt to promote nonpartisan government and to break the power of the old-line "eastern" parties. British Columbia's adoption of STV for the 1952 election is a paradigmatic case of heretical genius. W.A.C. Bennett, a disaffected ex-Conservative member, persuaded his former colleagues in the Liberal-Conservative coalition government to change electoral law on the premise that STV would prevent the socialist Cooperative Commonwealth Federation (CCF) from taking power (Bennett even drafted the bill). Subsequently, he took control of the previously tiny Social Credit league and transformed it into a serious party. He organized a core of followers in the more rural and conservative interior of the province, while courting other parties' supporters for their second-place votes. When the 1952 returns were counted, Social Credit had edged out the CCF by one seat to form a minority government. Believing STV to discriminate against the ruling party, Bennett promptly abandoned it for plurality after Social Credit formed a majority government in 1953. He then remained premier for 20 years (see Mitchell, 1983/1995).

used STV for their most recent provincial elections and the mean N for the 164 national election results in provinces that had most recently held plurality-rule provincial elections. Or, at the riding level, the 317 N s from STV provinces are significantly higher than all remaining Canadian riding-level N s and also, more important, are significantly higher than the 2,563 N s from Manitoba, British Columbia, and Alberta's elections held outside of the STV period. The mean N for these latter cases is about 2.8, whereas the STV mean N is about 3 (the t statistic for the difference is 4.22). At the same time, that comparison makes clear that variation in electoral law cannot alone provide the whole explanation for Canadian multipartyism, both because the STV craze was short-lived and geographically confined, and also because the three provinces that did use a more proportional electoral law had high N s both before and after their STV eras. Perhaps the effects of electoral law regimes can persist over time, even after they have been discarded. A more thorough exploration of this hypothesis awaits analysis of provincial election data, because the indirect effect I explore here assumes that there should also be a direct effect in provincial returns, for which I have not searched.

REGIONALISM, ETHNIC HETEROGENEITY, AND ISSUES

Rae (1967) conjectured about Canada that "intense hostility between overlapping regional, cultural, and linguistic groups produced a strong basis of support for locally strong minority parties" (p. 94). Momentarily setting aside the issue of whether Canada is unique among polities using plurality election in this regard, why should the existence of small regional parties lead to multipartyism, not just globally but locally? The mere existence of candidates from several parties could follow from (a) small, regional-issue parties being popular and (b) larger, national parties fielding full slates of candidates throughout the country, without regard to local prospects. The major parties might run candidates even where they had little chance of winning out of a belief that having representatives in every corner of the nation is a sign of seriousness, strength, a commitment to the nation, or some such thing. Informally, such a norm does seem to exist: One certainly hears new parties boast of having candidates in every riding as though this is, in itself, an important achievement. Of course, for N s of 3 and more, not only must there be candidates from several parties running, they must also be receiving nonnegligible numbers of votes.

A more basic point is that, by this telling, the regional parties are supposed to be representing linguistic, cultural, and ethnic groups. The analysis thus far has been an exercise in counting parties without any regard to proper names. What parties are pushing the N s past 2 and even past 3 across Canada, past

and present? In addition to the two major parties, the Liberals and (Progressive) Conservatives—the only two ever to have formed the government of Canada—there have been a variety of parties that, to a surprising extent, do not correspond to minority groups in an obvious way. By far the most enduring ethnic division is that between French-speaking Canadians (the vast majority of whom live in one province, Quebec) and English-speaking Canadians, in Quebec and elsewhere.¹² Separatist and French-nationalist parties have thrived in Quebec provincial elections, but they were surprisingly absent from national elections before the Bloc Québécois won most of Quebec's seats in 1993. Both the Liberals and the Conservatives have succeeded when they united French and English blocs within their parties, and French-English divisions have almost always been imported into the parties.

The most long-lived "minor" Canadian party has been the New Democratic Party (NDP) (and its agriculturally based forerunner, the Cooperative Commonwealth Federation or CCF). Under either banner, that party's national election performance has always been best in the west (where it has also formed several provincial governments), only moderate in Ontario, dismal in Quebec, and generally bad in the Atlantic provinces. The reason for this pattern is not immediately obvious in class terms, nor does it seem to originate in the ethnic, linguistic, or cultural variation across these regions. The right-wing populist Social Credit Party, meanwhile, had most of its success in Alberta and British Columbia, the far west, but it also did quite well in Quebec during several elections and won blocks of votes in the prairie provinces of Manitoba and Saskatchewan. The Reform Party of 1993 is something like Social Credit reborn, except that it entirely avoided the province of Quebec in its first election. The clearest example of a party with an explicitly regional appeal is the Progressive Party of the 1920s. That party existed largely to press western claims against central Canada, prominently demands for tariff reform and for the federal government to relinquish control over natural resource rights in the western provinces. These rights were transferred in 1930, coinciding with a world recovery of grain markets, and the Progressive Party quickly withered. Finally, a variety of fringe parties, independents, and party-quitting pseudo-independents appear in the election returns now and then, here and there.

In short, Canada's multipartyism does not seem to stem in any direct way from separatist sentiment in Quebec or from other ethnic hostility. Western provinces have generally had higher *Ns*, and, not coincidentally, they have

12. Recently, the number of Canadians whose first language is neither English nor French, but Cantonese, Hindi, Tagalog, and so forth, is growing, especially in British Columbia. There has not yet been any manifestation of this diversity in the party system.

been the most receptive provinces to the second-tier parties in Canadian history. Yet, few of these parties made overtly regional appeals. (Reform is something of an exception). Moreover, regionalism seems a better answer to why Canada might appear to have a multipolar party system in the aggregate but have bipolar competition region by region. Because that description is not very accurate, the theory by itself is less compelling.

A final possibility is suggested by Taagepera and Grofman (1985), who supplement the institutional approach to party systems (i.e., the approach based on electoral law) with consideration of ideology. Canada falls almost exactly on a regression line when the effective number of parties is regressed on the number of issue dimensions for major democracies in the postwar era. (Canada's values are 2.4 parties, a national-level 35-year average, and 1.5 dimensions, also, presumably, a national, period average.) This latter figure is deeply subjective and accordingly controversial. Johnston, Blais, Brady, and Crête (1992), for example, combine statistical analysis of survey data and a broad review of Canadian history in their depiction of the Canadian party system. Translating their description into the Lijphart calculus (on which Taagepera and Grofman rely) would convert Canada from a rating of 1.5 issues to 3.0 or 4.5 issues. For present purposes, the pertinent question is not whether 1.5 is the correct value for modern Canada but whether there is any means of measuring issue dimensions in ridings or provinces. Particularly in a parliamentary nation with strict party discipline, if the issues in question are national, it is much harder to conceive of this variable as being heterogeneous in quite the same way that party competition clearly is.¹³

FEDERALISM PLUS . . .

In their multivariate analyses of the number of parties in modern democracies, Blais and Carty (1991) include a dummy variable for federal systems, citing two justifications. First, they view federalism as a proxy for "social diversity of the sort that can support separate parties" (p. 85). Whether or not this interpretation of federalism's putatively positive correlation is generally plausible, I find it not compelling in the Canadian context. They also note that "federal institutions . . . may encourage party elites to maintain smaller regional parties rather than fuse with others as Duverger expected" (p. 85). This argument seems to be much more at the heart of the Canadian party system.

13. It is worth emphasizing here that media coverage in Canada, as in many other nations with parliamentary systems, is overwhelmingly nationally oriented (see, e.g., Bell & Fletcher, 1991; Carty, 1991).

There has long been an interest in how (or whether) Canadian voters link their federal and provincial votes. Ever since Confederation (1867), the theory has been advanced that some voters make a deliberate effort to pit the two levels of government against each other. Some authors have challenged that view (Scarrow, 1960), some have reported confirming evidence (Erikson & Filippov, 1996), others have concluded that the relationship is more complicated than a simple "balancing" account would suggest (Johnston, 1980). Finally, some have maintained that Canadian voters appear to inhabit two different, unconnected "political worlds," so that inferring voter strategy from correlated trends in the aggregate results at the two levels is inherently mistaken (Blake, 1985).

Only this final theory suggests that provincial party systems should not have any systematic impact on competition for the national House of Commons. If it is true that at least some voters make some connections between their two (nonconcurrent) votes, then a theory built on the view that national electoral institutions alone condition the voters' (and politicians') behavior is prone to being incomplete. Federalism was an implicit culprit in my revised account of what Duvergerian principles should predict for Canada, insofar as the (slight) multiplicity of electoral laws follows directly from the existence of provinces. I concluded that the fairly brief spell of STV in three provinces is not the sole reason for Canada's extra parties, but the fact that provincial and federal party systems coexist might nonetheless be the key to Canada's apparent surplus of candidates.

A final conjecture, then, is that one cannot simply apply Duverger's law to each of the coexisting party systems in a province (or state, etc.), even if the electoral rules in place at the different levels are comparable or even identical. This claim does not follow directly from "balancing" arguments, because it is clearly possible for a voter choosing between a mere two parties to inflict losses on a governing party at one level when voting at the other level. As an account for Canadian multipartyism, then, the claim that connections between electoral law and party systems are mediated by federalism is incomplete and ad hoc. I have not outlined a concise theory for why different party systems should develop and then interact, and the more one relies on idiosyncratic histories, the further is the move away from the elegant parsimony of Duverger toward a thick, atheoretical description. For the present, then, I do not offer a complete theory of Canadian multipartyism but rather a suggested area for research, in the hope that a general model of the electoral-law-party-system connection lies waiting in data of provincial elections.

Finally, does evidence from other federal states provide any reassurance that the dueling-party-systems thesis might hold? Evidence is somewhat

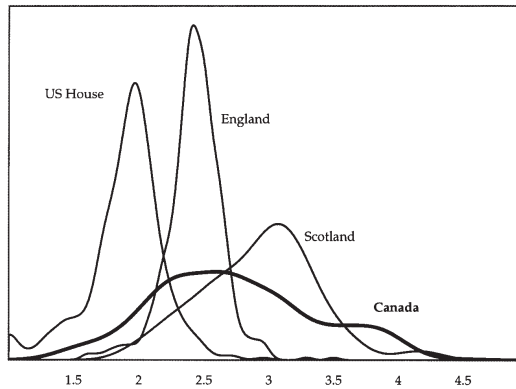


Figure 7. A cross-national comparison of effective-number-of-parties distributions, 1992-1993.

mixed. Staying only with the first part of Duverger's argument, the set of democracies having a long experience with plurality elections is slim: (a) the federal systems of the United States, Canada, and India; (b) the unified systems of Great Britain and New Zealand. This is a small number of regimes, but a large number of election results, particularly when state and provincial results are considered relevant data. Great Britain poses its own difficulties for Duverger's law, even in the absence of federalism. At the district level, two-party competition has been more common than in Canada, but it has been far from universal during the postwar elections. Some of this diversity, however, is peculiar to the Celtic fringe and represents the joint effects of nationalism and regionalism. In that respect, it is not unlike the Canadian case, although federalism is not the source of the distinctive regional party systems. Figures 7 and 8 compare Canada (in the 1993 election) with Britain and the U.S. House (1992 elections) in terms of effective numbers of parties and vote shares of the top duo, respectively. They show that England fits Duverger's law far better than Canada, although somewhat worse than does the United States. Scotland, by contrast, is as clearly an exception to the law as is Canada.¹⁴ The United States, on the contrary, is federal like Canada but has been marked by almost exactly two-party competition at all levels for at least a century. In both Figures 7 and 8, the U.S. House illustrates the Duvergerian standard that Canada and Scotland so dramatically fail to meet.

14. I omit the estimated distribution from the 38 Welsh races, but Wales also looks something like Canada (and nothing like the United States) in these terms.

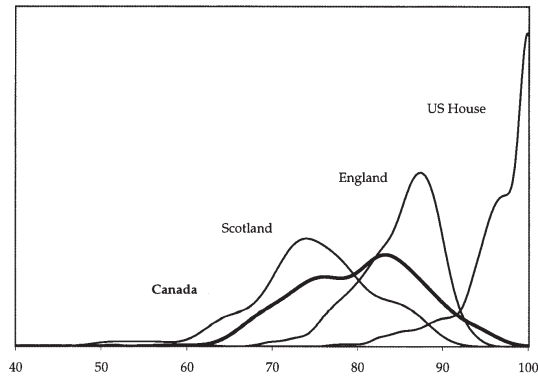


Figure 8. A cross-national comparison of vote-share-of-top-two-parties distributions, 1992-1993.

It seems quite likely that the weakness of American parties' control over their own members' voting habits may render formal multipartyism unnecessary. This article cannot pretend to offer any fuller an account of British or American party systems, let alone those in India and her states, or New Zealand, to round out the picture.

CONCLUSION

After this brief flurry of speculation, I can return to a few central conclusions. Duverger's claim that plurality breeds duality has generally been accepted as being well supported empirically. The potential exceptions of India and Canada are commonly dismissed as unimportant because they simply illustrate that the law applies to districts, not national aggregates. That claim has never sat well with the dominant form of empirical analysis, examination of national vote totals. It is, moreover, a false characterization of Canada. Canadian elections have, from the Duvergerian perspective, repeatedly overproduced parties in a large proportion of all ridings. Because the "law" originates in voter behavior, however, the Canadian exception, which is certainly real, may be explicable in institutional terms that remain true to the spirit of Duverger. Some of Canada's multipartyism is attributable to the effects of voters in three provinces having been subjected to multiple electoral law. Even if party identifications of voters or strategies of politicians across levels are only very modestly correlated, this diversity can present a

wrinkle in the standard Duvergerian logic. To date, it has not been studied formally. More generally, federalism admits the possibility of different party systems coexisting in given subnational units. Accordingly, election results in federal systems are subject not only to the usual influences—institutional and otherwise—at work in the given electoral arena but also to “contamination” from the electoral world of the other governmental level.

APPENDIX

All analysis in this article was conducted on data sets assembled by the author, except as indicated below. The primary sources for riding-level returns were *History of the Federal Electoral Ridings* (Canada, 1980) and various editions of the *Report of the Chief Electoral Officer* (Canada, various, 1935-1993). For Table 2, provincial vote totals for parties were taken from *Canada Votes 1935-1988* (Feigert, 1989), and then each independent candidate was counted as a separate “party,” vote totals having been found in *History of the Federal Electoral Ridings* (Canada, 1980) or relevant Chief Electoral Officer reports. There is some ambiguity in defining independents, because of the practice (mainly in Quebec) of candidates running as, for example, “Independent Liberals.” I treated these hyphenated independents as true independents, except when they ran against no nonhyphenated candidate from the given party and at least one source treated them as actual party representatives. In Table 2, calculations included all ridings. As the text indicates, data from nearly all of these ridings were used to generate Figures 1-6 and the statistics in Table 3. The only exceptions are the last of the two-seat ridings, Queens, Prince Edward Island and Halifax, Nova Scotia, for 1935-1965. In Table 3 (and Figures 1-6), there is a very slight undercounting of parties for all years except 1984, as a result of the way the electronic data file was set up. Vote counts were entered for candidates from the Conservative, Liberal, NDP (or CCF), Social Credit (including Ralliement Creditiste), Reconstruction, Reform, and Bloc Quebecois parties, and for the (top) Independent Liberal and Independent Conservative, plus the highest “other” vote getter. All remaining candidates’ votes were summed into a residual. This method led to the apparent discrepancy between the discussion in the body of the article of Verdun having an N of 6.28 in 1935 and the maximum N value being 5.54 for 1935 in Table 3. Underestimates that large are very rare. For the 1984 election, I obtained from the Canadian National Archives exact votes for all candidates at the polling-station levels. Hence, that year is the sole exception to this rule: There was no aggregation into a residual category. A comparison of the approximate 1984 distribution (using my usual aggregation rules) and the exact distribution is reassuring, as the means and standard deviations differ by less than 0.01. Complete, official returns for the U.S. House were obtained from Dubin (1998). Returns for the British House of Commons were obtained from Rallings and Thrasher (1993).

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