

" Seat Imbalance in Provincial Elections Since 1900:
A Quantitative Explanation "

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Comments welcome.

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INTRODUCTION

One of the realities of provincial elections in Canada is that provincial governments in general dominate their legislatures, winning 70 percent plus (or at least 65 percent plus) of the seats on average. Even if one does not want to go as far as Ken Carty and consider this "one of the unacknowledged dirty secrets of provincial politics"¹, such a situation still has political *consequences*, not least the lack of effective oversight by the political opposition.² The focus of this analysis, though, is on the *causes* of these imbalanced, if not indeed lopsided, election results.

Two alternative areas of explanation are assessed here. The first relates to electoral system factors. Certainly, the single member plurality electoral system and its resulting disproportionality is a key part of the argument here. Yet this cannot be the whole story, not least because election results are no so lopsided in every province, nor indeed at the federal level. Thus what also will be assessed in this area are two other, related, aspects of elections: the total size of the assembly and the number of individual constituencies. The notion of total assembly size as a feature of an electoral system has been noted by Arend Lijphart.³ Very small legislatures, in particular, tend to be less proportional. And as we shall see, this problem is worsened (even for larger legislatures) if there are a smaller number of actual constituencies combined with plurality voting. Although intuitive, such points about assembly size and electoral

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R. Ken Carty, "Doing Democracy Differently: Has Electoral Reform Finally Arrived?", Timlin Lecture, University of Saskatchewan, 1 March 2004.

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R.K. Carty and David Stewart, "Parties and Party Systems", in Christopher Dunn, ed., *Provinces: Canadian Provincial Politics* (Peterborough: Broadview Press, 1996), p. 73. Also on these consequences see David C. Docherty, *Legislatures* (Vancouver: UBC Press, 2005).

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See in particular his *Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies, 1945-1990* (Oxford: Oxford University Press, 1994), p. 12.

distortion have never been thoroughly tested in a broad pan-Canadian way. The second area of argument relates to the party system: perhaps victorious provincial parties simply win a higher vote share than, say, victorious federal parties, and thus should be expected to have more seats. Beyond this, though, is the question of whether the vote for the non-victorious parties is concentrated or fragmented. Alberta is a province with a long tradition of lopsided results, and scholars of Alberta politics emphasize as the causal factor here a fragmented opposition vote (McCormick) or a fragmented opposition vote combined with a low total opposition vote share (Jansen).⁴

To assess these issues, I shall examine one key dependent variable – the percentage seat share of the largest party, and also two alternate dependent variables: the seat bias in favour of said largest party (that is, its seats share less its votes share) and the seat lead (in percentage terms) of the largest party over the next largest. This will be done for all federal and provincial elections since 1900 (including pre-1949 Newfoundland), although the statistical analysis will only be done for provincial elections. The year 1900 is chosen as a cutoff since before then many provinces either did not exist or did not have established political parties.

LANDSLIDES AND LOPSIDED ELECTION RESULTS

The biggest landslide in a federal election since 1900 was that of 1958, where the victorious Progressive Conservatives won 78.5 percent of the seats. However, that is actually a standard result in an Alberta provincial election! This can be seen in Table 1 (column 3), which gives summary data on all federal and provincial elections since 1900 (all tables at end). Alberta, Prince Edward Island, and Quebec, in that order, are the three jurisdictions where the mean seat share for the winning party has been the highest. Conversely, the mean seat share for the

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Peter McCormick, "Voting Behaviour in Alberta: The Quasi-Party System Revisited", *Journal of Canadian Studies*, Volume 15 (1980), pp. 85-98 (p. 91); Harold J. Jansen, "Is Alberta's Party System Unique?", paper presented at the Annual Meeting of the Canadian Political Science Association, University of Manitoba, 3 June 2004 (pp. 7-8).

winning party has been the lowest federally and also in Manitoba – although the mean seats shares here still have been comfortably in majority territory. Ontario and British Columbia also have had relatively low seat shares for their winning parties. The remaining four provinces are in the middle, with mean seat shares right around 70 percent. Table 1 also provides the mean scores for the effective number of parliamentary parties (ENPP), with the various jurisdictions being similarly placed on this measure.

Table 2 then lists all provincial elections (again, there are no such federal elections) in which the winning party won 90 percent or more of the seats – what are deemed lopsided results. The seat share of the winning party (1PSC: first party seat concentration) can also be inverted to get E_{PP}, the measure suggested by Taagepera as a supplemental way of measuring the effective number of parties.⁵ As can be seen, such single-party sweeps have been most common in Prince Edward Island with seven such elections, followed by Alberta with six and Quebec with five, although every province is included here except for Ontario and Manitoba. In Ontario the biggest provincial landslides were the elections of 1951 and 1955, where the Progressive Conservatives respectively won 87.8 and 85.7 percent of the seats. In Manitoba the biggest provincial landslide was the election of 1915, which saw the victorious Liberals winning 85.1 percent of the seats. Again, though, federal elections still have the “smallest largest” victory (78.5 percent in 1958). Next, Table 3 ranks elections by the level of seat bias in favour of the leading (largest) party (SBL), that is, the difference between its seat share (1PSC) and its vote share (1PVC: first party vote concentration), with a positive difference meaning bias in its favour. All elections with such values of 30.0 or more are listed, which again means that we are only talking about provincial elections here (the highest federal SBL being 25.8 in 1935). It should be stressed that for all of the elections listed in Table 3, SBL is exactly the same as the overall disproportionality as measured by the Loosemore-Hanby index, since the winning party was always the only one to win a greater seat percentage than its vote percentage. Table 4 then ranks elections by the seat lead (in percentage terms) of

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Rein Taagepera, “Supplementing the Effective Number of Parties”, *Electoral Studies*, Volume 18, Number 4 (1999), pp. 497-504.

the largest party over the second largest, for all such elections where this value is 70.0 or higher. The fact that this cutoff is so high – and yet there have been 60 such elections since 1900 – speaks volumes to the imbalanced nature of many provincial elections. Again, this is effectively a list just of provincial elections, since the largest federal seat lead was 60.6 in 1984.

What might lead to all these (variously measured) lopsided seat results? The first point here is obviously lopsided vote results, of which there have also been many. To this end, Table 5 ranks election outcomes by vote share of the largest party (1PVC), listing those where the winning party got 60 percent or more of the votes. As one can see, this list is dominated by Newfoundland results, with no less than 10 of the 19 elections shown. (The highest 1PSC federally was 57.0 percent in 1917.) As Table 6 then shows with a bivariate regression of vote share on seat share of the winning party for all provincial elections since 1900, the former explains more than half of the latter. Yet this is not the only factor at play. We thus now turn to a literature review examining electoral bias in Canadian provinces and elsewhere.

SMALL LEGISLATIVE SIZE, ELECTORAL DISTORTION, AND RELATED FACTORS

In his 2001 study of Canadian electoral procedures, Courtney notes that smaller legislatures tend to facilitate sweeps:

The plurality electoral system has a proven tendency when converting votes into seats to over-reward the winning party and to disadvantage (sometimes markedly so) the losing parties. It stands to reason that the larger an assembly the greater the likelihood that votes will be translated into seats equitably. ... The reverse will almost certainly be the case, given the demonstrated biases of the plurality electoral system. If legislative membership is to be chosen by the first-past-the-post system, elections to smaller assemblies are more likely to produce a greater measure of distortion in converting votes into seats.⁶

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John C. Courtney, *Commissioned Ridings: Designing*

Courtney then goes on to note that it is "no coincidence" that the Canadian legislatures in which one party in fact has had all or almost all of the seats have been found in Atlantic Canada, which has the smallest legislatures.⁷ That said, Courtney's definition here for a single-party monopoly is winning all the seats or all but one or two – whereas we have used a cutoff of 90 percent.

In any case, the number of seats is thus a relevant independent variable for winning party seat share. However, this may not be so much a continuous independent variable as one where there is a break point below which a very small legislature has a clearly biased effect. What though is this cutoff? Two hypotheses seem useful. First, looking at the current provincial sizes, Graham White notes that while the full range is from 27 (Prince Edward Island) to 125 (Quebec), most provincial Houses have between 52 (Nova Scotia) and 83 (Alberta) members.⁸ One could thus argue that any legislature below the common range – that is, a legislature of 50 seats or less – is a very small one. A more global point is that of Arend Lijphart, who refers to the "unusually small" legislatures – with resulting strong disproportionality – of the Eastern Caribbean.⁹ These national legislatures now range from 15 seats in Saint Kitts and Nevis to 36 seats in Trinidad and Tobago. If we

Canada's Electoral Districts (Montreal and Kingston: McGill-Queen's University Press, 2001), p. 19.

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Courtney, *ibid.*

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Graham White, "Evaluating Provincial and Territorial Legislatures", chapter 8 in Christopher Dunn, ed., *Provinces: Canadian Provincial Politics*, second edition (Peterborough: Broadview Press, 2006), p. 261.

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Arend Lijphart, "Size, Pluralism, and the Westminster Model of Democracy: Implications for the Eastern Caribbean", in Jorge Heine, ed., *A Revolution Aborted: The Lessons of Grenada* (Pittsburgh: University of Pittsburgh Press, 1990), as noted in Arend Lijphart et al., *Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies, 1945-1990* (Oxford: Oxford University Press, 1994), p. 179 [endnote 8].

eliminate the highest number, the next highest is 30 seats in Barbados. That is, all but one legislature in the Eastern Caribbean elects 30 members or less.¹⁰ In summary, both 50 seats or less and 30 seats or less serve as relevant cut-offs for a very small legislature with potentially extraordinary seat bias.

Moving beyond the number of seats, whereas nowadays all the provinces and the federal government use the basic single member plurality (SMP) electoral system, this has not always been the case. First of all, multi-member constituencies were often used historically, especially in Atlantic Canada and British Columbia. Secondly, deviations from plurality voting have also occurred. In terms of federal districts, these have always been either single member or dual-member, but there never were that many of the latter. As Ward notes, there were never more than ten of these federally, with the last couple being eliminated in the 1960s.¹¹ Thus for federal elections the number of constituencies was never far off from the number of seats. Provincially, as noted, the situation was often different. At one extreme Prince Edward Island used nothing but dual-member districts until the 1990s.¹² For its part, New Brunswick largely

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There are in fact a total of 32 members in the Dominican House of Assembly, but only 21 of these are elected with the rest appointed or ex-officio.

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Norman Ward, "Voting in Canadian Two-Member Constituencies", *Public Affairs*, Volume IX, as reprinted in John C. Courtney, ed., *Voting in Canada: A Selection of Papers* (Scarborough: Prentice-Hall Canada, 1967), p. 125.

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With the abolition of its upper house in 1893, Prince Edward Island instituted a system of dual-member constituencies, with each constituency electing one assemblyman and one councillor. Strictly speaking, these were overlapping rather than true dual-member constituencies, since the assemblyman and councillor were elected on separate ballots and thus did not compete directly against each other. Up until 1963 there was also a suffrage distinction in this system, with the vote for councillors being restricted to property owners — who in fact had multiple votes. Nevertheless, since everyone who voted for councillors also voted for assemblymen, the general effects of

used dual- or multi-member districts until the 1970s. Nova Scotia only used dual- or multi-member districts through the 1920s, and then a few dual-member districts until the 1970s. Likewise, (independent) Newfoundland only used dual- or multi-member districts through its 1924 election, and then a couple of these (ultimately just one) until the 1970s. In all these Atlantic cases the desire to balance off and thus "depoliticize" religious (and in New Brunswick also linguistic) differences was central – that is, parties were able to present balanced lists to the voters.¹³ On the other coast, British Columbia's dual-member districts lacked a similar justification, and in the postwar era were frequently manipulated to benefit the dominant Social Credit party. As Table 1 shows, in these provinces the average number of constituencies has thus been clearly below the average number of seats.

Crucially, these aforementioned elections (with a qualification for British Columbia below) were all fought using plurality voting. In that sense they were similar to single member plurality. However, there have been a couple of other electoral formulae used at the provincial level. The alternative vote (AV) was used in rural Manitoba from 1927 through 1953, in rural Alberta from 1926 through 1955, and for two but only two elections (those of 1952 and 1953) in British Columbia. Yet the alternative vote is also a majoritarian formulae, as evidenced by both the 1953 British Columbia elections (where the Social Credit party won a manufactured majority on 37.8 percent of the first preference vote) and by elections to the Australian House of Representatives, the main international examples of this system. Thus for these purposes, that of seats won by the largest party, one should not consider the alternative vote to be fundamentally different from plurality voting. What is different is the single transferable vote (STV), which was used for decades in Manitoba (to elect the members from Winnipeg) and in Alberta (primarily to elect the members from Calgary and Edmonton). STV is a proportionate system, and did allow smaller parties to win seats in these

dual-member constituencies applied here.

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Rand Dyck, *Provincial Politics in Canada: Towards the Turn of the Century*, third edition (Scarborough: Prentice-Hall Canada, 1996), *passim.*; Harold J. Jansen, "The Single Transferable Vote in Alberta and Manitoba", Ph.D. thesis, University of Alberta, 1998, pp. 4-15.

cities. Yet ironically during this period (up through the 1950s) these same cities were underrepresented due to the pro-rural malapportionment common in provincial elections. Still, where there was a given percentage of seats elected by STV, one can hypothesize that, *ceteris paribus*, the result was more proportional overall, and thus that there was less bias in favour of the largest party.

In summary, though, the most common deviation from single member plurality in Canadian elections was not STV or indeed any form of proportional representation, but dual- or multi-member districts elected by plurality voting. By having fewer constituencies than seats (and sometimes a lot fewer, as in New Brunswick), the biases built into plurality voting were clearly exacerbated. Looking after World War Two at 62 dual-member district elections in the federal elections from 1887 to 1945, Ward (1967 [c. 1946]) noted that these yielded 30 elections with two Conservatives elected (including once where both were acclaimed), 24 elections with two Liberals elected, and only 8 elections which were split, that is, with one Conservative and one Liberal elected.¹⁴ For his part, Qualter stresses generally that:

The weaknesses of the multi-member district are most apparent under a plurality voting system where each voter has as many votes as there are seats to be filled, and where strong party loyalties increase the tendency to bloc voting. It is almost inevitable that wherever there are strong partisan divisions, split-ticket voting will become the anomaly (frequently the consequence of error on the part of the voter) and the one party [sic] will win all the seats in the district.¹⁵

To show this, Qualter uses the example of the three-member district of Saskatoon in the 1960 Saskatchewan provincial election. With 43.4 percent of the total votes, the CCF elected all three of its candidates. In contrast, the second-place

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Ward, "Voting in Canadian Two-Member Constituencies", p. 126.

¹⁵

Terence H. Qualter, *The Election Process in Canada* (Toronto: McGraw-Hill, 1970), p. 122.

Liberals elected nobody, even though they received 31.0 percent of the overall votes.¹⁶

In Prince Edward Island, where for so long there were only 15 or 16 districts, in a typical election all but three districts elected the candidates of the same party to both seats. This occurred not just when the overall result was clearly in favour of one party, but more intriguingly also when the overall result was close – for example, the election of 1966 which saw 17 Liberals and 15 Progressive Conservatives elected in total. In this election there were 13 districts which voted “consistently” for both councillor and assemblyman (7 for the Liberals and 6 for the Progressive Conservatives) and 3 districts that were split. Of these three split districts, two included victories of one and three votes respectively, implying only one district where the voters were decisively choosing candidates of two different parties!

PARTY SYSTEM FACTORS AND LOPSIDED RESULTS

Yet electoral systems broadly defined may not be the direct causal issue here; perhaps instead it is simply the party system, with victorious provincial parties winning strong support from the voters. Table 5 certainly showed some extremely large vote shares. More generally, returning to Table 1 we see that the mean vote share of the lead party (in terms of seats) in all federal elections since 1900 has been 44.7 percent. In contrast, the mean vote share of the lead party has been greater in each province with the exception of Manitoba. That said, the provincial means are often not much greater than the federal one. Indeed, only in Newfoundland (where most recently in 2007 the winning Progressive Conservatives received 69.5 percent of the vote) and in Prince Edward Island can we say that the typical election result is of a dominant vote share by the winning party. Elsewhere lopsidedness thus seems to have more to do with the nature of the opposition vote, specifically its concentration versus fragmentation. Following McCormick, this is measured in terms of the share of the total opposition vote won by the largest opposition party, which can be as high as 100 percent if there are only two parties running and thus only one opposition party. We shall thus call this measure the

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Qualter, *ibid.*

opposition vote concentration.

Lastly, an historical point worth noting in terms of party politics is that six of the (earlier) provincial elections since 1900 have been won by farmers' parties: three in Alberta, two in Manitoba (by the UFM and then the Progressives), and one in Ontario. Such parties and their victories differed from others in a couple of ways. First, these parties clearly focussed on part of the province (the rural part obviously) rather than competing all out everywhere. This thus meant a particularly strong geographic bias in their vote. Second, this point combined with the malapportionment in favour of rural areas in all of these (interwar) elections meant that majority victories and seat bias could occur on only very small shares of the total vote (at the extreme, 22.3 percent in Ontario in 1919, and 28.9 percent in Alberta in 1921). Consequently, we can test a dummy variable for the winning party being a farmers' party.

BIVARIATE REGRESSIONS ON SEAT SHARE

Table 6 thus shows a series of bivariate regressions on the seat share (seat percentage) of the largest party in all provincial elections since 1900. As noted earlier, the vote share (vote percentage) of said party is an extremely strong predictor of its seat share. This provides a stronger explanation than even the vote lead over the next largest party. For its part, the total number of seats is a significant variable, but a more significant explanation occurs by using a dummy variable rather than the actual seat value – and here it is 30 or less seats which is the better cut-off. Specifically, with a legislature of 30 or less seats the seat share of the winning party is some 11 percent higher than it would be otherwise. Although it was hypothesized in the literature that the number of constituencies matters more for electoral bias than the number of seats, this does not turn out to be the case. Regardless of which measure is used (the total number of constituencies, a dummy variable for 50 or less, or a dummy variable for 30 or less), the results are less robust than those for the number of seats. Indeed, the 30 or less constituencies dummy variable is the only one which is significant here. Likewise, the percentage of seats using plurality or alternative voting does not significantly predict bias in favour of the winning party. The other dummy variable examined was a victory by a (rural-based) farmers' party. This is quite significant, although in a bivariate sense what we find

is that such parties win 13 percent fewer seats than other parties (perhaps because of the limited geographic range of their support). Lastly in terms of bivariate analysis, we can consider the losing party or parties and how their vote patterns affect the winning party. Certainly the smaller the second party in terms of votes, the more seats for the winning party. Yet what matters more in this regard is the extent to which the total opposition vote is fragmented – here the t-score is even higher than for the 30 seats or less dummy variable.

A MULTIVARIATE MODEL

After testing various models, the best predictor of the seat share (a high seat share) of the largest party in provincial elections is shown in Table 7. The four key variables here are thus the vote share of the largest party (obviously the higher the better), having a legislature with 30 or fewer seats, having a fragmented opposition vote, and (although rare and historical) having the victorious party be a farmers' party. Combined these four factors explain (just) over two-thirds of the variance in the seat share of the winning party. It is worth noting that neither the second nor the fourth factor have ever occurred federally, which relates to the less lopsided results at that level. A multiple regression of these four independent variables can also be performed on alternate measures of lopsidedness, that is, the seat bias in favour of the leading party (Table 8) and the percentage seat lead of the winning party over the official opposition (Table 9). The four variables remain significant in all cases, although the overall model is clearly a weaker fit regarding the seat bias in favour of the leading party.

CONCLUSIONS: TWO ROUTES TO LOPSIDED RESULTS

Even if relatively rare federally, lopsided election results have been a common pattern in Canadian provincial politics. In terms of specific provinces, Alberta and Prince Edward Island stand out here. These are the provinces which since 1900 have had the most frequent extremely lopsided elections (that is, the winner having 90 percent or more of the seats), as is shown in Table 2 (with Prince Edward Island having had one more of these). As shown in Table 1, Alberta and Prince Edward Island are also the top two provinces in terms of the mean percentage

of seats won by the largest party (79.0 and 76.4 percent respectively). Finally, they are also the top two provinces in terms of the mean seat bias in favour of the largest party (although one should note Quebec as a close third here). However, Alberta and Prince Edward Island have taken clearly different "routes" to their lopsided outcomes. In the case of Alberta, the key factor has been a low opposition vote concentration, that is, the definite lack of a straight contest between the winning party and one other alternative. This is combined with a healthy vote share for the winning party, of course, but this vote share is not at the very top as the provinces go. In contrast, Prince Edward Island has a very high vote mean share for the winning party (second only to Newfoundland). However, the opposition in Prince Edward Island is not fragmented; indeed, quite the reverse is true: the opposition vote distribution has been more concentrated in Prince Edward Island than anywhere else. It has been the small number of constituencies in Prince Edward Island that has been central to its lopsided results.

TABLE 1 -
SUMMARY
VALUES, ALL
ELECTIONS
SINCE 1900

								mean
	mean lead		mean total	mean total	mean lead	mean seat		opposition
total	party seat	mean	number of	number of	party vote	bias lead		vote
elections	percentage	ENPP	seats	constituencies	percentage	party		concentration

Canada	31	56.6	2.34	261.5	259.9	44.7	11.9	63.4
Newfoundland	28	70.9	1.76	41.2	35.4	55.3	15.6	82.9
PEI	30	76.4	1.55	30.2	16.9	53.4	23.1	95.8
Nova Scotia	28	69.2	1.82	43.4	36.2	48.8	20.5	78.0
New Brunswick	26	69.3	1.73	52.4	31.1	51.6	17.7	86.3
Quebec	29	73.1	1.69	98.4	98.4	50.2	22.9	77.0
Ontario	30	65.1	2.03	108.2	107.5	46.1	19.0	65.0
Manitoba	29	56.7	2.39	54.2	51.1	42.6	14.2	61.3
Saskatchewan	26	70.2	1.81	56.3	54.7	48.5	21.6	68.9
Alberta	27	79.0	1.58	66.7	63.5	50.6	28.4	56.9
British Columbia	30	65.3	2.00	53.3	46.2	45.2	20.1	64.7

TABLE 2 –
SINGLE PARTY
SWEEPS OF
PROVINCIAL
ELECTIONS
SINCE 1900

(Parties
Winning 90
Percent or
More of the
Seats)

	election	total seats	total constituencies	winning party	seats won	seat percentage (1PSC)	inverse (E4PP)	vote percentage (1PVC)
New Brunswick	1987	58	58	Liberals	58	100.0	1.000	60.4
PEI	1935	30	15	Liberals	30	100.0	1.000	57.9
British Columbia	2001	79	79	B.C. Liberals	77	97.5	1.026	57.6
PEI	1993	32	16	Liberals	31	96.9	1.032	55.1
PEI	2000	27	27	PCs	26	96.3	1.038	57.9
New Brunswick	1912	48	17	Conservatives	46	95.8	1.044	59.9
Alberta	1963	63	63	Social Credit	60	95.2	1.050	54.8
Alberta	1982	79	79	PCs	75	94.9	1.054	62.3
Nova Scotia	1901	38	18	Liberals	36	94.7	1.056	56.7
Alberta	1959	65	65	Social Credit	61	93.8	1.066	55.7
PEI	1989	32	16	Liberals	30	93.8	1.066	60.7
Alberta	1979	79	79	PCs	74	93.7	1.067	57.4
Nova Scotia	1945	30	26	Liberals	28	93.3	1.072	52.7
PEI	1912	30	15	Conservatives	28	93.3	1.072	60.2
Nova Scotia	1925	43	19	Conservatives	40	93.0	1.075	60.9
British Columbia	1912	42	34	Conservatives	39	92.9	1.076	59.7
Newfoundland	1966	42	41	Liberals	39	92.9	1.076	61.8
Quebec	1973	110	110	Liberals	102	92.7	1.079	54.7
Quebec	1916	81	81	Liberals	75	92.6	1.080	60.6
Newfoundland	1932	26	24	Conservatives	24	92.3	1.083	70.8
Alberta	1905	25	25	Liberals	23	92.0	1.087	57.6
Alberta	1975	75	75	PCs	69	92.0	1.087	62.7
Newfoundland	2007	48	48	PCs	44	91.7	1.091	69.5
Quebec	1919	81	81	Liberals	74	91.4	1.094	51.9
Saskatchewan	1934	55	52	Liberals	50	90.9	1.100	48.0
Nova Scotia	1963	43	40	PCs	39	90.7	1.103	56.2
British Columbia	1909	42	34	Conservatives	38	90.5	1.105	52.3
Quebec	1900	74	74	Liberals	67	90.5	1.105	53.1
Quebec	1904	74	74	Liberals	67	90.5	1.105	55.5
New Brunswick	1948	52	17	Liberals	47	90.4	1.106	57.8
Saskatchewan	1944	52	49	CCF	47	90.4	1.106	53.1
PEI	1939	30	15	Liberals	27	90.0	1.111	53.0
PEI	1955	30	15	Liberals	27	90.0	1.111	55.0

TABLE 3 –

PROVINCIAL
ELECTIONS SINCE
1900 WITH THE
GREATEST SEAT
BIAS IN FAVOUR OF
THE LARGEST PARTY

	election	total seats	total constituencies	1PSC	inverse (E4PP)	1PVC	SBL
Saskatchewan	1934	55	52	90.9	1.100	48.0	42.9
Prince Edward Island	1935	30	15	100.0	1.000	57.9	42.1
Prince Edward Island	1993	32	16	96.9	1.032	55.1	41.8
Nova Scotia	1945	30	26	93.3	1.072	52.7	40.6
Alberta	1963	63	63	95.2	1.050	54.8	40.4
Alberta	1967	65	65	84.6	1.182	44.6	40.0
British Columbia	2001	79	79	97.5	1.026	57.6	39.9
New Brunswick	1987	58	58	100.0	1.000	60.4	39.6
Quebec	1919	81	81	91.4	1.094	51.9	39.5
Ontario	1951	90	90	87.8	1.139	48.5	39.3
Prince Edward Island	2000	27	27	96.3	1.038	57.9	38.4
British Columbia	1909	42	34	90.5	1.105	52.3	38.2
Alberta	1959	65	65	93.8	1.066	55.7	38.1
Nova Scotia	1901	38	18	94.7	1.056	56.7	38.0
Quebec	1973	110	110	92.7	1.079	54.7	38.0
Quebec	1948	92	92	89.1	1.122	51.2	37.9
Alberta	1944	57	49	89.5	1.117	51.9	37.6
Quebec	1900	74	74	90.5	1.105	53.1	37.4
Saskatchewan	1944	52	49	90.4	1.106	53.1	37.3
Ontario	1955	98	98	85.7	1.167	48.5	37.2
Prince Edward Island	1939	30	15	90.0	1.111	53.0	37.0
Alberta	1979	79	79	93.7	1.067	57.4	36.3
New Brunswick	1912	48	17	95.8	1.044	59.9	35.9
New Brunswick	1995	55	55	87.3	1.145	51.6	35.7
Prince Edward Island	1955	30	15	90.0	1.111	55.0	35.0
Quebec	1904	74	74	90.5	1.105	55.5	35.0
Alberta	1935	63	53	88.9	1.125	54.2	34.7
Nova Scotia	1963	43	40	90.7	1.103	56.2	34.5
Alberta	1905	25	25	92.0	1.087	57.6	34.4
Nova Scotia	1967	46	43	87.0	1.149	52.8	34.2
Alberta	2008	83	83	86.7	1.153	52.7	34.0
Alberta	1948	57	49	89.5	1.117	55.6	33.9
Alberta	1921	61	52	62.3	1.605	28.9	33.4
British Columbia	1912	42	34	92.9	1.076	59.7	33.2
Prince Edward Island	1912	30	15	93.3	1.072	60.2	33.1
Prince Edward Island	1989	32	16	93.8	1.066	60.7	33.1
Quebec	1931	90	90	87.8	1.139	54.9	32.9

Alberta	1982	79	79	94.9	1.054	62.3	32.6
New Brunswick	1948	52	17	90.4	1.106	57.8	32.6
Saskatchewan	1991	66	66	83.3	1.200	51.0	32.3
New Brunswick	1991	58	58	79.3	1.261	47.1	32.2
Nova Scotia	1925	43	19	93.0	1.075	60.9	32.1
Quebec	1916	81	81	92.6	1.080	60.6	32.0
Saskatchewan	1982	64	64	85.9	1.164	54.1	31.8
Newfoundland	1966	42	41	92.9	1.076	61.8	31.1
Nova Scotia	1906	38	18	84.2	1.188	53.2	31.0
Prince Edward Island	1923	30	15	83.3	1.200	52.3	31.0
Prince Edward Island	2003	27	27	85.2	1.174	54.3	30.9
Alberta	1926	61	52	70.5	1.418	39.7	30.8
British Columbia	1933	47	39	72.3	1.383	41.7	30.6
Nova Scotia	1937	30	26	83.3	1.200	52.9	30.4
Nova Scotia	1984	52	52	80.8	1.238	50.6	30.2
Manitoba	1915	47	44	85.1	1.175	55.1	30.0
New Brunswick	1935	48	17	89.6	1.116	59.6	30.0

TABLE 4 –
PROVINCIAL
ELECTIONS SINCE
1900 WITH THE
GREATEST SEAT
LEAD (PERCENTAGE)
OF THE LEADING
PARTY

BY SEATS
OVER THE
SECOND
PARTY BY
SEATS

	election	total seats	total constituencies	lead party seat percentage	second party seat percentage	seat lead of first party over second (percentage)	vote lead of first party over second (percentage)
Prince Edward Island	1935	30	15	100.0	0.0	100.0	15.8
New Brunswick	1987	58	58	100.0	0.0	100.0	31.8
British Columbia	2001	79	79	97.5	2.5	94.9	36.0
Prince Edward Island	1993	32	16	96.9	3.1	93.8	15.6
Prince Edward Island	2000	27	27	96.3	3.7	92.6	24.2
Alberta	1982	79	79	94.9	2.6	92.4	43.6
Alberta	1959	65	65	93.8	1.6	92.3	31.8
Alberta	1963	63	63	95.2	3.2	92.1	34.8
New Brunswick	1912	48	17	95.8	4.2	91.7	20.7

Nova Scotia	1925	43	19	93.0	2.3	90.7	24.6
British Columbia	1912	42	34	92.9	2.3	90.5	48.6
Nova Scotia	1901	38	18	94.7	5.3	89.5	15.0
Alberta	1979	79	79	93.7	5.0	88.6	37.5
Prince Edward Island	1989	32	16	93.8	6.2	87.5	24.9
Quebec	1973	110	110	92.7	5.5	87.3	24.5
Prince Edward Island	1912	30	15	93.3	6.7	86.7	20.4
Nova Scotia	1945	30	26	93.3	6.7	86.7	39.1
Alberta	1975	75	75	92.0	5.3	86.7	44.5
Alberta	1948	57	49	89.5	3.5	86.0	36.5
Alberta	1944	57	49	89.5	3.5	86.0	27.0
Newfoundland	1966	42	41	92.9	7.1	85.7	27.8
British Columbia	1909	42	34	90.5	4.7	85.7	19.1
Newfoundland	2007	48	48	91.7	6.3	85.4	48.4
Quebec	1916	81	81	92.6	7.4	85.2	25.5
Quebec	1919	81	81	91.4	6.1	85.2	34.9
Newfoundland	1932	26	24	92.3	7.7	84.6	42.5
Alberta	1905	25	25	92.0	8.0	84.0	20.5
Alberta	1909	41	39	87.8	4.9	82.9	27.6
Saskatchewan	1934	55	52	90.9	9.1	81.8	24.0
Nova Scotia	1963	43	40	90.7	9.3	81.4	16.5
Quebec	1904	74	74	90.5	9.5	81.1	28.8
Quebec	1900	74	74	90.5	9.5	81.1	11.2
Alberta	1935	63	53	88.9	7.9	81.0	31.1
Saskatchewan	1944	52	49	90.4	9.6	80.8	17.7
New Brunswick	1948	52	17	90.4	9.6	80.8	26.6
Alberta	2001	83	83	89.2	8.4	80.7	34.6
Quebec	1948	92	92	89.1	8.7	80.4	15.0
Prince Edward Island	1939	30	15	90.0	10.0	80.0	6.0
Prince Edward Island	1955	30	15	90.0	10.0	80.0	10.0
New Brunswick	1935	48	17	89.6	10.4	79.2	19.4
Ontario	1951	90	90	87.8	8.9	78.9	17.0
Alberta	1952	61	50	85.2	6.6	78.7	33.8
Newfoundland	1959	36	35	86.1	8.3	77.8	32.7
Newfoundland	1900	36	18	88.9	11.1	77.8	27.6
Newfoundland	1956	36	35	88.9	11.1	77.8	34.3
Quebec	1927	85	85	87.1	10.5	76.5	25.0
New Brunswick	1995	55	55	87.3	10.9	76.4	20.7
Alberta	2008	83	83	86.7	10.8	75.9	26.3
Quebec	1931	90	90	87.8	12.2	75.6	11.4
Alberta	1967	65	65	84.6	9.2	75.4	18.6
Saskatchewan	1917	59	59	86.4	11.9	74.6	20.4
Manitoba	1915	47	44	85.1	10.6	74.5	22.1
Ontario	1955	98	98	85.7	11.2	74.5	15.2
Nova Scotia	1967	46	43	87.0	13.0	73.9	11.0
Saskatchewan	1982	64	64	85.9	14.1	71.9	16.5
Saskatchewan	1912	53	53	84.9	13.2	71.7	15.0
Saskatchewan	1925	63	60	81.0	9.5	71.4	29.6

Newfoundland	1951	28	25	85.7	14.3	71.4	28.0
Nova Scotia	1906	38	18	84.2	13.2	71.1	11.1
Prince Edward Island	2003	27	27	85.2	14.8	70.4	11.6

TABLE 5 –
PROVINCIAL
ELECTIONS SINCE
1900 WITH THE
BIGGEST VOTE
SHARE OF THE
LARGEST PARTY
(1PVC)

	election	seats	1PSC	1PVC	second party vote %	vote lead 1-2 (%)	seat lead 1-2 (%)	difference
Newfoundland	1932	26	92.3	70.8	28.3	42.5	84.6	42.1
Newfoundland	2007	48	91.7	69.5	21.1	48.4	85.4	37.0
Newfoundland	1956	36	88.9	66.3	32.0	34.3	77.8	43.5
Newfoundland	1949	28	78.6	65.5	32.9	32.6	60.7	28.1
Newfoundland	1951	28	85.7	63.6	35.6	28.0	71.4	43.4
Newfoundland	1900	36	88.9	62.9	35.3	27.6	77.8	50.2
Alberta	1975	75	92.0	62.7	18.2	44.5	86.7	42.2
Alberta	1982	79	94.9	62.3	18.7	43.6	92.4	48.8
Alberta	2001	83	89.2	61.9	27.3	34.6	80.7	46.1
Newfoundland	1966	42	92.9	61.8	34.0	27.8	85.7	57.9
British Columbia	1949	48	81.3	61.4	35.1	26.3	66.7	40.4
Newfoundland	1982	52	84.6	61.2	34.9	26.3	69.2	42.9
Nova Scotia	1925	43	93.0	60.9	36.3	24.6	90.7	66.1
Prince Edward Island	1989	32	93.8	60.7	35.8	24.9	87.5	62.6
Quebec	1916	81	92.6	60.6	35.1	25.5	85.2	59.7
Newfoundland	1972	42	78.6	60.5	37.2	23.3	57.1	33.8
New Brunswick	1987	58	100.0	60.4	28.6	31.8	100.0	68.2
Prince Edward Island	1912	30	93.3	60.2	39.8	20.4	86.7	66.3
Newfoundland	1904	36	83.3	60.1	39.5	20.6	66.7	46.1

TABLE 6 – BIVARIATE
REGRESSIONS ON SEAT
CONCENTRATION (SEAT
PERCENTAGE) OF THE
LARGEST PARTY

ALL PROVINCIAL
ELECTIONS SINCE
1900

N = 283

variable	unstandardized B	standardized B	t-score	significance	adjusted r2
vote percentage of the largest party	1.552	0.771	20.289	0.000	0.593
vote lead over the second largest party	0.873	0.633	13.694	0.000	0.398
total number of seats	-0.072	-0.124	-2.095	0.037	0.012
50 seats or less dummy variable	5.126	0.165	2.805	0.005	0.024
30 seats or less dummy variable	10.790	0.221	3.798	0.000	0.045
total number of constituencies	-0.051	-0.105	-1.778	0.076	0.008
50 constituencies or less dummy variable	2.335	0.078	1.306	0.193	0.002
30 constituencies or less dummy variable	5.356	0.155	2.633	0.009	0.021
percentage of seats plurality or AV voting	0.371	0.114	1.922	0.056	0.009
election won by a farmers' party dummy variable	-13.252	-0.127	-2.146	0.033	0.013
vote percentage of the second largest party	-0.212	-0.127	-2.139	0.033	0.013
share of opposition votes won by the largest opposition party	0.189	0.247	4.271	0.000	0.058

TABLE 7 – MULTIVARIATE REGRESSION ON SEAT CONCENTRATION (SEAT PERCENTAGE) OF THE LARGEST PARTY

ALL PROVINCIAL ELECTIONS SINCE 1900

N = 283

	unstandardized B	standard error	t-score	significance
vote percentage of the largest party	1.960	0.087	22.637	0.000
30 seats or less dummy variable	5.438	1.795	3.030	0.003
share of opposition votes won by the largest opposition party	-0.255	0.034	-7.587	0.000
election won by a farmers' party dummy variable	12.123	3.763	3.221	0.001
constant	-8.964	3.698	-2.424	0.016
adjusted r-squared				0.674

TABLE 8 – MULTIVARIATE REGRESSION ON SEAT BIAS IN FAVOUR OF THE LARGEST PARTY

ALL PROVINCIAL ELECTIONS SINCE 1900

N = 283

	unstandardized B	standard error	t-score	significance
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vote percentage of the largest party	0.960	0.087	11.087	0.000
30 seats or less dummy variable	5.438	1.795	3.030	0.003
share of opposition votes won by the largest opposition party	-0.255	0.034	-7.587	0.000
election won by a farmers' party dummy variable	12.123	3.763	3.221	0.001
constant	-8.964	3.698	-2.424	0.016
adjusted r-squared				0.322

TABLE 9 – MULTIVARIATE REGRESSION ON THE PERCENTAGE SEAT LEAD OF THE LARGEST PARTY OVER THE SECOND LARGEST (BY SEATS) ALL PROVINCIAL ELECTIONS SINCE 1900

N = 283

unstandardized B standard error t-score significance

vote percentage of the largest party	3.489	0.157	22.228	0.000
30 seats or less dummy variable	12.395	3.254	3.809	0.000
share of opposition votes won by the largest opposition party	-0.726	0.061	-11.916	0.000
election won by a farmers' party dummy variable	27.544	6.824	4.037	0.000
constant	-74.872	6.706	-11.166	0.000
adjusted r-squared				0.647