Proportional Representation: The Scottish Model Applied to the 2015 Canadian Election

The purpose of this paper is to calculate what the results of the 2015 federal election in Canada might have been using a system of proportional representation based on the system in use for elections to the Scottish Parliament. The Scottish model was recommended by the Law Commission of Canada in its March 2004 report[1]. This paper does not attempt to deal in any depth with the implications of a proportional representation system, such as the tendency for it to result in a minority government, or with the relative merits of the various possible systems for proportional representation. Those matters are canvassed more fully in the Law Commission report.

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The Scottish Model

The Scottish Parliament uses a mixed proportional representation system to elect its members. There are 129 seats (for a population of about 5 million). There are 73 constituencies where the person receiving the most votes is declared elected (termed first past the post or constituency seats). The other 56 seats are filled from slates of candidates proposed by the parties, or by individuals – 7 seats for each of 8 regions of varying population size (termed proportional or regional seats). Thus, 57 per cent of the total seats are first past the post and 43 per cent are proportional.

The constituency elections and the regional elections take place at the same time and each elector has two votes – one for a constituency candidate and one for a party or individual on a regional list. A person can be a candidate for a constituency seat as well as being on a party list for a proportional seat. This gives parties an opportunity to ensure that a particular candidate gets elected, if not as a constituency member then from the

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slate. It could also facilitate the election of more women members and members from minority groups if parties chose to organize their list in such a way. In the 2011 Scottish elections, 45 out of 129 elected members were women (35 per cent) – 20 out of 73 constituency seats (27 per cent) and 25 out of 56 proportional seats (45 per cent). In the Canadian election, the percentage of women elected was 26 per cent.

The method of calculating the proportional seats is as follows: for the first proportional seat, divide the number of votes cast in the region for each party's regional slate or for each individual regional candidate by the number of constituency seats that they received in a region + 1. So for a party (say Labour) that won 10 constituency seats in a region, its total number of regional votes would be divided by 11 initially. For a party (say the Green Party), or individual, that got no constituency seats, their number of regional votes would be divided by 1. The party or individual with the highest number after the division is completed gets the first proportional seat.

For the second proportional seat, the same calculation is made - divide the number of regional votes for each party or individual by the number of constituency seats that they won + 1 + any proportional seats received. So, if Labour obtained the first proportional seat, its number of regional votes would be divided by 12. For the Green Party, its number of regional votes would again be divided by 1. And so on for all 7 proportional seats in each region.

2011 Scottish Parliament Election Results (Figures from website – http://www.scottish.parliament.uk/msps.aspx)					
	Total Number and percentage of Seats	**Number and percentage of Constituency Seats percentage**	**Constituency vote percentage**	**Number and percentage of Regional Seats**	**Regional vote percentage**
Scottish Nationalist	69 (53.5%)	53 (72.5%)	45.4%	16 (28.5%)	44.0%
Scottish Labour	37 (28.7%)	15 (20.5%)	31.7%	22 (39.0%)	26.3%
Scottish Conservative	15 (11.6%)	3 (4.0%)	13.9%	12 (21.5%)	12.4%
Scottish Liberal Democrat	5 (3.9%)	2 (3.0%)	7.9%	3 (5.5%)	5.2%
Scottish Green	2 (1.6%)	0	0%	2 (3.5%)	4.4%
Margo MacDonald	1 (0.8%)	0	0%	1 (2.0%)	0.9%
Others	-	0	1.1%	0	6.8%
	129	73		56	

Elections for the Scottish Parliament are held on a fixed date every 4 years, except if there is a two-thirds majority vote by members for an earlier election or if Parliament cannot agree on the nomination of a First Minister. The above table shows the results of the 2011 election. (The election that should have been held in 2015 was bumped to 2016 because it would have coincided with the election for the UK Parliament in 2015).

The proportional (regional) vote for the major parties is generally less than the constituency vote, as electors take the opportunity to split their voting allegiance – a fact that some would consider a benefit of a proportional system. In the case of the Green Party, they ran no constituency candidates but gained their two seats as a result of their share of the proportional vote.

Applying the Scottish Model to Canada

Canada has 338 constituency seats. For purposes of applying the Scottish model to Canada, the number of constituency seats has been calculated as 2/3 of the total number of constituency seats, and the proportional seats 1/3 of the total number of constituency seats. This ratio is consistent with the assumption made in the 2004 Law Commission of Canada report in its simulation of the 2000 Canadian election results based on the Scottish model[2]. There are, therefore, 225 constituency (first past the post) seats, and 113 seats to be distributed among parties in proportion to the votes they receive. Three proportional seats have been added – one for each of the territories because

otherwise they would have to share a proportional seat – making a total of 116 proportional seats. Using the present number of seats as a basis for the split between constituency and proportional seats would mean reducing the number of constituency seats through a redrawing of constituency boundaries[3].

Normally there would be a separate vote for the proportional seats that would provide the basis for the proportional calculations. As there was only one vote (the constituency vote) in the 2015 Canadian election, that vote is used as the basis for the calculation of proportional seats. For simplicity, and because there were no regional slates with individual candidates or minor parties, the proportional seats have only been allocated among political parties that obtained a substantial number of votes (Liberal, Conservative, NDP, Bloc and Green).

Provinces and territories have been used as the regional unit and the figures used in the calculation of constituency and proportional seats are those reported by Elections Canada immediately after election night.

The basic steps in applying the model are: first, the total electoral seats for each province and territory are divided into 2/3 first past the post seats and 1/3 proportional seats; then the 2/3 first past the post seats are allocated among the parties in proportion to the seats they won in the actual election; finally, the 1/3 proportional seats are allocated in each province and territory in accordance with the formula described above for Scotland, using the total number of votes obtained by each party in that province or territory.

Results using the Scottish Model

Tables 1, 2 and 3 below show the actual results of the 2015 Canadian election compared with results projected using the Scottish model. Table 1 shows the results nationally. Table 2 shows the number of actual seats by province and territory compared with the number of seats using the model. Table 3 compares the vote percentage in each province and territory with the actual seat percentage and with the seat percentage using the model.

system and the model system, and the number of seats for each party reflects the popular vote under either system. (See Tables 2 and 3).

In conclusion, a mixed system of proportional representation, based on the Scottish model, would benefit parties that obtain a substantial percentage of popular support but are unable to see this support translated into seats under the present first past the post system. At the same time, it would allow the parties that have traditionally benefited from the first past the post system to maintain some of this advantage.

Table 1

Results Nationally

	2015 Actual Election Results			Model Results	
	% of Popular Vote	No. of Seats	% of Seats	No. of Seats	% of Seats
Liberal	**39.5%**	**184**	54.4%	**148**	43.5%
Conservative	**31.9%**	**99**	29.3%	**106**	31%
NDP	**19.7%**	**44**	13.0%	**65**	19%
Bloc Quebecois	**4.7%**	**10**	3.0%	**14**	4%
Green	**3.4%**	**1**	0.3%	**8**	2.5%
Other	**0.8%**	**0**	0%	**0**	0%
		338		341	

The effect of applying the model is that the percentage of seats gained by each party nationally would reflect more closely the actual number of votes they obtained (see Table 1). This is true also within each province and territory, although the difference between the vote percentage and actual seat percentage varies from province to province (see Table 3).

The Liberals would have fewer seats overall because of the high number of FPTP seats they gained, which would result in fewer proportional seats. The Conservatives would gain a few more seats, while the NDP and Green Party would be the main beneficiaries. The Bloc would also gain a few more seats in Quebec. The three main parties would have seats in every province, except for the Conservatives in Newfoundland and Labrador and the NDP in PEI, as opposed to the present shut-out of those parties in Atlantic Canada. The Liberals would increase their seat count in Alberta. In Ontario, the number of seats would reflect almost exactly the percentage of the popular vote for each party in that province. In Manitoba, the number of seats is the same under both the existing

Notes

1   The Law Commission of Canada was shut down following Government funding cuts in 2006. However, the report is available online at http://voices-voix.ca/sites/voices-voix.ca/files/lcc_report_-_electoral_reform_for_canada.pdf.

2   The split in the Scottish system is actually 57 per cent FPTP seats and 43 per cent proportional seats. The split between FPTP seats and proportional seats is the key factor that affects how closely the popular vote is reflected in the number of seats. For example, a 50/50 split would give more emphasis to the proportional allocation and would more closely reflect the popular vote. Of course, if the goal was to have the number of seats mirror the popular vote exactly, a pure proportional representation system would be used.

3   If the present number of constituency seats (338) were to be retained, the total number of seats would need to be increased by 50 per cent to 507 to provide for the additional one-third of proportional seats. This is probably not practicable at present, logistically and from a cost point of view. On the other hand, the cost of additional proportional seats in the Commons could be offset by abolition of the Senate (105 seats). (The question of the need for a continuing role for the Senate as representing provincial interests is a whole other topic for discussion).

Table 2

Number of Seats By Province And Territory

	LIBERAL		CONSERVATIVE		NDP		BLOC		GREEN	
	Actual Seats	Model Seats	Actual Seats	Model Seats	Actual Seats	Model Seats	Actual Seats	Model Seats	Actual Seats	Model Seats
* For the Model Seats, the first figure in brackets is for FPTP seats and the second figure is for Proportional seats..										
Nfld	7	5 (5+0)	-	-	-	2 (0+2)	-	-	-	-
PEI	4	3 (3+0)	-	1 (0+1)	-	-	-	-	-	-
NS	11	8 (8+0)	-	2 (0+2)	-	1 (0+1)	-	-	-	-
NB	10	7 (7+0)	-	2 (0+2)	-	1 (0+1)	-	-	-	-
Queb	40	33 (26+7)	12	11 (8+3)	16	18 (11+7)	10	14 (7+7)	-	2 (0+2)
Ont	80	55 (53+2)	33	43 (22+21)	8	20 (6+14)	-	-	-	3 (0+3)
Man	7	7 (5+2)	5	5 (3+2)	2	2 (1+1)	-	-	-	-
Sask	1	3 (1+2)	10	7 (7+0)	3	4 (2+2)	-	-	-	-
Alb	4	8 (3+5)	29	22 (20+2)	1	4 (1+3)	-	-	-	-
BC	17	15 (11+4)	10	13 (7+6)	14	11 (10+1)	-	-	1	3 (1+2)
YT	1	2 (1+1)	-	-	-	-	-	-	-	-
NWT	1	1 (1+0)	-	-	-	1 (0+1)	-	-	-	-
NUN	1	1 (1+0)	-	-	-	1 (0+1)	-	-	-	-
Total	184	148	99	106	44	65	10	14	1	8

Table 3

Percentage of Votes And Seats By Province And Territory

	LIBERAL			CONSERVATIVE			NDP			BLOC			GREEN		
	Vote %	Actual Seat %	Model Seat %	Vote %	Actual Seat %	Model Seat %	Vote %	Actual Seat %	Model Seat %	Vote %	Actual Seat %	Model Seat %	Vote %	Actual Seat %	Model Seat %
Nfld	64.5	100	71	10.3	0	0	21.0	0	29	-	-	-	1.1	0	0
PEI	58.3	100	75	19.3	0	25	16.0	0	0	-	-	-	6.0	0	0
NS	61.9	100	73	17.9	0	18	16.4	0	9	-	-	-	3.4	0	0
NB	51.6	100	70	25.3	0	20	18.3	0	10	-	-	-	4.6	0	0
Queb	35.7	51.3	42	16.7	15.4	14	25.4	20.5	23	19.3	12.8	18	2.3	0	3
Ont	44.8	66.1	45.5	35.0	27.3	35.5	16.6	6.6	16.5	-	-	-	2.9	0	2.5
Man	44.6	50.0	50	37.3	35.7	36	13.8	14.3	14	-	-	-	3.2	0	0
Sask	23.9	7.1	21.5	48.5	71.4	50	25.1	21.5	28.5	-	-	-	2.1	0	0
Alb	24.6	11.8	23.5	59.5	85.3	64.5	11.6	2.9	12	-	-	-	2.5	0	0
BC	35.2	40.5	36	30.0	23.8	31.0	25.9	33.3	26	-	-	-	8.2	2.4	7
YT	53.6	100	100	24.0	0	0	19.5	0	0	-	-	-	2.9	0	0
NWT	48.3	100	50	18.0	0	0	30.8	0	50	-	-	-	2.8	0	0
NUN	47.2	100	50	24.8	0	0	26.5	0	50	-	-	-	1.5	0	0