Proportional Representation – the Scottish Model applied to the 2004 Canadian Election

by Ian Gray and James Gray

The purpose of this paper is to calculate what the result of the 2004 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. This is only one possible model and there are a number of variables within the model. The Scottish model was recommended by the Law Commission of Canada in its March 2004 report. The paper does not attempt to deal in any depth with the implications of a proportional system, such as the possibility that there will always be a minority government, or with the arguments for and against such a system. These are canvassed more fully in the Law Commission report.

The Scottish Parliament uses a mixed proportional system. There are 129 seats (for a population of about 5 million) with 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 individuals – 7 seats in each of 8 regions of varying population size (termed proportional or regional seats). Thus 57% of the total seats are first past the post and 43% 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 slate. It could also facilitate the election of more women members. In the 2003 Scottish elections, 50 out of 129 members elected were women – 31 out of 73 constituency seats and 19 out of 56 proportional seats.

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 got in a region plus 1. So for a party (say Labour) that got 10 constituency seats in a region, its total number of regional votes would be divided by 11. 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 got plus 1 – but this time any proportional seat is added. So, if Labour obtained the first proportional seat,

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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.

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. Table 1 shows the results of the 2003 election.

Table 1
2003 Scottish Parliament Election Results[1]

	Total Number of Seats	Share of Total Seats	Number of Constituency Seats	Share of Constituency Votes	Number of Regional Seats	Share of Regional Votes
Labour	50	38.8%	46	34.6%	4	29.3%
Scottish Nationalist	27	20.9%	9	23.8%	18	20.9%
Conservative	18	14.0%	3	16.6%	15	15.5%
Liberal Democrat	17	13.2%	13	15.4%	4	11.8%
Green	7	5.4%	0	0.0%	7	6.9%
Scottish Socialist	6	4.7%	0	6.2%	6	6.7%
MSP for Falkirk West	1	0.8%	1	0.8%	0	0.0%
Save Stobhill Hospital	1	0.8%	1	0.6%	0	0.0%
Senior Citizens Union	1	0.8%	0	0.1%	1	1.5%
Margo MacDonald	1	0.8%	0	0.0%	1	1.4%
	129		73		56	

1. Elections 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 the Parliament cannot agree on the nomination of a First Minister. Figures are from online: 2003 Scottish Parliament Election Results <http://www.scottish.parliament.uk/msps/results-03/analysis.htm>

The proportional 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 all their seats as a result of their proportional vote.

Applying the Scottish Model to Canada

Canada has 308 constituency seats. For purposes of applying the Scottish model to Canada, we have chosen to make the constituency seats 2/3 of the total number of seats and the proportional seats 1/3. This is consistent with the assumption made in the Law Commission of Canada report in its simulation of the 2000 Canadian election results based on the Scottish model. There are, therefore, 206 constituency (first past the post) seats, and 102 seats to be distributed among parties in proportion to the votes they receive. We have added 3 proportional seats, one for each of the territories because otherwise they would have to share a proportional seat, for a total of 105 proportional seats.

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 2004 Canadian election, we have used that vote as the basis for the calculation of proportional seats.

For simplicity, and because there were no regional slates with individual candidates or minor parties, we have only allocated the proportional seats among political parties that obtained a substantial number of votes (Liberal, Conservative, Bloc, NDP and Green).

We used provinces and territories as the regional unit rather than creating larger units that might have more logic to them. This was partly to avoid possible constitutional pitfalls and because it is easier to work with the Elections Canada figures by province and territory. The Elections Canada figures that we have used are the preliminary results reported as of election night, as being the

Table 2					
	Actual 2004 Election Results in Canada			Model Results	
	% of Popular Vote	No. of Seats	% of Seats	No. of Seats	% of Seats
Liberal	36.7%	135	43.8%	120	38.6%
Conservative	29.6%	99	32.1%	96	30.9%
NDP	15.7%	19	6.2%	47	15.1%
Bloc Québécois	12.4%	54	17.5%	38	12.2%
Green	4.3%	0	0.0%	9	2.9%
Other	1.3%	1	0.3%	1	0.3%
		308		**311**	

best figures available at the time we made our calculations.

The basic steps in applying the model are: firstly, the total electoral seats for each province 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 in accordance with the formula described above for Scotland, using the total number of votes obtained by each party in that province. Table 2 above shows the results of applying the Scottish model and compares them with the actual results in the 2004 Canadian election. The method for allocating the proportional seats and the results of the allocation for each province are set out in more detail in Table 3 below.

It is evident that the current first past the post system does not reflect the popular vote as well as the proportional model does. A key factor that influences how closely the popular vote is reflected is the split between the first past the post and proportional seats (in the model, the split is 2/3 first past the post and 1/3 proportional). 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.

The mixed model used here has the effect of decreasing a party's domination in any particular region. For example:

- In the West, where the Conservatives are strong under the first past the post system, they do not gain much in the allocation of proportional seats.
- Similarly, in the Atlantic provinces and Ontario the Liberals do not gain much under the proportional allocation. Indeed, in Ontario they do not gain a single proportional seat. This reflects the fact that despite gaining only 45% of the vote in Ontario, the Liberals won over 70% of the first past the post seats.
- In Quebec, the Bloc only gains 2 of the proportional seats; the other 23 are divided among the other parties, who all stand to gain.
- While the NDP gains almost everywhere else, in Manitoba they do not gain any proportional seats.

As a party that is strong in one province but non-existent in the other parts of the country, the Bloc Quebecois would gain less seats under the proportional representation model. The Liberals would also lose ground, mostly as a result of their disproportionate winning of seats in Ontario. The Conservatives would only lose one or two seats. The NDP would benefit substantially from the model, as would the Green Party.

In conclusion, a mixed system of proportional representation, based on the Scottish model, would more fairly reflect the parties' share of the popular vote, both nationally and regionally, to the benefit of parties that are unable to see this popular 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 3
Simulated Canadian Election Results 2004 by Party and Region

	Lib		Cons		NDP		Bloc Québécois		Green		Total Seats by Province	
	FPTPs Seats	**PR Seats**	FPTPs Seats	PR Seats	FPTPs Seats	PR Seats	FPTPs Seats	PR Seats	FPTPs Seats	PR Seats	FPTPs Seats	PR Seats
Nfld and Lab.	4	0	1	1	0	1	0	0	0	0	5	2
PEI	2	1	0	1	0	0	0	0	0	0	2	2
NS	4	1	2	1	1	2	0	0	0	0	7	4
NB	5	0	1	2	1	1	0	0	0	0	7	3
Que.	14	12	0	6	0	3	36	2	0	2	50	25
Ont	50	0	16	17	5	14	0	0	0	4	71	35
Man.	2	3	4	2	3	0	0	0	0	0	9	5
Sask.	1	2	8	0	0	3	0	0	0	0	9	5
Alta.	1	5	18	1	0	2	0	0	0	1	19	9
BC	5	4	15	0	3	6	0	0	0	2	24*	12
YT	1	0	0	0	0	1	0	0	0	0	1	1
NWT	1	0	0	0	0	1	0	0	0	0	1	1
Nun.	1	1	0	0	0	0	0	0	0	0	1	1
Seat totals by type and party	91	29	65	31	13	34	36	2	0	9	206	105

* There are 24 first past the post seats in B.C. under the model. However, there was one independent MP elected, so the number of first past the post seats allocated among the parties is 23.

Step 1: 1/3 of the seats become proportional. Calculating 1/3 for each province, and adding one proportional seat for each territory, the number of first past the post seats is 206 and the number of proportional seats is 105. Taking Ontario for example, 106 seats are split into 71 first past the post seats and 35 proportional seats.

Step 2: For each province and territory, determine the number of first past the post seats to be allocated to each party by dividing the seats gained by each party by 2/3. Continuing with Ontario as an example, the Liberals' 75 seats are reduced to 50, the Conservatives' 24 seats are reduced to 16 seats and the NDP's 7 seats are reduced to 5.

Step 3: Calculate each party's proportional seats in a province based on the formula for Scotland described above. The 35 proportional seats in Ontario are allocated as follows: Conservatives 17, NDP 14, Green Party 4, while the Liberals did not gain any proportional seats (due to their high number of first past the post seats in relation to their share of the popular vote).