

Proportional Representation plus Simplicity: Neighbourhood Shared Voting

Summary

What would be the simplest possible modification to Canada's First-Past-The-Post (FPTP) voting system that might result in proportional representation? One possibility is Neighbourhood Shared Voting, an electoral system described here; this system involves transferring, to adjacent electoral districts, ballots that have not already contributed to electing a parliamentary representative. Simulations show this system would fall within the range of Gallagher's Index of Disproportionality of other proportional representation systems, with reduced regionalism compared to FPTP, if voters followed the voting patterns of the five Canadian elections between 2004 and 2015. In addition, Neighbourhood Shared Voting would not require a redistribution of electoral boundaries.

If some ERRE Committee members conclude proportional representation (PR) should be the top priority, while others conclude it should be the single member districts and local representation of FPTP, then Neighbourhood Shared Voting (NSV) may satisfy both.

NSV involves transferring, to adjacent electoral districts, ballots that have not contributed to electing an MP. The basic goal of NSV is to fairly represent Canadians in the House of Commons according to the popular vote, while preserving local representation as nearly as possible.

All PR systems include some transfer of local voting power to a larger region, typically multimember districts. NSV accomplishes this by simply transferring unused votes to adjacent ridings – creating virtual multimember districts. The Committee will naturally be reluctant to recommend any voting system that appears too ‘new’; NSV may be viewed as a simpler relative of STV, or as a simple improvement on FPTP.

NSV requires only two simple rules:

- (I) The one candidate with the most votes (from among all the constituencies which do not yet have a winner determined) is declared a winner for that riding.
- (II) Those ballots in the riding that did not go to the winner are divided evenly among any adjacent ridings within that province that do not yet have a winner (going to the candidates of the same respective parties if present but otherwise discarded) and then step (I) is repeated.

As in other PR systems, the winners are determined one-by-one until all seats are filled. These two steps are repeated until all districts have an MP.

“Adjacent” is defined as connected by dry land or an automobile bridge or tunnel. Each riding has 0 to 11 adjacent ridings, averaging 4.42. When a winner is declared there may not exist any adjacent ridings that do not yet have a winner. In this case the votes for the other candidates have nowhere to be shared to, and are wasted at that point. Applied to the Yukon, Northwest Territories or Nunavut with one MP each, NSV gives the same result as FPTP.

Transferring votes from one candidate of a party to other candidates of the same party is reasonable and justified because studies have revealed the vast majority of Canadians are actually voting by party and not by candidate (1). Indeed, PR systems in other countries sometimes apply candidate votes as party votes.

BASIC RESULTS WITH NSV

In Table 1, below, the votes of the last five elections are used to illustrate the difference between NSV, FPTP, and the maximum possible proportional representation “maxPR”. (Though note, if NSV had actually been used, voting patterns might have changed.)

The main effect of NSV on the largest political parties is that, given the same votes, instead of three minority and two ‘false’ majority governments we would have had five minority or coalition majority governments. The leading parties would have been the same in each election, the biggest net change being the NDP getting an additional 3% of seats. All four biggest parties would have both gained and lost seats, depending on which election we are looking at.

As is plain from Table 1, NSV has a relatively high effective ‘threshold’, and therefore is only slightly fairer to the supporters of a very small political party, discouraging the proliferation of small parties. Given the votes of the last five elections, the Greens would have elected MPs in five contests under NSV, compared to two under FPTP and 72 under perfect PR. However, they only averaged 4.6% of the vote and some countries arbitrarily set a minimum threshold of 5%, so NSV is within normal bounds of PR systems in this respect. Independents are still free to run under NSV.

Table 1. Seats and Disproportionality, Canadian General Elections

	2004			2006			2008			2011			2015		
	maxPR	NSV	FPTP	maxPR	NSV	FPTP	maxPR	NSV	FPTP	maxPR	NSV	FPTP	maxPR	NSV	FPTP
LPC	114	130	135	94	101	103	81	84	77	59	53	34	134	158	184
CPC	92	99	99	112	125	124	117	135	143	123	141	166	108	109	99
NDP	49	34	19	54	43	29	56	51	37	95	96	103	67	55	44
BQ	38	45	54	33	39	51	31	35	49	19	17	4	16	14	10
GPC	13	0	0	14	0	0	21	2	0	12	1	1	12	2	1
O/U	2	0	1	1	0	1	2	1	2	0	0	0	1	0	0
GI	0.4	6.4	9.8	0.4	5.6	8.6	0.4	6.4	10.0	0.5	5.2	12.4	0.4	6.1	12.0

maxPR: maximum possible national proportional representation, NSV: Neighbourhood Shared Voting, FPTP: First-Past-The-Post, LPC: Liberal Party of Canada, CPC: Conservative Party of Canada, NDP: New Democratic Party, BQ: Bloc Québécois, GPC: Green Party of Canada, O/U: other parties or unaffiliated, GI: Gallagher Index of disproportionality. FPTP data from Elections Canada - elections.ca

High profile MPs such as party leaders do well under NSV. Of the political parties who entered the House of Commons during this period, their nine assorted leaders stood for election a total of 22 times. These leaders won 19 times under FPTP, with Michael Ignatieff losing once and Gilles Duceppe twice. The results with NSV are identical except Duceppe would have also lost in 2008.

PROPORTIONAL REPRESENTATION

PR would give control of the House of Commons to representatives of a majority of voters. Too often, parties with minority public support have had a monopoly on cabinet composition and the legislative agenda. This needs to be replaced with true majority rule.

Is NSV in fact proportional? The most favoured measure of PR among political scientists is Michael Gallagher's least-squares index of disproportionality, which is also highly correlated with other such measures (2, 3). PR countries are characterized by a long-term average Gallagher Index (GI) under 9.0 (4). Canada, with FPTP, has had an average GI of 11.6 since 1945, with 16 of 23 elections exceeding 9.0.

To demonstrate that NSV does indeed produce PR, Table 1 shows the GI of FPTP and NSV for the past five elections.

The average GI was 10.6 for FPTP and 5.9 for NSV (t-test $P < 0.001$), showing that NSV has the disproportionality-under-9 characteristic of PR.

NSV's average GI of 5.9 compares favourably with a reported average for MMP of 7.1 (5). (Note MMP systems' GI depends on the specifics of their designs, for example being much lower in Germany and New Zealand and higher in Scotland and Wales.)

People may have voted differently under NSV in practice, with less strategic voting, but these simulations show that NSV produces proportional results with a variety of typical voting patterns.

The Committee has heard the arguments for and against PR. Thirteen government-sponsored consultations since 1977 all concluded that Canada's federal or provincial electoral systems would better reflect Canadian values if they were more proportional.

I do not believe the BC and Ontario referendums should discourage the Committee about PR. By design, both the BC and Ontario Citizens' Assemblies suffered from extreme self-selection in their formation, and thus ended up containing very few ordinary citizens. In consequence, they both chose versions of voting systems that would work fine but that ordinary people are known to dislike: in BC's case STV, and in Ontario's case a closed-list system.

REGIONALISM

Regionalism is a longstanding electoral problem in Canada. The governing party had no or almost no representatives from the prairies after the 1965 election, from Quebec after the 1979 election, from BC after the 1980 election, or from Newfoundland and Labrador after the 2008 election. Similarly, the Official Opposition has had no representatives from the whole Atlantic region since the 2015 election.

NSV reduced regionalism by 75% ($P < 0.01$) in the simulations of the last five elections. (Regionalism was measured as the number of times the Government or the Official Opposition party failed to elect a single MP in a province; NSV decreased this from 12% to 3% compared to FPTP.)

Because of prominent ethnic variations across Canada, there have been concerns PR might lead to a proliferation of political parties, but recent studies have found that, all else equal, PR leads to less rather than more politicization of ethnicity (2).

VOTES THAT DO NOT HELP ELECT ANYONE

In Canada 5 out of 10 votes do not help elect anyone, and taking into account the vote surpluses of winners, 7 of 10 votes do not influence the outcomes. This is discouraging to voters, and PR is the solution.

Table 2 shows the number of “wasted votes” in the sense of John Stuart Mill (1859), that is, votes for losing candidates:

Table 2. “Wasted” Votes

	Non-winner Votes	
	FPTP	NSV
2004	6,810,683	3,486,001
2006	7,584,409	3,672,477
2008	7,045,761	3,584,098
2011	7,297,066	3,383,740
2015	9,106,936	3,848,410

The table shows votes rather than percentages to emphasize the vastness of the problem – every single such ballot represents a person who made the effort to vote and yet was frustrated that their ballot did not help anyone get elected. These wasted votes averaged 51% of the total cast under FPTP but 24% under NSV.

REFERENDUM

The evidence is strong that when given a lot of information the vast majority of voters like PR, but when given only a little information it is easy to frighten people about PR. It is theoretically possible to provide a lot of information – New Zealand did so and their referendums passed – but it is expensive. A reasonable effort would cost twenty dollars per adult, or half a billion dollars in total. That would arguably be an insignificant expenditure if it led to more proportionate spending of the government’s three hundred billion dollar budget. Nevertheless, it is doubtful the government would allocate half a billion dollars to an information program. Therefore, a referendum should not be considered until after a couple of election cycles with the new system.

ERRE GUIDING PRINCIPLES

The philosophy behind NSV’s vote-transfer system, beyond satisfying the requirement of simplicity, is to balance local and regional interests, to reflect both party and candidate as voting criteria, to represent all common political views proportionately, to maximize citizen inclusiveness, to make votes worth casting even in ‘safe’ ridings, to encourage citizen participation, to make a high majority of votes count, and to promote government responsiveness and accountability by keeping close ties between MPs and constituencies.

With the exception of a few topics discussed below that are grey areas, all the PR systems seriously proposed for Canada, including NSV, may be relied upon to fulfill the Committee's guiding principles of effectiveness and legitimacy, engagement, accessibility and inclusiveness, integrity, and local representation: You have heard Arend Lijphart, the world's leading political scientist in this subject area, whose exhaustive studies indicate PR is superior to winner-take-all on measures of democratic quality and representation – nineteen measures in six categories including accountability. (Dr. Kam's comment to the Committee that "Lijphart gives zero weight to accountability" is inexplicably incorrect.) Lijphart also finds PR is superior on 16 of 17 factors of effective government, and is non-significantly different on the 17th (4).

In terms of accountability, with NSV an MP would be accountable to their own district's voters but much less so to any voters in nearby districts from whom they received votes (because the latter voters could not predictably sanction the MP in future elections). Compared to FPTP, all PR systems shift some accountability from the individual representative to their political party.

In terms of legitimacy it must be admitted that no PR system, including NSV, can ensure all winning candidates will have received more first-choice personal votes than their competitors. However, FPTP has a very similar imperfection: In the last election 71 candidates with less than 19,500 votes *won* while 71 other candidates with more than 19,500 votes *lost*, but this incongruity is accepted without objection.

What effect might NSV have on gender equity in Parliament, an issue important to many Canadians? Studies indicate PR systems increase representation by women (4,5). (Some commentators have also speculated that parties might feel more obliged to nominate a reasonable gender balance with multimember districts rather than single member districts, but the multimember and single member districts in New Zealand have identical gender balances.)

In relation to stability, on average PR systems tend to have more frequent cabinet changes but less frequent elections compared to winner-take-all systems, but there is high variability due to other factors. PR systems are less prone to exaggerated landslide victories, which characteristic is believed to improve political memory and policy stability.

OTHER SYSTEMS

If anyone believes that Canadian politicians, unlike Europeans, could not learn to operate efficiently with the coalition governments that usually accompany PR, then they could consider FPTP's twin, the Alternative Vote. Such electoral systems cannot equitably represent all voters in terms of their political views, even though each MP represents all Canadians.

Several proposed systems use List-PR, the world's most common form of PR, in an open-list format within each province, modified to limit each candidate to receiving votes from the present single member districts. Compared to NSV this would create a higher level of PR while maintaining the single member districts, but would require complicated electoral rules and would shift more voting power from individual constituencies to the overall popular vote, rendering election of high-profile potential cabinet members less predictable.

The Single Transferable Vote works well but evidence from New Zealand, Ireland, Britain, and Canada suggests people do not like STV with its frustration borne of ranking five or ten or fifteen candidates based on incomplete and contradictory information. If the Committee recommends STV it will be good for us like cod liver oil, but don't expect us to approve it in a referendum.

Similarly, closed-list Mixed Member Proportional systems work fine, but the evidence from the Ontario referendum suggests people oppose the power this gives political parties in setting the lists.

Open-list MMP systems compare favourably with NSV, but incur added complication while gaining more perfect proportionality. This may or may not be worthwhile depending on one's view of the value of including the smallest parties in the House of Commons. Concerns that multimember districts might increase party headquarters' control of nominations, encourage formation of splinter groups within parties, weaken voter-member connection and accountability, or burden prominent MPs with excessive shares of constituency work, are probably relatively insignificant, though these would be avoided with single member districts as in NSV.

CONCLUSION

FPTP has produced seriously distorted results beginning with the very first election after Confederation. Liberal MP Bernard Devlin launched a debate in the House on the need for proportional representation in 1877. This debate has re-emerged after our two most recent elections resulted in majority control based on less than 40% of the popular vote. Canadians are now markedly less fearful of non-majority election results, having experienced nine minority governments over the past twenty elections.

In the present situation single-member-district forms of PR such as NSV offer the advantage of speed and ease of implementation since they would not require re-districting before 2019.

A key point in evaluating voting systems is that the top priority of electoral experts is proportional representation (6) while the top priority of Canadians is simplicity (7). Neighbourhood Shared Voting uniquely fulfills both these priorities. If NSV becomes the second or third preference of most Committee members, it may be the best compromise for reaching a consensus: proportionality *and* single member districts.

Professor Louis Massicotte of the University of Montreal notes, "By far, however, MMP has been the preferred reform option among reformers" (8). If Canadians want an even higher level of PR fairness to voters than NSV affords, they should consider Canadian adaptations of MMP such as Fair Vote Canada's Rural-Urban PR or Sean Graham's Dual-member Mixed Proportional.

Four of every five advanced countries have already switched from winner-take-all to proportional representation, in which most people's votes actually count, but not Canada. Hopefully the Committee will recommend replacing this country's outdated and inadequate FPTP system.

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