## Proportional-first-past-the-post:

## A Canadian model of Proportional Representation

by

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#### Abstract

For more than a decade a majority of Canadians have consistently supported the idea of proportional representation when asked, yet all attempts at electoral reform thus far have failed. Even though a majority of Canadians support proportional representation, a majority also report they are satisfied with the current electoral system (even indicating support for both in the same survey). The author seeks to reconcile these potentially conflicting desires by designing a uniquely Canadian electoral system that keeps the positive and familiar features of first-past-thepost while creating a proportional election result.

The author touches on the theory of representative democracy and its relationship with proportional representation before delving into the mechanics of electoral systems. He surveys some of the major electoral system proposals and options for Canada before finally presenting his made-in-Canada solution that he believes stands a better chance at gaining approval from Canadians than past proposals.


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And to coffee growers everywhere, thanks a million!

For my son, Auron James Ring

And to 'One and All'
"They've all got the vote,
so they all pretty much assume that the government they've voted in more or less approximates to the government they want."
"You mean they actually vote for the lizards?"
"Oh yes," said Ford with a shrug, "of course." "But," said Arthur, going for the big one again, "why?" "Because if they didn't vote for a lizard," said Ford, "the wrong lizard might get in. Got any gin?"

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## Chapter I: Introduction: the state of Canadian representative democracy

Although we like to think of ourselves as living in a mature democracy, we live, instead, in something little better than a benign dictatorship, not under a strict one-party rule, but under a one-party-plus system beset by the factionalism, regionalism and cronyism that accompany any such system. (Harper and Flanagan 1996).

### 1.1 Canada has a democratic deficit

Ten years before Prime Minister Stephen Harper came to power with a minority government in 2006 he famously described Canada as a "benign dictatorship" (Harper and Flanagan 1996). To rephrase, Stephen Harper and Tom Flanagan were implying that Canada was (or is) somehow falling short of the democratic ideal. Can Canada, today, still be considered a "benign dictatorship" or do we have reason to believe that this situation has improved? Has Prime Minister Harper done anything since he came to power to transform what he called a "benign dictatorship" into a genuine representative democracy? Some Canadians, such as columnist Haroon Siddiqui (2009), for example, argue he is making the country even more dictatorial. Stephen Harper, Tom Flanagan, and Haroon Saddiqui are certainly not the only Canadians to have questioned the quality of Canadian democracy. Other Canadians have recently made the claim that Canada is suffering from a "democratic deficit" (for example: Pilon 1999, Rebick 2001, CRIC 2003, Lang-Dion and Wicks 2007, McDonald 2013, Canadian Index of Wellbeing 2010).

Further, satisfaction with democracy among average Canadians has drastically declined recently. Samara, a "non-partisan charitable organization that works to improve political
participation in Canada" (2013) reported in December of 2012 that 55 percent of Canadians were satisfied with the way democracy works in Canada, down 20 percent from 2004 (Samara 2012).

Also, Samara discovered that only 36 percent of Canadians were satisfied with the way Members of Parliament (MPs) do their job (Samara 2012).

Dennis Pilon argues, "PR [proportional representation] is definitely an answer to Canada's democratic deficit" $(1999,36)$. Pilon is one among many Canadian academics calling for proportional representation. Recently, an alarming 132 political scientists from 36 universities have recently co-signed a statement calling for action to address Canada's democratic deficit. The statement identifies a proportional voting system as a key priority and is worth quoting at length:

## Time for action on Canada's democracy deficit A call from Canadian political scientists January 2010

Canada is now faced with a significant democracy deficit, illustrated by unstable short- sighted minority governments, superficial partisan posturing, steadily declining voter turnout and, most disturbing, an increasing majority of younger Canadians who see little value in voting or engaging in electoral politics.

As political scientists at Canadian universities and colleges across the country, we believe Canada can no longer afford to ignore the urgent need for electoral reform. We need an inclusive and functioning representative democracy based on a fair and proportional voting system.

We call on the Prime Minister and leaders of all parliamentary parties to set aside partisan interests and together support a substantive program to engage Canadians in a national discussion on: 1) fair voting principles - voter equality, proportional results and the formation of governments whose policies reflect the majority of voters, and 2) the various types of fair voting systems based on those principles.

We call on the government to engage experts, consult widely with citizens, and implement a Canadian version of a more proportional and fair voting system within the next five years (Fair Vote Canada 2010).

The academic consensus is that Canada is falling short of the ideal of representative democracy and that a proportional voting system is needed to address this democratic deficit. This thesis will explore the ideal of representative democracy and how a proportional voting system would, as these academics imply, help achieve this ideal. The thesis then focuses on finding a suitable model of proportional representation for Canada, or, what these academics have labelled " a Canadian version of a more proportional and fair voting system" (Fair Vote Canada 2010).

### 1.2 Disproportional election results and manufactured majority governments

This call for a more proportional voting system implies that Canada's current voting system creates disproportional results. We only need to look at the most recent federal election results to illustrate that this is, indeed, the case. In the 2011 federal election, after five years of minority rule, Stephen Harper's Conservatives were awarded a majority of seats in the House of Commons with less than 40 percent of the valid votes (Parliament of Canada 2013). For nearly half of Canadians who happen to believe that a government must win a majority of votes in order to win a majority of seats (Bricker and Redfern 2001, 22), this may seem like an anomaly or perhaps "undemocratic," yet scenes such as these are far from uncommon in Canadian politics. "Tories trampled in Liberal landslide," the CBC reported after the 1993 general election (CBC Digital Archives, Oct 26, 1993). Jean Chrétien's Liberals were awarded 178 seats out of a total of 295-60 percent of the seats with only 41 percent of the votes (Parliament of Canada 2013). The Progressive Conservative party was nearly wiped off the board during that election, when 16 percent of the vote gave them less than one percent of the seats-2 out of 295. Meanwhile, with even fewer votes, 13.5 percent, the Bloc Québecois managed to secure 54 seats! Disproportional
results such as these, attributable to our first-past-the-post electoral system, may lead some of us to seriously question the quality of representative democracy in Canada and whether it is time to consider adopting a new electoral system. If one believes that Parliament should accurately reflect the political will of Canadians it becomes difficult to justify maintaining a system that creates such distortions. Since the first-past-the-post electoral system creates these distortions, it is clearly an institution implicated in Canada's democratic deficit. "How much democracy can be going on when so many voices are distorted or absent? All evidence suggests that PR [proportional representation] can do much better" (Pilon 1999, 20).
"Manufactured" or "false majorities," as they can be termed, when a party wins a majority of seats without receiving a majority of votes (like the Conservative majority during the 2011 election) are rather common in Canada. If one believes that majority rule is an essential feature of democracy, and by extension, that the governing party or parties should represent a majority of voters, one may take issue with such "false majorities." Peter H. Russell $(2008,12)$ shows that since 1921 there have been only three "true" majority governments, while there have been 14 "false" majorities and 13 minority governments ${ }^{1}$. The Liberal Party, with their support ranging from 38.5 to 41 percent, governed with a majority for over a decade before their majority was reduced to a minority in 2004 (Library of Parliament 2011).

With highly "distorted" election results and common "false" majority governments, it is no surprise that Canada can be said to have a democratic deficit or has been labelled a "benign dictatorship."

[^0]
### 1.3 Canadians support the idea of proportional representation and the current electoral system

Since the first-past-the-post electoral system causes many votes to be "ineffective" or "wasted," it can be argued that it leaves us with a Parliament and provincial assemblies which do not accurately reflect the views of Canadians, undermining the quality of Canadian representative democracy. The examples above illustrating the lack of correlation between percentage of votes received and percentage of seats won show how this can, indeed, leave us with a "distorted" Parliament. I will argue that in order to eliminate the democratic deficit in Canada and transform the country into a genuine representative democracy, we must adopt a "fair" and proportional voting system. Interestingly, a strong majority of Canadians have consistently supported the idea of proportional representation over the past decade (Environics 2010, 2013, Forum Research 2012, CRIC 2005, LeDuc and Pammett 2003, Chénier 2002, Bricker and Redfern 2001), yet Canadians have rejected specific models of proportional representation in all provincial referenda to date (Barnes and Robertson 2009). I will argue that this is in part because the models proposed were too far a departure from Canadian political tradition and the current electoral system to have a broad appeal to Canadians. It is important to note that even though a majority of Canadians support proportional representation in theory, a majority of Canadians also report thats they are mostly satisfied with how the first-past-the-post electoral system functions. A survey conducted by Decima Research found that 80.7 percent of Canadians declared that they were either very or somewhat satisfied with the current electoral system when a short preamble explained how it functioned: "people vote in an electoral district, and the candidate with the most votes wins (LeDuc and Pammett 2003, 47-48)." Yet in the same
survey a strong majority reported that they would be very or somewhat supportive of the introduction of proportional representation.

I will argue that since Canadians support proportional representation in theory, yet also support their current electoral system and are hesitant or reluctant to change when confronted with a specific model of proportional representation, a Canadian solution must be sought. Canadians, it seems, want to keep the current first-past-the-post electoral system but they also want proportional electoral results. These desires appear, at first glance, somewhat contradictory, yet they are not necessarily so. I will argue that a Canadian version of proportional representation that keeps the key features of the first-past-the-post electoral system intact could potentially gain public support and even pass a referendum. To date, there has not been such an electoral system proposed for Canada. I will show that this so-called "proportional" first-past-the-post system is achievable by making adjustments to the electoral formulae and districting. I will outline this original, made-in-Canada proportional electoral system in Chapter 7, which, if adopted, I will argue, has the potential to transform Canada's elected assemblies into genuinely representative assemblies without radically changing the system.

In light of the failed attempts at electoral reform, the proposed system is designed to be a system that minimally changes the current system while at the same time addressing its problems. Before delving into the specifics of this system and other electoral systems, the next chapter will explore the theory of representative democracy. Since electoral reform is aimed at eliminating our democratic deficit and bringing us closer to the 'ideal' of representation democracy, this ideal should be made clear. How would a proportional voting system bring us closer to this ideal? Why is representative democracy desirable? These questions will be
discussed as well as alternate conceptions of democracy such as direct democracy and democracy by sortition. In the next chapter I will outline the essential aspects of representative democracy, according to various democratic theorists. By getting a picture of what representative democracy is supposed to resemble in the ideal, we will be better able to evaluate the present state of Canadian democracy and electoral system options. Although ideals tend to not be fully realizable, they are benchmarks to aim for. The aim is, of course, to come as close as possible to the ideal of representative democracy, keeping in mind Canadian political culture and tradition, and the apparent lack of appetite for major political change among many Canadians.

Although other factors may be contributing to Canada's democratic deficit, this thesis focuses on the electoral system. After a discussion of the theory of representative democracy in Chapter 2, Chapter 3 will examine key features of electoral systems such as electoral formulae, ballot structure, and districting. By understanding these features, we will gain a better understanding on how these features can be modified to accomplish a desired result. Chapter 4 will explore the pros and cons of the current first-past-the-post electoral system. The aim is to identify the aspects of the system that should be maintained and those that should be discarded. Based on this evaluation, I develop a list of criteria with which to evaluate prospective electoral systems in Canada. Chapter 5 and 6 will examine other "major" electoral systems and evaluate them based on this list of criteria. In Chapter 7 the proposed proportional-first-past-the-post electoral system will be explained and evaluated.

## Chapter II: Representative Democracy

### 2.1 Why democracy?

Representative democracy is, above all, a way of peacefully changing governments. The "weapons" are ballots, not bullets; "enemies" debate with, rather than kill each other. The winning side governs because it has superior numbers in the assembly, rather than superiority on the battlefield. When we compare elections to alternate ways in which governments change hands we can appreciate the beauty and genius of representative democracy. In the words of former Prime Minister Pierre Trudeau, "Human groupings took a great step towards civilization when they agreed to justify their actions by counting heads instead of breaking them" (Fairfield 2008, xiv). The bloody civil wars in Libya and Syria are but two recent examples of undemocratic and violent methods of changing, or attempting to change the way one's country is governed. As Paul Fairfield writes:

Given the ineliminability of disagreement and conflict, one of democracy's fundamental aims is to prevent conflict from escalating into violent confrontation or revolution. As several commentators have noted, democracy is a method of managing disagreements through peaceful means, hence of transforming enemies into opponents by means of the ballot box and other legal procedures (Fairfield 2008: xiv).

As democratic systems give citizens the opportunity to elect, re-elect (authorize), and throw out representatives and governments (hold accountable), it makes violent overthrow of governments or revolution unnecessary and unjustifiable. Elections permit the peaceful "overthrowing" of governments; revolutions become irrational: why would a group try to violently overthrow a government when they could do it peacefully and legitimately through elections? The argument of democratic stability is certainly not new. It echoes the wisdom of some ancient political
thinkers such as Marcus Cicero: Cicero remarked: "'there is no form of government less subject to revolution or more stable' than democracy" (Fairfield 2008: x-xi; from Cicero 1929, 136). Karl Jaspers beautifully sums up why this is true:
in democracy, government can be, and in fact is, changed, brought down, or reconstructed by constitutional means, without recourse to violence. Under free democratic conditions, it is impossible for the same men to remain permanently and uninterruptedly in the exercise of government (1953, 161).

The paradox of democracy is that it is stable because it has institutionalized instability.
Democracy is thus a means for peacefully selecting a government and allowing change of government while ensuring stability, and not an end in itself, yet, as Fairfield notes, "it is a common phenomenon for human thinking to mistake a means for an end" $(2008,15)$.

Democracy does not prescribe what the purpose of government should be or what state policies should be, only, rather, how it should be selected. The purpose of government and government policies are up for debate in democracy, much like everything else.

Elections contrast with other, more dangerous ways to change governments, such as coup d'états, revolutions, and civil wars. By understanding that the prevention of violent confrontation is at the heart of representative democracy, this not only helps us understand the importance of elections, but the importance that an electoral system be perceived as "fair." As the International Institute for Democracy and Electoral Assistance (IDEA) explains, "if an electoral system is not considered fair and the political framework does not allow the opposition to feel that they have the chance to win next time around, losers may feel compelled to work outside the system, using non-democratic, confrontationalist and even violent tactics" (IDEA 2008, 6).

### 2.2 Democracy's uneasy relationship with representation

Literally, the word democracy means "rule (kratos) by the people (demos)" (Fairfield 2008: xv), however, as Joseph Shumpeter notes, democracy "does not mean and cannot mean that the people actually rule in any obvious sense of the terms 'people' and 'rule.' Democracy means only that the people have the opportunity of accepting or refusing the men [and women] who are to rule them" (1976: 284-85). People directly ruling over themselves is simply not feasible considering the size and population of modern countries, or as democratic theorist Robert Dahl explains, "since all cannot, in a community exceeding a single small town, participate personally in any but some very minor portions of the public business, it follows that the ideal type of a perfect government must be representative" $(1998,95)$. Even if the logistical problems that "pure" forms of democracy have with large or dispersed populations can be bridged with technology, the issue of time cannot be easily solved, as will be discussed when alternate conceptions of democracy are explored.

As Hannah Pitkin illustrates in The Concept of Representation (1967), political representation is a very complex idea with many different conceptions of what political representation is or ought to be. In a Hobbesian sense, all political leaders are de facto representatives, whether selected democratically or not. The fact that "every government claims to represent" (Pitkin 1967, 2), fails to tell us what makes one government 'democratic' and another 'undemocratic.' To begin to understand what we can and cannot call a representative democracy, let us consider a state in which only white, property-owning men were permitted to vote. We would not properly label such a state a "democracy" since excluding groups from voting is undemocratic. All the people must have equal political rights in order for a state to be
possibly considered democratic. Yet, is the universal or near universal franchise all that is required for political equality, or should all votes also count equally? Do all votes currently count equally, considering that some votes elect representatives while others do not? Representation, although essential for modern democracy, makes it difficult to determine if and when voter equality is achieved and who is or is not represented in legislatures. Citizens cannot be physically present in the legislatures, but how can we determine if they are present otherwise, through their representatives?
$[R]$ epresentation, taken generally, means the making present in some sense of something which is nevertheless not present literally or in fact. Now, to say that something is simultaneously both present and not present is to utter a paradox, and thus a fundamental dualism is built into the meaning of representation (Pitkin 1967, 9 ).

Since everyone cannot directly rule in any meaningful way, we must therefore somehow make citizens who are literally absent, somehow "present" in the legislative assemblies if our state is to be considered democratic. Representation can serve to "make present" or "re-present" in another form, those who are, in fact, absent. Voters can make their preferences known during elections and contribute to the election of a representative whom they believe will represent their views in Parliament. A voter who contributes to the election of a representative, as such, can be considered "represented," but what can be said about the voters who "lost"? How can it be that a citizen is re-presented through their member, if they have no member they helped elect? Are these citizens not, therefore, excluded from representation? As stated, democracy requires that no group be excluded. Should it not follow that in order for a scheme of representation to be considered democratic, that all groups must therefore be represented in the assembly, and represented equally? Does the definition not require us to "make present" all the people, who are
"not present literally or in fact" rather than just some of them? If a citizen's vote does not contribute to the election of a representative or to the overall makeup of the assembly, is this citizen therefore excluded? Is such a system "fair"? Supporters of proportional representation (proportionalists) argue that such arrangements are not fair or democratic. In light of these questions, the next section will explore what, specifically, is needed in order for a scheme of representation to be considered democratic.

### 2.3 Representative democracy: what exactly should it look like?

Fairness is often cited as a one of the conditions required for democracy, but what constitutes "fair" is ill defined. It is included in Robert Dahl's list of requirements for large-scale representative democracy $(1998,85)$ :

Large-scale democracy requires

1. Elected officials
2. Free, fair, and frequent elections
3. Freedom of expression
4. Alternative sources of information
5. Associational autonomy
6. Inclusive citizenship

Without denying the importance of the other requirements for representative democracy, this thesis focuses primarily on democratic requirements as they relate to the electoral system. In particular, what does it mean for an electoral system to be "fair"? Is fairness simply the absence of electoral fraud, or is more than this required? Excluding groups from representation, or representing them unequally, even if it is a consequence of the electoral system, could certainly be considered "unfair". Would such a situation not make a country, in a literal sense, a de facto non-democracy? Fairness is closely tied into the idea of equality, and in a representative
democracy, inequality means unfairness. Since equal political rights is a prerequisite for a state to be considered a democracy; should it not follow that equal voting power and equal political representation are also needed for a state to be considered a "fair" and "genuine" representative democracy?

Proportionalists argue that votes which do not contribute to the election of a member or to the overall makeup of the assembly are "ineffective" or "wasted" and therefore not equal to those votes which are "effective" (see, for example: Gordon 2006, MacIvor 1999, Fair Vote Canada 2005, Electoral Reform Society 2014). This can be said to create unequal voting power, which can be considered unfair. A counter-argument can be made that no votes are "wasted" since a vote is an expression of preference. While we can recognize that philosophically all votes count as an expression of preference ${ }^{2}$, even deliberately spoiled ballots, the fact still remains that some votes count towards the election of representatives, while others do not. Some votes are "effective" while others are "ineffective" or "wasted." An election is more than an opinion poll; elections elect Parliaments with real power. I must side with proportionalists who argue that all votes should count not only as an expression of preference, but actually count towards the election of a parliamentarian, and count equally. For this thesis I will use Gallagher and Mitchell's definition of "wasted votes":
those votes that do not contribute towards the election of any candidate or party (for example, those cast for losing candidates or for parties that did not win a seat, and 'surplus' votes cast for a candidate or party over and above the number they required)" $(2005,636)$.

[^1]Proportionalists argue that voting systems that produce an excessive number of such wasted votes are "unfair," even "undemocratic" (For example, Fair Vote Canada 2005).

Equality and fairness are themes that keep emerging from democratic theorists:
Arend Lijphart writes of the "classic democratic value of equality" (Lijphart 1984: 2). When we study democratic theory closely, equality is, no doubt, at the heart of democracy. Richard S. Katz writes that, "no theory can be said to be democratic without a significant element of equality" (1997: 100). Enns and Wlezien write that "procedural equality remains an important standard in modern democracies" (2011: 1). Paul Fairfield further writes that "Beneath democracy's disparate institutional forms and interpretations is a yearning for equality that is deeper than politics and that transcends it" (2008: 80).

The academic consensus concerning democracy is that it requires political equality. Since representation is required to make democracy possible, it follows that equal representation and equal voting power must also be required. Proportionalists take issue with certain electoral systems that create disproportional results which equate to unequal representation and unequal voting power. Political equality is an essential feature in democracy. In representative democracy, political equality implies voter equality. If some votes are effective and others are not, if some votes elect and others do not, votes cannot be considered equal. Equal and effective votes is therefore required in an ideal representative democracy.

Ernest Naville wrote in 1865: "In a democratic government, the right of decision belongs to the majority, but the right of representation belongs to all" (Barber 2000: 62). This famous remark reveals two more important features of representative democratic government: majority rule and the representation of all. These features of representative democracy are well-founded
among theorists. They echo another famous theorist from the same era, John Stuart Mill, who wrote:

In a representative body actually deliberating, the minority must of course be overruled; and in an equal democracy... the majority of the people, through their representatives, will outvote and prevail over the minority and their representatives. But does it follow that the minority should have no representatives at all? Because the majority ought to prevail over the minority, must the majority have all the votes, the minority none? Is it necessary that the minority should not even be heard? ([1861] 2010, 59).

When we compare this to Hannah Pitkin's writings, we see that, over one-hundred years later, supporters of proportional representation, or "proportionalists" as she terms them, essentially hold this same view: "They often argue that, although decisions must be made by majority rule, minorities have a right to representation" (Pitkin 1967: 64). In the next section we will discuss in more detail these three important features of representative democracy mentioned above: political equality, representation of all, and majority rule.

### 2.3.1 Majority rule

When we examine Canada's "democracy" according to these three fundamental criteria mentioned above, it quickly becomes evident that the majority rule criterion is not upheld because as shown above, a government need not be supported by a majority of Canadians in order to win a majority of seats. John Stuart Mill criticized the first-past-the-post electoral system for failing to ensure that the powers of government are given to a majority:

Democracy, thus constituted, does not even attain its ostensible object, that of giving the powers of government in all cases to the numerical majority. It does something very different; it gives them to a majority of the majority, who may be, and often are, but a minority of the whole (Mill 1861 [2010], 60).

Although Mill was referring to nineteenth century Britain, this same criticism holds true for Britain and Canada in the twenty-first century. The situation today is perhaps even worse for majority rule than Mill describes, as he assumes that each member is elected by a majority of the votes, as would be the case in a strict two-party system. Although members may be elected with a majority in their riding, there is no such requirement: a relative majority or plurality is sufficient to win a seat in any riding. Since Canada has a multi-party system, more than two candidates usually contest ridings and so members are often elected with less than 50 percent of the vote in their riding (Library of Parliament 2011). Some recent extreme examples of members elected with low levels of support include: the member for Gatineau elected with only 29 percent of the vote in 2008, and the member for Vancouver Centre elected with only 31 percent of the vote (Library of Parliament 2011). Although MPs do not typically get elected with much less than 30 percent of the vote in their respective ridings in Canada, it is important to note that with more candidates and parties contesting the election, this could be even lower. One of the most extreme cases of this happening under first-past-the-post was the 1992 election in Papua New Guinea which saw a member get elected with only 6.3 percent of the vote in his riding (Reilly 2001: 84)!

Australia's solution to this problem of some members getting elected with less than a majority of votes was to modify the electoral system in 1918 so as to allow voters to rank candidates on their ballots (Newman 1989, Scott 2006: 6, 13). This ensures that all candidates have at least 50 percent support in their respective ridings, even though it may not be first choice support. This is referred to as the Alternate Vote (AV), or the preferential ballot, but it still is only a minor improvement, if at all, because it still fails to solve the problem Mill points out, that
governments thus elected may still fail to represent a majority of voters because a majority of a majority may still only represent a minority. To illustrate Mill's point, let us suppose that the legislature has 100 seats, 51 being required for a majority. Using the Alternate Vote would ensure that each member is elected with a 'majority'. Suppose the winning party wins 51 percent of the seats with 51 percent of the vote in each of those ridings; the party would then form a majority government with the votes of 26 percent of the voters (a majority of a majority). The popular vote for the the winning party would, of course, be higher than this, since it would have also received votes in ridings that it lost. None of the votes in the losing ridings, however, would have contributed to the party winning its majority.

A proportional voting system, on the other hand, would ensure "true" majority rule. Since parties receive a percentage of seats in the legislature corresponding to their percentage of votes, a government winning half of the seats would have received a majority of votes. If no parties manage to secure a majority of seats alone, two or more parties representing a majority could form the government, or, a minority government could pass legislation with support of one or more parties who, combined, form a majority.

### 2.3.2 Representation of all

It may be the case that an MP in a neighbouring riding, or even across the country may champion policies that resonate with voters who could be said to be without representation. That MP could be said to be "virtually" representing citizens who believe in the policies the member champions. Richard Katz is one such academic who asserts that "most voters are represented most of the time, albeit often in the virtual sense when another district elects a representative of
their party" (1997: 122). There is certainly a great degree of merit in this view, as the opinions of those voters may indeed be represented by other candidates. This view, at least, seems more plausible than the view that a representative represents all the residents in a particular riding, simply because he or she was elected by some of the residents in that riding.

In his classic work, Considerations on Representative Government ([1861] 2010) John Stuart Mill criticizes the first past the post electoral system for leaving many citizens without representation. Mill is concerned not only with the possible absence of majority rule, but also of the lack of representation of many voters. Mill believes that those deviating from the local majority (or plurality), since they do not elect a representative, are simply not represented. He does not take into account "virtual" representation when he writes: "The electors who are on a different side in party politics from the local majority [or plurality] are unrepresented" (Mill 1862 [2010], 60).

A century-and-a-half later, Mill's criticisms of first-past-the-post are still worth examining. As no constituency is a politically homogenous entity, to say that a representative of a particular riding represents the entire riding would be absurd. They simply represent a majority, or even a plurality, of citizens in their district. Allowing for "virtual" representation, some may consider that these otherwise "unrepresented" citizens may be represented, in some sense, by other members. There may be a degree of truth to this, as these members may be doing the actions that constitute "representing." One problem with this, however, is that those who can be said to be virtually representing a group were not authorized by that group, nor are they accountable to them. By championing certain policies, a member may substantively represent a certain group, yet if this member is not elected by this group, nor accountable to them, can it be
considered a democratic form of representation? A non-governmental organization (NGO), for example, that champions a certain cause can be said to "represent" certain groups of people, but if members of this organization are not elected by those they are said to represent, it is not a democratic form of representation, even though it may be a substantive and beneficial form of representation.

On a similar but different note, let us consider a dictator who rules in the interest of his subjects, or, a 'benevolent dictator'. If this ruler substantively represents his subjects, would we consider his rule "democratic"? Democratic representation is more than simply ruling in the interests of the people. Electoral democracy and democratic representation necessitates that representatives be selected by and accountable to, the people. This is essentially what differentiates a dictatorship, which may or may not be benevolent or substantively represent its subjects, from a democratic government (which likewise may or may not be benevolent). In a dictatorship, the people lack power over their governments, whereas in an electoral democracy, the people can change their governments simply by voting during elections.

It could be said that those living in a benevolent dictatorship are virtually represented, much the same way it can be said that those who cast ineffective votes in imperfect democracies may be virtually represented. If one's interests are represented in the legislature and through policy, one can be considered to be "virtually", and even substantively represented, regardless of the nature of one's political system. We may concede that the concept of virtual representation shows that voters with ineffective votes may be represented in the legislature, in some way, but does this justify these ineffective or wasted votes? If a necessary aspect of electoral democracy is to have the legislature selected by the people, should we find it acceptable when a large portion
of votes are ineffective or "wasted"? Is a large number of ineffective votes a "necessary evil" of electoral democracy? Must a large percentage of voters elect no one, or should we try to minimize these ineffective votes? Is lacking an effective vote much different than lacking the franchise? Is claiming that ineffective votes are acceptable because these voters are "virtually" represented through effective voters, akin to claiming that without the franchise, tenants are represented through their landlords, or that women are represented through their husbands? If virtual representation is satisfactory for a large portion of the population that lacks direct representation, should we not also be contented with only men of property having the franchise, since one could argue that the rest of us would be virtually represented through them? Some beings, of necessity, can only be virtually and not directly represented, pets and animals, for example, and children (although until what age is up for debate). There seems to be no satisfactory reason, however, to withhold effective voting and direct representation from adult citizens.

Virtual representation may exist in an imperfect electoral democracy, as citizens whose votes had no bearing on the election results may end up somehow being substantively represented by other members, just as in former times some women, as well as some landless men may have been substantively represented by the representatives of the land-owners; such virtual representation, however, does not equate to democratic representation. Therefore, the representation of all criterion cannot be said to be fulfilled in a democratic sense by virtual representation. For citizens with ineffective or "wasted" votes, much like if they had no right to vote, the government would not have been authorized by, nor would it be accountable to them.

We are forced to recognize different types of political representation and to recognize that the key to democratic representation is the ability of people to select their own representatives. This differs from substantive representation, whereby governments represent the interests of the people, but are not necessarily (but may be) selected by them. If we claim that these citizens are democratically represented because their interests are represented, we must also accept the argument that dictatorships are also democratic governments as long as they govern in the interests of their subjects. "[E]very government claims to represent" (Pitkin 1967, 2), but unless the people selected the government, and can hold the government accountable in the next election, we cannot consider it to be democratic. Elections are a part of what is required for democratic representation, but as Wessels explains, "The implementation of elections alone is not a sufficient condition for democratic representation-even though it is a necessary condition" (Wessels 2011, 99). Who then, after election, can be said to be democratically represented, and who can be said to be without democratic representation? Logic dictates that those citizens whose votes were ineffective or "wasted" did not select their representatives, and are thus not directly represented. These are the "losers" of the election; those that despite trying, are left without democratic representation. They may find themselves "virtually" or substantively represented, but is this sufficient for democracy? The question at this point, as it concerns electoral democracy, becomes: should all citizens have the power to choose their representatives, or must there necessarily be a significant number of "losers" with ineffective votes and without direct democratic representation?

Under our current voting system, every riding elects one member. This does not mean that everyone in a riding is represented by its member. It is inconceivable for one person to
satisfactorily represent a multitude of contradictory views that are present in any constituency. Some will argue that the many voters who cast "wasted" votes are left unrepresented. In their opinion, a vote that does not contribute to the election of a member, is a wasted or ineffective vote. Likewise, some may even consider surplus votes to be "ineffective", because they were in excess of what was needed to get that member elected, although they would not be "wasted," in the sense of failing to receive representation. As we can see, there are different ideas about what constitutes an ineffective or wasted vote. To say that a voter who cast an ineffective vote is still represented, but in the virtual sense, over-simplifies the matter of democratic representation. Even to say that a voter with an "effective" vote is substantively represented is somewhat of a simplification. As the views of voters may not completely match with any particular party or candidate, they may, in reality, be represented by multiple parties and candidates. If, as Richard Katz claims, "most voters are represented most of the time" (1997: 122), does this sufficiently address the claims of proportionalists who argue that many voters are left unrepresented or represented unequally because of disproportional election results?

Even if we share the opinion that those not locally represented are, somehow, "virtually" represented by members of their preferred party in other constituencies, or at least most of them, most of the time (Katz 1997, 122), we must concede, nonetheless, that they are certainly not equally represented. Some take issue with this unequal, "unfair" representation. Proportionalists take issue with this, among other things. It may be impossible to judge the number of citizens who are substantively or virtually represented in the legislatures; but at the very least, we can compare the percentage of voters who cast effective votes with those who cast ineffective votes. We shall consider the representation of all criterion to be fulfilled when all voters have cast
effective votes, or are directly as opposed to virtually represented. Whether or not this direct representation is accompanied by substantive representation cannot be measured as it is a matter of personal opinion; if voters feel they are not substantively represented by the member they voted for, they may change their vote in the next election.

### 2.3.3 Political equality

Having established earlier that political equality is a necessary requirement for democracy, we must now consider what is required for citizens to be considered political equals in a representative democracy. Voting equality is, of course, a requirement of political equality. Robert Dahl asks us to "consider what the criterion of voting equality requires: citizens must have a right to vote and to have their votes counted fairly" (1998: 49). As demonstrated earlier by examples of election results, voting equality is not the reality in Canada, even though Canadians share this value. Many Canadians ignore the fact that their political values may not match the reality. As Richard Katz notes, there has been "little attention devoted to the possibility that some democratic values may be better achieved, or more seriously undermined, by one variety of electoral system rather than another" (Katz 1997: 1). Groups such as Fair Vote Canada, and other opponents of the first-past-the-post electoral system, appear to have good reason to be critical of it. If the electoral system is undermining this fundamental democratic value of political equality, as a glance at any election result suggests, then critics of the system may be justified in calling the system "undemocratic." How can voter equality be achieved if some votes are effective, and others are not? If Canadians value democracy, then as certain groups argue, Canadians may need to consider replacing the first-past-the-post electoral system with a
proportional system, as was done in New Zealand (Commonwealth Law Bulletin 1993, Mcleay and Vowles 2007, Lundberg 2007, Wilson 2011).

Throughout his book, On Democracy, Robert Dahl stresses the importance of political equality (1967). Dahl contends that "intrinsic equality" is a "principle of government that is justified on grounds of morality, prudence, and acceptability" (1967: 68). He further writes: "a process that guarantees equal consideration for all, you may reasonably conclude, is more likely to secure the assent of all the others whose cooperation you need to achieve your ends" (Dahl 1998: 67). Applying the equality principle to the democratic institutions entails that all men and women should be treated as political equals, not only having the right to vote, but to have their votes count equally. As Robert Dahl states, "if we accept the desirability of political equality, then every citizen must have an equal opportunity to vote, and all votes must be counted as equal" (1998: 95). Dahl explains why those lacking an equal voice have reason to be concerned:
[I]f you are deprived of an equal voice in the government of a state, the chances are quite high that your interests will not be given the same attention as the interests of those who do have a voice. If you have no voice, who will speak up for you? Who will defend your interests if you cannot? And not just your interests as an individual. If you happen to be a member of an entire group excluded from participation, how will the fundamental interests of that group be protected (1998: 77)?

We have reason to believe that under the current arrangement in Canada, certain groups may be excluded or represented unequally, since equal representation would require proportional representation. Further, a system of representation that only allows for geographic constituencies to be represented, like Canada uses, may ignore issues unrelated to geographic location. Laura Montanaro summarizes the issue with exclusive geographic representation:

When the affected do not form a geographically bound electoral constituency, or a people bound by shared citizenship, the assumption that electoral membership
ensures inclusion of the relevant constituency may result in marginalizing or excluding many who are affected-sometimes the most affected-by collective decisions (2012, 1098).
"Surrogate" representation (as Montanaro refers to it) or "virtual" representation, when another representative effectively acts as a representative for citizens outside of her constituency, can help overcome some of the limitations of a system based solely on territorial representation, yet such representation is free of electoral authorization and electoral accountability (at least from those outside the member's constituency).

Voter inequality, as some would argue exists, does not mean citizens who feel alienated will necessarily rebel against the system, try to induce a revolution or coup d'état, or even vandalize public and private property, but those who feel alienated from the system might (wrongly) feel that such action is justified. Elections are, in theory, the avenue where citizens may express their political grievances and try to advance their political agenda, however, if citizens feel that their votes are "wasted" or do not count, why should they accept the authority of the elected assemblies? I am certainly not suggesting that we denounce the authority of our assemblies, because, at the very least, they have legitimacy stemming from tradition and convention, but insofar as democratic legitimacy goes, ineffective or wasted votes and voter inequality serve to undermine this democratic legitimacy.

### 2.4 Why not direct democracy?

For some, as shown above, representation is what makes democracy feasible and possible, yet not all make this same conclusion. Although proportionalists find flaw with legislatures that misrepresent, others take issue with the idea of representation itself. Some
consider representative democracy to be deficient because it is, admittedly, an indirect form of democracy. They may consider that a more direct, participatory form of democracy desirable, and may even consider representative democracy to be a "sham" compared to a "genuine" democracy. In his famous "Green Book," Libya's former leader Muammar Gathafi writes: "True democracy exists only through the direct participation of the people, and not through the activity of their representatives" (Gathafi 1976, 2). Giovanni Sartori, on the other hand, defends representative democracy against those who trivialize it. He writes: "against the contrary claims of perfectionists, participationists and populists... representative democracy is not a sham" (1987: 170). More moderate supporters of direct and participatory democracy do not advocate the replacement of representative democracy with another form, but to supplement it with direct democracy, through more frequent referenda and increased participation of citizens. As noted earlier, it is difficult, if not impossible, to make direct, participatory democracy meaningful in today's mass societies. Representation is the method used for overcoming the logistical problems of making "rule by the people" meaningful and manageable. In short, representation makes democracy possible. Public participation and referenda are useful tools that can certainly compliment representative democracy by adding an element of direct democracy, but they cannot, however, be reasonably offered as alternatives to it.

Further, many argue that too much direct democracy is undesirable and can have negative consequences (Economist 2011, Epstein 2011, Kampen and Snijkes 2003, Cooter and Gilbert 2010). Referenda can add an element of direct democracy within a system of representative democracy, yet Kampen and Snijkers write that "the amount of time citizens are prepared to spend on referenda is limited. When the frequency of the referenda increases, there is a severe
risk that the motivation of the citizens to participate in the decision-making process decreases" $(2003,494)$. Another shortcoming of expanding direct democracy is that it becomes difficult for dispersed people to deliberate and negotiate. "Along with its strengths, direct democracy has a weakness. Unlike legislators, citizens cannot compromise with one another. They are too numerous and geographically dispersed, and they lack a bargaining forum in which to negotiate" (Cooter and Gilbert 2010: 726). There is certainly a limit on how much direct democracy is desirable and realistically achievable. Time is perhaps the biggest obstacle to direct democracy: citizens have jobs, families, and social lives and the amount of time they are willing to spend on referenda or in participatory assemblies may be very limited.

As mentioned, referenda or plebiscites is one method of adding an element of direct democracy, and participatory assemblies where citizens participate directly, is another. The "Brazilian model" of participatory democracy, or "Participatory Budgeting" (Orçamento Participativo) has enjoyed a great deal of success, although it is not without problems. Enriqueta Aragonès and Sánches-Pagès define participatory democracy as "a process of collective decision making that combines elements from both direct and representative democracy (2008.1). They explain that this model, used in "nearly 200 Brazilian municipalities where direct democracy, in the form of popular assemblies, coexists with formal political parties and local elections: Citizens have to make a budget proposal but they also have to elect the city executive and legislative bodies" (2008, 1-2). The Brazilian model has shown that participatory democracy need not necessarily be a replacement for representative democracy, as more radical proposals might suggest, but that it can be used as to complement representative democracy. Under this model the elected representatives still make the ultimate decisions and are accountable to the electorate
during election. By maintaining a system of representative democracy alongside participatory democracy, some of the major hurdles of participatory democracy, perhaps the most important hurdles, can be overcome.

An obvious problem with participatory assemblies is that the vast majority of citizens do not participate in these assemblies. Aragonès and Sánches-Pagès focus on the city of Porto Alegre where this system has been in operation since 1989. They note that although attendance has steadily increased, no more than 5 percent of citizens participate $(2008,3)$. Were these assemblies not complemented by representative assemblies, one would imagine that a regime based on popular assemblies alone, in which only 5 percent of the population participated, would face serious legitimacy issues. The authors' concluding remarks about participatory democracy are worth quoting at length:

The reader may find the main institutional features of participatory democracy striking at first glance: Only the opinions of those who participate at the meetings are taken into account. On the contrary, in a representative democracy everybody's opinion can be heard through the simple act of voting (surely, casting a vote is cheaper than attending an assembly). This comparison is misleading for two reasons. First, as mentioned before, many of the participants in the assemblies are representing families or communit[y] associations so it is not correct to think that only a few thousand opinions are heard. Another reason is that, as the low level of turnout in Western democracies indicates, this alleged advantage of representative democracy is doubtful: It is well known that the fraction of population systematically disenfranchised from the representative processes are the less educated and wealthy, precisely those segments overwhelmingly represented at the popular assemblies in Porto Alegre (Arragès and Sánches-Pagès 2008, 13).

The authors admit that participatory models of democracy indeed have some "striking" features, but they downplay their significance. Combining participatory assemblies with elected, representative assemblies appears to overcome this problem as citizens who do not (or can not) attend assemblies still hold political power during elections. Another interesting aspect that

Aragonès and Sánches-Pagès bring to light is that even within a system of participatory democracy, representation still exists. Individuals may, in fact, be speaking on behalf of groups of people or associations. Indeed, they are most certainly speaking on behalf of other members in the assembly as well: since time would not allow every person in attendance to speak on every issue, and since many do not wish to speak, it may suffice for the competing viewpoints to be heard. Those who do speak are therefore, in a way, "representing" those not speaking who share their viewpoints. Representation, it seems, is unavoidable even in participatory assemblies.

Further, these assemblies, scattered about Porto Alegre, elect members to the Council of the Orçamento Participativo whose "role is to design and submit to the city government a detailed budget proposal based on the priorities determined in the regional assemblies, and to monitor the execution of the approved public works" (2008: 2). What initially started out as participatory assemblies, contrasted with elected, representative assemblies, transforms, out of necessity, into an assembly of elected representatives. The experience of Brazil's model of "Participatory Budgeting" shows that participatory democracy can indeed complement representative democracy, but it also highlights the inescapable need for representation. Perhaps the need for representation comes down to the fact that "[w]ithout the instrument of representation, the political subject would be fragmented and scattered" (Seitz 1995, 99).

### 2.5 Why not sortition?

While acknowledging that representation is necessary and unavoidable, we must admit that representation, even full proportional representation, is not a panacea for all political ills. To better realize the limitations of electoral representation we must briefly explore an alternate
means of selecting representatives associated with democracy. There are some, who, in the name of democracy, would like to get rid of elections altogether and replace them with a more "genuine" rule by the people, possibly with the use of sortition. Such an arrangement is, perhaps, the only way to get a genuinely descriptively representative assembly. Their arguments are often based on a differing conception of democracy and elections, similar to that of the ancient Greeks who believed that elections were aristocratic or elitist (Carson and Martin 1999, 32; Zakaras 2010, 455; Laycock 2004, x). "To the Athenians the lot was democratic; elections were considered aristocratic or oligarchical. Only with the lot was there genuine rule by the people" (Carson and Martin 1999, 32). The ancient Greeks were justified to believe in the aristocratic nature of elections as even in today's societies it has become apparent that those who tend to get elected are far from "representative" of the population, that is, they do not resemble "ordinary" people. According to the ancient Greeks, and modern experience, elections do, indeed, favour the "elite." As Aristotle (2000 [1885 trans.], 165) wrote: "the appointment of magistrates by lot is democratical, and the election of them oligarchical."

Drawing on the wisdom of the ancient Greeks, as well as many other theorists from various centuries, Carson and Martin, somewhat radically, argue the case for bringing the lot, or sortition, back into politics, which they say can be justified with the four following reasons: "(1) promotion of equality, (2) representativeness, (3) efficiency, and (4) protection against conflict and domination" $(1999,34)$. The authors note that a number of different sortition-based systems are possible for the replacement of representative democracy, including ancient Athenian style of democracy, randomly selected citizen legislatures, assemblies, and bureaucracies, and a very radical system conceptualized by John Burnheim which he termed "demarchy" (Carson and

Martin 1999:,102-116). In Burnheim's "demarchy", policy is decided by randomly selected "functional groups," however, there is no government, as such, and no bureaucracy to enforce the decisions made by the functional groups, no military, no courts, and perhaps not even a police force (Carson and Martin 1999, 102-116). The idea of randomly selected functional groups studying certain issues and making decisions in demarchy has its merits, and many of us might be prepared to embrace it as a compliment to our current system, however, the other parts of "demarchy" such as the removal of government as we know it without any mechanisms for enforcing decisions or settling disputes, seems rather idealistic and unworkable.

The "representativeness" of randomly selected assemblies or functional groups would, evidently, be a stark contrast to the aristocratic nature of the current system that creates an assembly whose members do not resemble the everyday people they represent. Even parties said to represent the working class appear to have a disproportionate number of non-working class members in their ranks, yet, must this necessarily compromise their ability to represent working class citizens? Are citizens who do not resemble their representative, necessarily not represented? If a voter chooses a representative who has a different level of income or education, is this voter left unrepresented because of this? Should we not leave it up to the voter to decide by whom she wishes to be politically represented? Are voters not in a better position to determine who would best substantively represent them?

Hannah Pitkin observes that "voters often prefer to elect men [and women] who are not representative (typical) of the district, and that may be a good thing" (1967, 90). Further, De Grazia explains that "so-called democracies have been known to select representatives by reason of their superior class position rather than to reject them because of it" $(1951,5-6)$. This is where
the aristocratic nature of elections becomes evident. The word 'aristocracy,' from the Greek words aristos, meaning "best" and kratia, meaning "power," "rule" (Hoad 1986, 22), literally means 'rule by the best.' Since it is our aim during elections to elect the "best" citizens to represent us, and since by definition aristocracy means "rule by the best," it appears that it is technically an aristocracy that we are hoping to achieve through elections, or, perhaps, a democratically elected aristocracy.

There is certainly a trade-off between election and sortition: one gives descriptively representative assemblies, the other the ability to authorize and hold accountable. For those who would prefer an assembly to represent the nation as an exact miniature or to hear views of "ordinary" citizens, sortition would be preferable. For those, on the other hand, who would like the ability to choose or authorize our representatives and to hold them accountable, election is preferable. Which feature is more important? I believe this comes down to the main function of representative democracy discussed at the beginning of the chapter, namely, to allow for the peaceful changing of governments. Elections allow citizens to exercise real power collectively through voting rather than by force. This is not to say that sortition cannot or should not be used at all in a political system. It could possibly be deemed appropriate in other places, such as for the selection of juries, committees, or members of an upper house, for example.

### 2.6 Descriptive and substantive representation

After noting the various conceptions of what democracy is or ought to be (representative, direct, participatory, or through sortition), we must now explore what the act of representing is or ought to be. How should representatives "make present" citizens who are literally absent? Should
the legislature be an exact microcosm of the entire country, reflecting, in miniature, all the characteristics of the country at large? Would such a microcosmic representation ensure that the interests of all citizens and the nation as a whole would be taken into account? Would such an assembly ensure that the political opinions of citizens and their visions for the nation would be represented, that is, would it substantively represent the nation? Should we place primary importance on the empirical characteristics of representatives such as age, sex, level of income, or education? What about their province or country of origin? What about other physical characteristics such as height, weight, eye colour, and hair colour? What about physical or mental disabilities? In other words, how much importance should be placed on descriptively representing citizens? Should candidates' physical and empirical characteristics trump their political beliefs and stances on policy and how well they are perceived to represent their constituents?

The reality is that if primary importance is placed on such an accurate descriptive representation, then elections should not be the method used for selecting representatives because elections tend to favour the elite (the wealthy, the well-educated, the well-spoken, the charismatic, and so forth). As noted in the previous section, elections are "intrinsically aristocratic" (Manin 1997) because citizens aim to elect not ordinary folk, but choose whom they believe will be their "best" representative.

For an assembly that descriptively represents the nation, selecting members at random would do a better job than election at selecting average, "everyday" people. Admitting what some may perceive as a shortcoming of election, that is, its intrinsically aristocratic character, is not to suggest that we should not attempt to create more diversity in our legislatures, including
equal numbers of men and women and more minority representation, which we, of course, should do. Succeeding in this may, however, only give us an illusion of diversity. Those elected, although they may look more diverse, would likely still come mainly from society's "elite": more educated, wealthier, and better spoken than "ordinary folk." In other words, by electing more women and minorities, we might simply elect more "elite" women and minorities. Even still, when it comes to evaluating electoral systems, as we will do more in depth later, we should prefer those that help parties offer slates of candidates with greater diversity and gender parity, to those that do not.

A descriptively representative assembly would not necessarily ensure that citizens would be substantively represented. That is, citizens' views and opinions would not necessarily be accurately represented simply because the legislature empirically resembles an average group of citizens? Political opinions are not determined by one's physical and empirical characteristics. Hannah Pitkin writes: "No institutional system can guarantee the essence, the substance of representation" (1967: 239). Pitkin admits here that no matter what type of system used, or the scheme of representation, that it will be no guarantee that those elected will "represent" well those whom they are said to represent. Physical characteristics cannot determine how well a member will represent his or her constituents, that is, how well the member will perform as a political representative.

Looking at physical characteristics alone tells us very little about how well citizens are represented. Rather than looking at the characteristics of citizens and deciding how well they are represented, should we not let citizens decide themselves by whom they wish to be represented? Parties can and should be encouraged to present a more balanced slate of candidates, including
an equal number of male and female candidates and more minority candidates. An assembly of half men and women and more minority representation, for example, would be of great symbolic importance, but it would not necessarily proportionally reflect the views of citizens if certain factions or parties remained overrepresented while others underrepresented.

Having acknowledged that elections are essentially undemocratic in the ancient sense of the word because they favour the elite and fail to produce legislatures that are "typical," contrasted with the lot, we must stress the importance of elections for stability by empowering citizens at the ballot box. While it is true that elections fail to produce descriptively representative legislatures, descriptively representative legislatures, accomplishable by using sortition, would not necessarily be any better than elected legislatures at substantively representing citizens. As Hannah Pitkin argues, an accurate descriptive representative fails to guarantee substantive representation:

The fact that a man or an assembly is a very good descriptive representation does not automatically guarantee that they will be good representatives in the sense of acting for, that their activity will really be representing. In the realm of action, the representative's characteristics are relevant only insofar as they affect what he [or she] does (1967, 142).

Representing in the political sense, is more than simply resembling one's constituents. It appears that what representatives do, and how well they represent their constituents' interests, or "substantively" represent them, also needs to be taken into account. Yet, how to best "represent", and who or what, exactly, one must represent, is a matter of debate and opinion. On the question of who members ought to represent, A. H. Birch summarizes this debate:

Innumerable writers and speakers have maintained that elected representatives have a duty to act as agents for their constituents... On the other hand, the most influential theorists in the Western world have stressed the need for elected representatives to do whatever they think best for the nation as a whole while
other writers again have insisted that the first duty of an elected person is to support his party (1971, 20).

Even when we detach importance from descriptive representation and stress substantive representation, the problem of who one is supposed to represent is still not addressed. Does a representative represent her constituency, her country, or her party? Suppose she represents only her constituency, how can she possibly effectively represent a constituency with divergent political opinions? Likewise, how could she effectively represent a nation that, like all nations, has divergent political opinions? Representatives can certainly act on behalf of their nations and constituencies, but this does not necessarily mean that they are substantively representing the entire nation or even constituency. Given the fact that no constituency or nation is a politically homogenous unit (that is, not everyone shares the same political opinions), we must ask whether it is even possible for a single person to substantively represent a entire constituency.

I must argue that, considering all constituencies no doubt hold divergent political opinions, we cannot claim that any representative, no matter how "good," can effectively represent all her constituents. Doing so would require the representative, for example, to be in favour of a certain policy to please some constituents, while opposing it to please the other constituents. This adds yet another layer of complexity on the puzzle of representation. Considering the dilemma of constituency, nation, party, and the reality that one simply cannot substantively represent an entire constituency or nation because these are not homogenous entities, the reality is that representatives must attempt to balance all of these aspects of representation. This is, no doubt, not an easy task. There may be no simple answer to the "the question of whether the need is to represent opinions or interests, individuals or groups, localities or the whole nation" (Birch 1971: 109). Further, we can ask if representation means to look like,
act like, or act for. The beauty of elections is that on election day, it is up to the voters to evaluate their representatives and decide whether or not to keep them in office or to throw them out. If representatives fail to play this delicate balancing game well, they may find themselves out of office.

### 2.7 Authorization and Accountability

Carson and Martin write, "sortition does not lead to overrepresentation of male, middleaged lawyers" (1999, 34). Although, as just discussed, selecting members of assemblies randomly would have some benefits, in particular, it would increase the "representativeness" of assemblies, it would have serious flaws since representatives would not be "authorized" by the people nor "accountable" to them. The power that citizens hold collectively during elections would be lost if elections were replaced by lot, participatory assemblies, or some other method of political selection. Without the power to collectively change governments during elections could be potentially dangerous, as it turned out to be in Libya where its regime of supposed "direct democracy," or "jamahiriya" ("state of the masses") was ultimately overthrown in a brutal civil war (National Post 20 October 2011, The Times 22 October 2011). Authorization and accountability are an important aspect of electoral representative democracy that would be lost if elections were eliminated in favour of a more classical interpretation of democracy, using sortition, for example, or direct, participatory assemblies such as in Gathafi's "jamahiriya."

Electoral representative democracy ideally gives all citizens the opportunity every few years to authorize their representatives and governments to act on their behalf and allows citizens to hold them to account. Other interpretations of democracy mentioned above lack these key
stabilizing factors, which is the main reason why they should only be considered as a compliment to electoral representative democracy, rather than as a replacement. It is also why change should be considered if the electoral system fails to create assemblies authorized by all voters. Since Canada's first-past-the-post electoral system is not a proportional system, it, by definition, does not create an assembly based on all votes counted equally. In other words, the assembly is only authorized by a portion of voters. If, for example, a member is elected with half the votes in her district, the member may be considered to be authorized by half the voters in her riding ${ }^{3}$. Proportionalists set the bar for democracy substantially higher by aiming for an assembly not simply authorized by some voters, but authorized by all voters.

Hannah Pitkin (1967) explores these two conceptions, authorization and accountability, one based on the representative being elected, hence "authorized" to act on behalf of constituents, the other based on the representative being accountable to constituents during elections. Yet, neither of these views prescribes what a representative ought to do, or what the act of representing actually entails. These concepts, nonetheless, add something to the concept of representation that is lacking by the descriptive theory. Replacing elections with sortition would no doubt result in better descriptive representation, but it would take the power to choose away from citizens and it may still not lead to citizens being substantively represented. We would end up with legislatures that empirically "resembled" the nation, but we would also have legislatures that were not elected by the people, hence "authorized" to act, nor would the politicians be accountable to the public during elections. The importance of letting citizens decide themselves by whom they wish to be represented cannot be overstated. Without the ability to elect and throw

[^2]out representatives, the collective power of the people at the ballot box would be lost. Even though electoral representation may have an aristocratic character, as the electorate tends to favour the "elite" over average citizens, this does not mean that we should do away with electoral representation in favour of sortition or a direct form of democracy.

Ultimately, in every society there needs to be a way to hold governments accountable, not in a revolution, at the guillotine or the gallows, the chopping block or the firing squad, but by the ballot box, and for this reason, electoral democracy must be maintained. If citizens feel that their electoral system is not sufficiently democratic because of ineffective or unequal votes, then it may be time to consider changing the electoral system. If Canadians believe, as they have indicated in a number of polls over the past decade, that seats should be awarded proportionally (Environics 2010, 2013, Forum Research 2012, CRIC 2005, LeDuc and Pammett 2003, Chénier 2002, Bricker and Redfern 2001), then this certainly merits an in-depth examination of our electoral system options.

### 2.8 Theory of proportional representation

Should the Chamber of Representatives represent the electorate? That is the whole question. If such is the case, every opinion, however absurd, even monstrous it may appear, must have its representatives in proportion to its strength in the electorate (Victor Considérant (1842) from Hermens 1984, 15).

Proportional representation supporters (proportionalists) believe that all voters should be represented in the legislative assembly, and represented equally (For example, see Mill 2010 [1861]). They oppose "false" majority rule, but not majority rule per se; they propose proportional representation as a solution to the problems of "manufactured majorities" and
unequal representation. Themes of fairness and political equality, in particular, equal representation, echo through the theories of proportional representation.

I have argued that representation is, indeed, necessary for making "rule by the people" or democracy feasible in mass society (Laycock, $x$ ), and that it is essential for ensuring stability by giving citizens a way to peacefully hold governments accountable. I have identified key features of an 'ideal' representative democracy, namely majority rule, representation of all, and political equality. I have argued that Canada's electoral system fails on all three of these key dimensions because a significant portion of the population's votes are 'wasted.' Proportionalists argue that seats should be awarded to parties based on the proportion of vote parties receive. Proportional representation would be a sort of "magic bullet" for representative democracy, if achieved, as it would satisfy the key democratic criteria just mentioned. Proportional representation, however, is just an ideal; where this ideal meets reality, that is, where it meets electoral systems, it gets messy. Some electoral systems were created with proportionality as an objective, others, such as the first-past-the-post system, were not. Disproportionality is simply an unintended consequence of the first-past-the-post system.

Since different electoral systems fail to serve democratic ideals equally or the needs of a given country, it is evident that electoral systems need to be evaluated within the context of a specific country. For our purposes, we are interested in the Canadian context. Electoral systems differ greatly in aspects such as ballot structure, districting, and formulas; systems appropriate for some countries may not be politically acceptable in another. No democracy or electoral system will be perfect in form and "it should not be forgotten that, even when 'improved', democracy is still bound to be a messy business" (Somerville 2011, 432). There is a significant
tension that exists between the ideal of democracy and what is achievable or acceptable in practice. In order to evaluate whether or not elected assemblies are, or a potential electoral system would be sufficiently democratic, we must, as Giovanni Sartori explains, compare the ideal to the real.
we may find sufficient resemblances between the ideal and the real, and in such case we shall say: This is a democracy. Democracies are declared as such, then, by comparing their ideals to their practice, and on the basis of whether the prescription does translate itself in some conforming manner into the reality (Sartori 1987, 478).

I have established that elections are an essential component of a modern democratic system, yet, as discussed, some election rules may be more democratic than others.

Proportionalists argue that certain electoral systems cause some citizens or groups of citizens to be unrepresented or underrepresented. As mentioned earlier, there are critics of the way in which Canada elects its politicians. Many academics contend that Canada's first past the post electoral system needs to be changed, most notably, the 132 political scientists who co-signed a statement calling on government to "implement a Canadian version of a more proportional and fair voting system within the next five years" (Fair Vote Canada 2010). It seems that an in-depth examination of our current electoral system and the options for replacement is needed. Would a different electoral system improve democratic representation in Canada?

The theory of proportional representation promises not only to ensure "true" majority rule, but also to ensure political equality and the representation of all voters, thus meeting these three critical criteria and bringing the reality of representative democracy closer to its ideal. It is important to note, however, that proportional representation is only a theory about what electoral representation should look like, and as will be seen, implementation is messier than the theory.

Changes in the electoral system would be needed in order to achieve proportionality, but such changes are not necessarily without side effects, one of the most serious being public opposition to change. Achieving perfect proportionality is impossible, yet some systems achieve it better than others. Along with proportionality, other factors must be considered, in particular, what is politically feasible considering a country's political traditions and expectations.

Other electoral systems, discussed in Chapter 5 and 6, come with different problems and many of them may not be politically feasible in Canada. The biggest obstacle to achieving proportional representation in Canada appears not to be a hostility to the theory, ${ }^{4}$ but to issues with the various electoral systems proposed that aimed to achieve it, as suggested by the failure of all referenda and reform initiatives in Canadian provinces to date (Barnes and Robertson 2009). Various electoral systems and their issues will be discussed, as well as a system that may be thought of as an "ideal" solution that balances proportionality with Canadian political tradition. Given the difficultly of electoral reform in Canada, this thesis aims to deliver what academics called for in their co-statement to government: "a Canadian version of a more proportional and fair voting system. ${ }^{5 "}$

As noted, electoral reform attempts thus far in Canada have been unsuccessful. The challenge of reform is indeed a great one. Citizens and government alike can resist electoral reform. Without the political will among politicians, however, electoral reform cannot move forward. Stephen Harper and Tom Flanagan beautifully sum up why it is difficult to get governments to support electoral reform: "it is seldom in the short-term interest of the party in

[^3]power to carry out electoral reform; by definition, the system worked admirably for those now in power and changing the system might benefit the opponents next time" (Harper and Flanagan 1996).

## Chapter III: Features of Electoral Systems

Before analyzing Canada's first-past-the-post system and major existing alternatives, it helps to get a broader understanding of the mechanics of electoral systems. This chapter looks at the features of electoral systems and how they can vary, including the constituency structure, the ballot structure, and formulae.

The electoral system is the set of rules that determine how voters vote, and how their votes translate into representatives. It stipulates how many votes each citizen may cast, how voters must cast their ballots: whether or not voters may rank their votes, must mark an ' X ' or write in a candidate's name or identification number, vote for an individual candidate or candidates, or for a party list. It determines how many members will be elected in each constituency (one, a few, many, or a combination), and the number and size of constituencies.. The threshold for victory is also determined by the electoral system; in other words, whether an absolute majority of votes in a riding is required, or if a relative majority is sufficient (plurality), or if a certain quota or other formula is applied to elect candidates or to determine the makeup of the legislature or of a geographic area. It also determines if there is a mechanism which adjusts for the "wasted," "disregarded," or "surplus" votes in order to get a more proportional result.

Before moving on to the evaluation of electoral systems, it helps to get an understanding of their key variables. In his pioneering study, Douglas Rae identified the key variables of electoral systems as districting, ballot structure, and formulae (1967, 16). By tinkering with these three variables, we can create countless possibilities of electoral systems. André Blais elaborated by defining the functions of the three main variables that were identified:
(1) those that define how votes are cast, i.e., the ballot structure: (2) those that define how seats are structured, what I call the constituency structure; and (3) those that define how votes are translated into seats, i.e., the formula $(1988,103)$.

In order to determine which electoral systems might be appropriate, it helps to understand the general tendencies associated with different rules.

### 3.1 Constituency structure: defining how seats are structured

### 3.1.1 District magnitude

The district magnitude determines how many candidates are elected per riding. At one extreme, it can be as low as "one," that is, the country (or province, state, city) is divided into separate ridings, each electing only one member, as is the case currently in Canada. At the other extreme, the district magnitude can be equal to the number of members in the assembly when all members are elected in a single, nation-wide riding, as is the case in the Netherlands (Gallagher and Mitchell 2005, 5). In the middle of these two extremes there can be many different riding sizes or combinations. The well-known effect district magnitude has on proportionality was put succinctly by Douglas Rae: "as district magnitudes increase, disproportionality decreases at a decreasing rate" $(1967,139)$. Whether a country elects members from one-member, fivemember, ten-member, or one-hundred-member constituencies, or some other combination (say, for example, 1-3 members in rural ridings, with 5-10 members in urban ridings), it will have an effect on proportionality. Districts electing a greater number of representatives will have a greater level of proportionality than those electing a few members. This relationship may sound like bad news for those desiring both local representation and high proportionality. This
relationship is particularly troubling for electoral reform in Canada since Canadians have shown to be favourable to the idea of proportional representation, yet have a tradition of and a liking for single-member ridings. At first glance this relationship would suggests that in order to achieve a high degree or proportionality, Canadians must sacrifice local representation or single-member ridings, however, as will be seen next, there is a simple way to solve this dilemma without making major "trade-offs," by creating multiple levels or 'tiers' of representation.

### 3.1.2 Complex districting: multiple 'tiers'

The tendency noted above, "the smaller the average district magnitude, the greater the disproportionality" (Gallagher and Mitchell 2005, 12) suggests that a high level of proportionality and local representation are polar opposites. With just one level or 'tier' in which members are elected, an unfortunate trade-off must, indeed, be made between local representation and the level of proportionality (Gallagher and Mitchell 2005, 12). "Mixed" systems, where members are elected from overlapping tiers, may be the 'best of both worlds' (Shugart and Wattenberg 2001) because they can get around this dilemma and offer both a high level of proportionality and local representation (Gallagher and Mitchell 2005, 12). Disproportionality in lower-level tiers (single-member districts, for example), can be corrected for in higher-level tiers (larger, multi-member districts), as is the case in Germany and New Zealand under mixed-member proportional where the district magnitude of the first or nominal tier is 'one.' The first tier need not necessarily be single-member districts, and may be multimember districts as is the case in Belgium and Denmark (Taagepera and Shugart 1989, 127-128). If the number of compensatory seats is not sufficient to make the overall result proportional, the
system may permit extra or "overhang" seats as is the case in Germany and New Zealand. This feature essentially allows the House to expand in size in order to allow all parties to receive their proportional entitlements. Another option, contrasting with an expanding House as required, is to have the number of seats fixed in advance with no overhang seats, as is the case in Venezuela and Bolivia. The overhang-seat procedure, however, "in systems in which proportionality is calculated at the level of regional rather than nationwide multi-seat districts, it has the disadvantage of increasing a region's share of legislative seats beyond its fixed quota" (Shugart and Wattenberg 2001, 23-24). Needless to say, in Canada, giving provinces or regions extra seats would likely be contentious.

To summarize the important findings on districting, low district magnitude decreases proportionality, creating an uneasy trade-off between local representation and proportionality, however, creating multiple tiers of seat allocation can solve this dilemma and compensate for disproportionality in lower-level tiers. As Gallagher and Mitchell explain, "Having more than one level means that we might be able to have our cake and eat it" (Gallagher and Mitchell 2005, 12).

### 3.2 Ballot structure: defining how votes are cast

### 3.2.1 Categoric ballots versus ordinal ballots

A ballot that allows the voter to simply vote for a candidate or party is considered a categoric ballot, while a ballot that allows the voter to rank candidates or parties is considered an ordinal ballot (Rae 1967, Taagepera and Shugart 1989, 12), more commonly known outside of
academia as a ranked or preferential ballot. Canada uses a categoric ballot which instructs voters to mark an ' $X$ ' next to the candidate of their choice, while Australia uses an ordinal ballot that instructs voters to rank their preferences. Even though ordinal ballots may better determine voters' preferences, categoric ballots are simpler and more widely used (Taagepera and Shugart 1989, 12). An ordinal ballot is generally used to ensure that winners reach a pre-determined threshold for victory (a majority or a quota).

### 3.2.2 Number of votes

The electoral system will stipulate if voters have one or many votes. Taagepera and Shugart note that some ballots are sometimes not quite ordinal or categoric when the voter has more than one vote $(1989,13)$. In the case of Germany and New Zealand under the mixedmember proportional system (MMP), they are, in reality, two separate, but linked, categoric votes rather than an ordinal-categoric hybrid ballot. Such systems with two votes are interesting because "the logic of the system does not require that there be separate votes. There may be only one vote" (Taagepera and Shugart 1989, 35). When the voter has two votes they need not necessarily be linked as they are in Germany and New Zealand. They may be 'parallel' or counted separately, without the allocation of seats from one vote affecting the other, as is the case in Japan (Reed 2005, 281-282). Other systems may give multiple votes when electing members to multi-member districts, for example, or when more than one round of voting is required.

### 3.2.3 'Blank'ballots

A ballot need not necessarily contain any names or parties. Japan's ballot is particularly interesting in this regard, consisting of two blank ballots on which voters write a candidate's name for the single-member district on one ballot, and another to write the name of a party for the proportional seats. Write-in ballots may be useful for their simplicity and can be particularly beneficial when there is an excessively large number of candidates running for election in order to avoid a large, cumbersome ballot, such as the recent ballot paper for the district of Digamadulla, Sri Lanka: over one-metre long with 660 candidates contesting seven seats (Samath 2010).

An obvious downside to write-in ballots, however, could be that they might be more prone to unintentional spoilage. Canadians recently saw how easily a voter can make an error in write-in ballots: the Premier of British Columbia first wrote her own name, but since she did not reside in the riding in which she ran, she could not vote for herself and so also wrote the name of her party's candidate running in her electoral $\operatorname{district}^{6}(\mathrm{CBC}$ News 8 May 2013).

Another blank ballot method of voting is employed in Finland where voters write the identification number of the candidate on the ballot (Raunio 2005, 480; Ministry of Justice Finland 2011, 14). Writing a candidate's identification number is, undoubtably, easier than writing a candidate's name, particularly if the candidate's name is long. In Finland, the master list of candidates with their identification numbers is posted in the polling stations as well as polling booths (Ministry of Justice Finland 2011, 14).

[^4]
### 3.2.4 Choice of candidate (or lack thereof) within parties

The ballot structure will indicate whether or not voters will have a choice of candidates within their preferred parties (Gallagher and Mitchell 2005, 10). If a party presents more than one candidate, voters can indicate their preference, or they may be able to rank them or mark a number of preferences. Evidently, if parties only present one candidate per riding or if there is a closed list, voters are not able to choose their preferred candidates within their preferred party. When proportional formulae are used, a party presenting a list of candidates would not be splitting its vote since votes are aggregated at the party level and then seats won are allocated to candidates. Likewise, a similar arrangement can even work in single-member districts: parties could present more than one candidate or a list of candidates, voters indicate their preferred candidate(s), and party votes would be aggregated: the seat would go to the most popular candidate within the most popular party (Shugart 2005, 39-40). Matthew Shugart explains such a rare case:

For many years, Uruguay was the one national level example of the use of PL [Preferential list] system in a single-seat district. Presidential elections were conducted by competing party slates, which usually contained more than one candidate. Voters voted for a candidate, but the winner was defined as the candidate with the most votes within the party with the most votes. In this way, uniquely among single-seat district systems, a party could present multiple candidates without fear of dividing its vote and throwing the seat to another party" (Shugart 2005, 39-40).

Although the situation he describes is a presidential ${ }^{7}$ contest, it shows that it is possible for parties to offer more than one candidate in single-seat districts without splitting the party's vote, as long as votes are pooled at the party level. The party winning a plurality would win the seat; the candidate of that party with a plurality of votes would occupy the party's seat (Shugart 2005,

[^5]40). This way it is possible for parties to offer a choice of candidates in single-seat districts, even though such a practice is effectively non-existent at present.

### 3.3 Electoral formulae: defining how votes translate into seats

The electoral formulae set the thresholds for winning a seat in Parliament, a legislative assembly, a municipal council, and so on. The three main types of electoral formulae that will be touched on below are: (1) plurality: gaining a seat by a relative majority, (2) majoritarian: gaining a seat by an absolute majority, and (3) proportional: gaining a seat from a formula designed to increase proportionality.

### 3.3.1 Plurality

Plurality, also referred to as relative majority (Taagepera and Shugart 1989, 21), is perhaps the simplest electoral formula: the most votes win. The word 'plurality' is defined by Gallager and Mitchell as "the largest number or share of a given quantity, though not necessarily a majority" $(2005,634)$. The plurality formula applied to single-member districts is known as 'first-past-the-post' or 'single-member plurality'. This formula can also be applied to multimember ridings. If applied to a 5 -member riding, for example, the 5 candidates with the most votes would each win a seat. In multi-member ridings when voters have more than one vote, but less votes than there are seats, it is referred to as the 'limited vote'; if voters have only one vote it is the 'single-non-transferable vote' $\left(\right.$ SNTV $\left.^{8}\right)$ (Lijphart 1984, 208).

[^6]The plurality formula described above is when it is applied to candidates, however, the formula can also apply to parties in single-member ridings. The plurality rule applied to parties would stipulate that the party with the most votes would win the seat (rather the candidate with the most votes). Applying the plurality rule to parties rather than candidates would prevent the splitting of votes between candidates of the same party. This cannot be done however, in multimember ridings ${ }^{9}$. Ways of allocating seats to parties in multi-member districts will be discussed in the proportional formulae section in this chapter ${ }^{10}$. Once seats are allocated to parties, the plurality formula can then be used to determine which candidates from that party would fill the seats awarded ${ }^{11}$.

### 3.3.2 Majority

A majoritarian formula, as the name suggests, aims to ensure that winners have the support of at least a majority of voters. There are two principal ways in which this is achieved: through an ordinal or preferential ballot or by having more than one round of election. For example, the alternative vote (AV) is when a majoritarian formula is applied to single-member districts, necessitating the ranking of candidates (ordinal ballot). If no candidate receives a majority of first-choice ballots, since a majority is required for winning, voters who voted for the candidate receiving the fewest first-choice votes will have their second-choice votes redistributed among the remaining candidates (Taagepera and Shugart 1989, 22). The process continues until

[^7]there is a clear winner with over fifty percent of the votes, but not necessarily first-choice votes.
A second round of voting or "runoff" election is also designed to be majoritarian. It generally functions as two separate plurality elections, with a set period of time in between, with the aim of achieving a majoritarian outcome (Taagepera and Shugart 1989, 21; Farrell 1997, 41). In order to ensure a majoritarian outcome, only two candidates can compete in the final round, however, the rules of the system will dictate which candidates can continue to round two; if more than two, the final result may not be strictly majoritarian.

### 3.3.3 'Proportional'formulae

The basic aim behind a proportional formula is to make parties' share of seats correspond to their share of votes. As noted earlier, however, this is also highly dependent on other factors such as district magnitude and the existence or not of higher tiers. Since a single seat cannot be divided among candidates or parties, proportionality necessitates multiple seats. The general consensus, as discussed earlier, is: the more seats in a district (the higher the district magnitude), or if higher tiers are employed, the higher the level of proportionality that can be attained (Gallagher and Mitchell 2005, 12).

Although some formulas are designed with proportionality in mind, the formula itself is not as important a factor in determining proportionality as district magnitude. Gallagher writes that "There is strong evidence, indeed, that district magnitude affects proportionality more than electoral formula does $(1991,44)$. Indeed, Taagepera and Grofman write that "pluralist elections can be thought of as a special case of list PR, with $M=1$ [district magnitude $=1$ ]" $(1985,344)$. There is, in reality, no such thing as a "proportional" formula. Formulas can be designed with
proportionality in mind, but other factors can heavily influence proportionality, effective district magnitude perhaps being the greatest factor. Applying what could be considered a proportional formula to low-district-magnitude ridings with no higher tiers of seat allocation will not deliver a proportional result.

There has been some debate as to the best way to measure (dis)proportionality. Michael Gallagher outlined this debate and the various existing indices with which to measure proportionality and proposed the "least squares index" (LSq) (1991). "A least squares index would entail squaring the vote-seat difference for each party; adding these values; dividing the sum by 2 ; and taking its square root" (Gallagher 1991, 40). This method deliberately treats a few large vote-seat differences as more severe than it would many small vote-seat differences. Intuitively, one party gaining five percent more or less seats than "deserved" is less fair than five parties each with one percent more or less seats, and the index reflects this. Lijphart used this index in his 1994 study, writing that it is "the most sensitive and faithful reflection of the disproportionality of election results" $(1994,62)$. Since Gallagher devised this index, it "appears to have emerged as the most widely employed measure" for measuring disproportionality (Gallagher and Mitchell 2005, 602). As such, it is the measure of proportionality that I will use to gauge the proportionality of various electoral systems.

### 3.3.3.1 Largest remainder methods

These methods employ a quota and then allocate remaining seats according to the largest remainders. The most basic method employs the Hare quota or simple quota: the total number of valid votes divided by the number of seats in the district (valid votes/seats) (Taagepera and

Shugart 1989,30 ). This quota reveals the number of seats a party would be entitled to receive if strict proportionality were observed. If there were 10,000 votes in total in a 10 seat district, for example, the quota would be 1000 votes $(1000 / 10=100)$. If a party received 2340 votes, it would have two full quotas and therefore receive two seats, with 340 votes leftover. The obvious problem with this method is that all parties' votes will virtually never divide evenly by the quota and the remaining seats must be given out on partial quotas (largest remainders). Another way of conceptualizing proportional seat "entitlement" is by percentages. In the example above, 2340 is 23.4 percent of 10,000 , therefore, the party would be entitled to 23.4 percent of the seats. 23.4 percent of 10 seats is 2.34 seats. The issue, evidently, is that awarding seats to parties with partial quotas will somewhat skew proportionality. Needless to say, it is not possible (or at least feasible) to occupy portions of seats. ${ }^{12}$

Again, the higher the district magnitude, the less this is a problem as it increases the number of seats allocated by full quotas and lessens the number allocated by partial quotas. Other quotas can be used, such as votes divided by seats plus 1 (total votes/seats +1 ), which would reduce the number of seats given by partial quotas, but it might, however, make parties "entitled" to more seats than there are to allocate (Taagepera and Shugart 1989, 30).

To avoid the rare circumstances of creating more seat entitlements than exist, the Droop or Hagenbach-Bischoff quotas were divised (Taagepera and Shugart 1989, 30). Although commonly mistaken as different formulae, they are, in fact, the same formula, but worded differently (Dancisin 2013, Taagepera and Shugart 1989, 30). The formula reveals the minimum number of votes needed for parties to win a seat while making it mathematically impossible for

[^8]more seats to be awarded than exist. The Droop (or Hangenbach-Bischoff) quota can be mathematically written in various ways, but simply put, it is: the number of valid votes divided by the number seats plus one, rounded to the next integer [(Votes/Seats +1$)+1$, rounded down] (or, alternatively, the number of valid votes divided by the number of seats plus one, rounded up) (Votes/Seats +1 ), rounded up (Dancisin 2013, 76). In a riding with 10,000 votes and 10 seats, the quota to receive a seat would therefore be $[(10,000 / 10+1)+1]=910$ votes.

Quotas can also be used with an ordinal ballot. Voters rank candidates or parties in multimember ridings. The quota determines how many votes are needed for a candidate or party to win a seat, such as the Hare or Droop quotas, described above. Under such a method, when there are incomplete quotas and seats still remaining, these seats would not be allocated by largest remainder, as described above, but by taking subsequent voter choices into account. The singletransferable vote (STV) is a system that uses this method, which will be discussed in more detail in Chapter 5.

### 3.3.3.2 Highest average methods

Another way of allocating seats to parties is by divisors or using the "highest average" method. Vote totals by party are divided by a pre-determined sequence of divisors such as $1,2,3$, 4,5 , and so on (D'Hont sequence). Each seat is awarded sequentially to
the party that presents the highest 'average'-the 'average' denoting the number of votes it won divided by a number of seats it has already been awarded. Thus, while the first seat obviously goes to the largest party, its average is reduced because of this when it comes to competing for the second seat (Gallagher and Mitchell 2005, 284-285).

To illustrate how this would work, imagine the following vote totals for the following parties in a five-member riding:

| Apple Party: | 45,000 votes |
| :--- | :--- |
| Orange Party: | 25,000 votes |
| Blueberry Party: | 20,000 votes |
| Banana Party: | 5,000 votes |

Dividing the vote totals for each party by the first divisor in the D'Hondt sequence (1), we are left with the same number, and so the Apple Party wins the first seat with an average of 45,000 . The Apple Party's vote total is now divided by the next divisor in the sequence (2), and its average reduced to $22,500(45,000 / 2)$. The second seat would go to the Orange Party with the next highest average of 25,000 , and its average reduced to $12,500(25,000 / 2)$. The third seat would be awarded to the Apple Party since its new average $(22,500)$ is now the highest. Since the Apple Party has won a second seat, its vote total would then be divided by the next divisor (3), leaving an average of $15,000(45,000 / 3)$. The fourth seat would be given to the Blueberry Party with a new highest average of 20,000 . The last seat would be given to the Apple Party with a new highest average of 15,000 . This sequence of seat allocation is indicated in table 3-1 below by the number in parentheses ${ }^{13}$.

Table 3-1, "Highest average seat allocation method with D'Hondt sequence"

| Party | Votes divided by <br> first divisor (1) | Votes divided by <br> second divisor (2) | Votes divided by <br> third divisor (3) |
| :--- | :--- | :--- | :--- |
| Apple Party | $45,000(1)$ | $22,500(3)$ | $15,000(5)$ |
| Orange Party | $25,000(2)$ | 12,500 |  |
| Blueberry Party | $20,000(4)$ | 10,000 |  |
| Banana Party | 5,000 |  |  |

[^9]The D'Hondt sequence, shown above ( $1,2,3,4,5$, and so on) is the most common sequence (Gallagher and Mitchell 2005, 585). Another "main" but uncommon variant is the 'Sainte-Laguë' sequence (1, 3, 5, 7, 9, and so on) (Gallagher and Mitchell 2005, 585). More common than Sainte-Laguë is the 'modified Sainte-Laguë' sequence: (1.4, 3, 5, 7, 9, and so on). Theoretically, any sequence is possible, but only a few used in practice (Gallagher and Mitchell 2005, 585).
3.3.3.3 Largest remainder versus highest average methods

Certain divisor sequences or quota formulae are said to benefit larger or smaller parties (Taagepera and Shugart 1989, 29-35). Arend Lijphart writes, "the largest remainder method [Hare quota] treats large and small parties equally. The initial allocation of seats is exactly proportional, and small and large parties compete for the remaining seats on an equal basis" (Lijphart 1986, 173). The Hare or simple quota (total valid votes/seats), besides being perhaps fair to parties of all sizes, is also the easiest to understand since it reveals the number of seats a party would be entitled to according to the definition of proportional representation. The Sainte-Laguë formula, along with the Hare quota, treat large and small parties unbiasedly and typically produce the same outcome, while the Droop quota and D'Hondt formula tend to produce the same result and give an advantage to larger parties (Gallagher and Mitchell 2005, 588-589).

Neither method can create a fully proportional result. The good news, as noted earlier in the chapter, is that there is an easy way to correct for disproportionality. Employing higher-level, over-lapping tiers can correct for disproportionality in lower tiers. The number of compensatory
seats required in higher level tiers to correct for disproportionality depends on the degree of disproportionality in lower tiers. If the lower tier is comprised of single-member districts, a high number of seats may need to be set aside to make the overall result proportional. If, on the other hand, the nominal tier consists of multi-member districts, proportionality may be already high and so a small number of seats may be sufficient to make the overall result proportional. Germany sets aside 50 percent of its seats as compensatory, Denmark: 23 percent, Iceland: 18 percent, Sweden: 11 percent, and Norway: 5 percent (Gallagher and Mitchell 2005, 131; Farrell 1997, 70).

### 3.3.3.4 Lists

The obvious issue that arises from proportional formulae that determine the number of seats a party should receive is to then determine which candidates in those parties will receive those seats. A variety of lists can be employed to determine this, which may or may not give voters a chance to influence which candidates get elected, as discussed below.
3.3.3.4.1 Closed lists. A closed list is controlled fully by the party. When the number of seats the party has won is determined in a multi-member district, a number of candidates from the list get elected to those seats, starting from the top of the list. If the party wins, say, 5 seats in the district, candidates 1 through 5 would fill those seats.
3.3.3.4.2 Fully open lists. A fully open list is a list in which voters' preference votes solely determine which candidates get elected from the list (Gallagher and Mitchell 2005, 10-11,

Shugart 2005, 42). Simply put: party votes for individual candidates are pooled and determine how many seats each party will receive, the candidates with the most votes within those parties fill the seats the party has won. Depending on the rules of the system used, the voters may have been given one or many preference votes to distribute within a party or even between parties. In this case, the plurality rule would determine which candidates win. Likewise, the candidates might be asked to rank votes within a party, and a similar process like that under the singletransferable vote would occur until the seats the party has won are filled.
3.3.3.4.3 Semi-open lists. A semi-open or "flexible" list is one that is not fully closed or open. In such a list, voters can express their preferred candidate(s), but "the party's initial ordering of the candidates determines the outcome unless sufficient numbers of voters combine to overturn this" (Gallagher and Mitchell 2005, 10).

### 3.3.4 Best candidates method

In mixed systems lists are common, but not required for the system to function. The votes in the first tier can serve to nominate candidates for seats in higher tiers: "As with the nominating districts used in some list PR systems (such as Slovenia), seats are allocated to parties across a multi-seat district, but are allocated to candidates within parties according to their success at garnering votes in the nominating districts" (Shugart and Wattenberg 2001, 13). When the number of higher-tier seats each party is entitled to is determined, candidates with the most votes, who do not already occupy a constituency seat, would fill those seats. As such, there need not be a predetermined list, per se: the "best" candidates, as determined by voters, would fill
party seats. Such a system would have some benefits over other systems, such as providing "candidates with the incentive to be popular within their districts-even in districts that are "hopeless" for their party to win in the nominal tier" (Shugart and Wattenberg 2001, 12-13). It would also, needless to say, increase member accountability.
3.3.5 Thresholds: limiting proportionality

Proportionalists view high proportionality as 'good' or 'fair' or more democratic. Yet, as Gallagher and Mitchell explain, most electoral systems, even proportional ones, have a way of limiting the level of proportionality: "Proportionality is generally regarded as a 'good thing'—in moderation. Few electoral systems go for broke on the proportionality dimension; most have, in practice, some way of limiting it" (2005, 13). Taagepera and Shugart write that "The threshold can be incorporated into systems of PR to counteract the most often mentioned defect of PR: the lack of any disincentive to the splintering of parties" $(1989,36-37)$. If absolute proportionality is not desirable, electoral reformers should consider how and if it should be limited. Should a threshold be met before being awarding list seats, such 5 percent like Germany, Czech Republic, Latvia, Poland, Slovakia (Gallagher and Mitchell 2005, 13) and New Zealand (Vowles 2005, 297)?

If absolute proportionality is not desired, should an alternative, less arbitrary method be used instead of a threshold? One such way of limiting proportionality without thresholds is by the use of a formula said to slightly favour larger parties. Another way would be to deliberately create small (low-magnitude) districts without higher-tier seat allocation. Carey and Hix, for example, argue that low-magnitude proportional systems are the "electoral sweet spot" (2009). In
mixed systems, proportionality could be limited by not allowing "overhang" seats: any party that receives more single-member district seats than its 'entitlement' would keep these seats at the expense of smaller parties which may not receive their full proportional 'entitlement'. The degree of proportionality that is desired needs to be taken into account, and whether or not measures should be in place to limit it in order to discourage party splintering, and the potential consequences of adopting such measures.

Now that we have briefly identified the general ways in which electoral systems vary, namely, the ballot structure, the constituency structure, and the formulae, we can better identify features of electoral systems that can be tweaked to suit our purposes. As mentioned in the introduction, the challenge of electoral reformers in Canada is to find a system suitable for Canadians. To satisfy the ideal of representative democracy, it should give a proportional outcome, yet there are a number of other, practical considerations that need to be taken into account. It has been shown in a number of surveys over the past decade that Canadians consistently support the idea of proportional representation (Environics 2010, 2013, Forum Research 2012, CRIC 2005, LeDuc and Pammett 2003, Chénier 2002, Bricker and Redfern 2001). Canadians 'ought' to, based on this reality, accept a proportional electoral system, yet all referenda to date have failed. This suggests that not any proportional system will do; Canadians value their current electoral system. Perhaps the most telling survey on the subject was one that discovered the vast majority of Canadians ( 80.7 percent) declared they were satisfied with the current electoral system, yet in the same survey, a majority indicated they were supportive of proportional representation (LeDuc and Pammett 2003, 47-48).

This needs to be kept in mind when evaluating the appropriateness or palatability of potential electoral systems. The premise of this thesis is that a feasible system for Canada, as mentioned, would maintain the best aspects of the first-past-the-post system, changing it as little as possible, while achieving overall proportionality. This thesis seeks to deliver the type of electoral system that Canadians desire: one that is like first-past-the-post, but delivers fair and proportional election results. What, specifically, are the "good" aspects about first-past-the-post that should be maintained? What should be changed in order to give the first-past-the-post system a proportional outcome consistent with the ideal of representative democracy?

In the following chapter I will evaluate the pros and cons of the first-past-the-post electoral system in Canada. This way, I will highlight the aspects that should be kept, and the aspects that should be changed. I am arguing that since Canadians are hesitant about electoral reform, less change is better and so should be minimized. But, I am also arguing that change is needed and another electoral system should live up to the ideal of representative democracy. A solution that minimizes change yet fixes the major problems of the current system evidently must be sought. Based primarily on the pros and cons of the first-past-the-post system, I will develop a list of criteria for evaluating potential electoral systems for Canada.

## Chapter IV: First-Past-the-Post

### 4.1 Minimizing needless change (Criterion 1: Palatability)

Despite its shortcomings, most notably, the distortions it produces between parties' vote shares and seat shares, the first-past-the-post electoral system (FPTP), also known as single-member-plurality (SMP) has numerous benefits. Supporters of first past the post claim that it is simple, produces stable governments, and allows constituency representation (Farrell 1997, 13). Similarly, Lijphart and Grofman note two important considerations for plurality supporters: "the close and clear contact that is established between the representative and his or her geographically defined constituency, and the unsurpassed simplicity of the voting method" (1984, 7).

Proponents of change may sometimes focus so heavily on the flaws of first-past-the-post, that they forget to recognize its strengths. It is the system that has been in place since the beginning of confederation, so one could argue that it cannot be functioning as badly as some proportionalists might argue; Canada is, after all, a "successful," developed nation. Before the universal franchise was granted, it could be similarly argued, according to this flawed type of logic, that those not owning property, women, and minorities should not be given the right (or privilege as it was) to vote, since the country was arguably being governed quite well without them. It is here that the matter switches to one of democratic principle. Making votes equal and effective, like the extension of the franchise, is about the principles of representative democracy and political equality, and not simply a question of whether or not the country is being well or poorly governed without equal and effective votes for all. Proportionalists argue that proportional
representation is needed in order to make a state fully democratic. The ideal of representative democracy, as outlined earlier, requires majority rule, representation of all, and voter equality; proportional representation promises to make this ideal of representative democracy a reality by making all votes equal and effective.

The theory of proportional representation, however, encounters a number of problems as it enters reality: in particular, since changes to the electoral system and perhaps even political traditions are needed to accomplish proportionality, a great number of citizens will evidently resistant change, as has been the case in Canada. The fact that citizens resist change, much like the fact that many citizens resisted the expansion of the franchise beyond white, male, property owners, is not, however, a legitimate reason to keep the status quo. It is, nonetheless, a reason to seek change that is palatable, especially given the reality that Canadians have rejected all proposed changed to the electoral system to date (Barnes and Robertson 2009). On that note, the first criterion I list for any prospective system is palatability. This criterion is inspired by Schwartz and Rettie's "Ease of transition" criterion:

The government must be able to smoothly oversee the transition from an existing system to any new electoral model. The more foreign the system the more unpalatable change will be. Markedly different systems will not be seen as a viable alternative to the existing system $(2002,14)$.

First and foremost, we must ask if the system is palatable; if it is considered unpalatable, it should not be considered as a viable option.

With the premise that minimizing change would make a potential voting system more acceptable and palatable to citizens, this chapter examines the pros and cons of the first-past-thepost electoral system to develop the remainder of the list of criteria. Identifying what is "good" and "bad" about our current system will help us discover which changes we should consider and
which ones we should try to avoid. The first criterion, palatability, will, of course, overlap with many of the other criteria, and there will be an inevitable high degree of overlap between other criteria as well. As IDEA writes, "The quest for the most appropriate electoral system thus involves assessing the available choices against the chosen criteria (always with history, time and political realities in mind) in order to identify one or more options which will suit the needs of the country concerned" (IDEA 2008, 5).

### 4.2 Pros of first-past-the-post

### 4.2.1.Simplicity (Criterion 2)

The first-past-the-post system uses a categoric ballot with the plurality formula in singlemember ridings. It has an undeniably simple method of voting: voters mark an ' X ' next to their preferred candidate, and the candidate with the most votes wins the riding. This method contrasts with other voting methods, such as when voters are asked to vote two or more times or asked to ranks candidates or parties in order of preference. There are no complicated formulas with first-past-the-post, nor are there complicated methods for counting the votes. The simplicity of first-past-the-post considered one of the system's strengths and is applauded by its supporters (Farrell 1997, 13; Lijphart and Grofman 1984, 7). Dennis Pilon writes, however, that "the idea that complexity is a problem must be argued for, not merely asserted. Democratic procedures do not necessarily require simplicity but transparency in their workings" (1999, 33). Ideally, simplicity would be maintained in a prospective voting system, but we are forced to acknowledge that no proportional voting system is likely to be quite as simple as first-past-the-post. We should be
prepared to accept an increased degree of complexity when compared to first-past-the-post in order to achieve proportionality, but at the same time we should also try to avoid needless complications.

First-past-the-post's simple, categoric ballot and simple plurality formula make the system transparent and comprehensible at the riding level. If a simple, categoric ballot, could be made effective, that is, if virtually all votes could count towards the election of a representation, adopting a more complex ballot structure would therefore be a needless complication. A ranked ballot would only be necessary if voters' first choice votes would likely not count; similarly, giving voters more than one vote would only be necessary if voters first vote may likely be ineffective. If, on the other hand, a system could make voters' one and only vote effective, there would be no need for further rankings or for more votes.

Further, if a system were chosen that would likely make voters' first-choice votes ineffective, would it not conflict with principles of representative democracy noted earlier, namely, that all votes should count, and count equally. If some voters cast effective first-choice votes while others cast only effective second, third, or fourth-choice votes, is voter equality really achieved? I would contend that those proposing systems in which many voters' first-choice votes will likely not be effective, should justify such a proposal. Multiple votes, the ranking of candidates, or multiple rounds of voting are examples of methods that attempt to compensate for a lack of effective first-choice vote by many voters. I would argue that on the principle of democratic equality that it is preferable for a system to give all voters an equal and effective firstchoice vote. Further, if this is possible to achieve, complications such as multiple votes, ranked ballots, or multiple rounds of voting would not be necessary.

Another aspect of first-past-the-post's simplicity is that it is transparent and comprehensible at the riding level. Citizens can see or hear the results of an election in a riding and understand how the result came about: the candidate with the most votes won. Citizens can put the result into perspective by observing the margin of victory by number of votes or by percent of the vote. Citizens can also see if the winner won by an absolute majority or a relative majority (plurality). Understanding the result at the riding level is simple and transparent, however, when it comes to understanding the overall election result, first-past-the-post is not so simple or transparent. Understanding how a party might, for example, under first-past-the-post, win a majority of seats with 40 percent of the vote, or how a party might come second in number of votes but third in number of seats, is more complex. As such, would it not also be best for simplicity and transparency if an electoral system were comprehensible at the riding level (like first-past-the-post), but also simple and transparent overall (unlike first-past-the-post)?

### 4.2.2 Local geographic representation (Criterion 3)

"Early parliament drew representatives from local communities because that is where and how people defined themselves" (Rehfeld 2005, 71). In Andrew Rehfeld's The Concept of Constituency, he traces the origins of constituencies to political life in England in 1295 (2005, 70). He notes that when the King expanded his council, "people were drawn from separate local communities within England due to the essentially local life of people in thirteenth century England" (Rehfeld 2005, 70). The idea of local, geographic representation has been ingrained in British political culture for hundreds of years, and it consequently became embedded in Canadian political culture as well. Elections Canada notes that geographic representation is an
underlying principle of Canada's system of parliamentary representation "meaning that each elector is represented in the House of Commons on the basis of a geographical division, called the electoral district or constituency or riding" $(2004,3)$. Even though local communities are not homogenous units, they still form part of the identities of Canadians and it is difficult to imagine a Canadian Parliament without such local, geographic representation. Supporters of first-past-the-post argue, quite rightly, that single-member districts create a strong and identifiable link between representatives and their constituencies, which is seen as desirable (Farrell 1997, 13; Lijphart and Grofman 1984: 7). Kenneth Carty writes that "in Canada, there is an interest in trying to find systems that include the old values, reflecting the imperative of local representation, the power of geography" and a desire "to find some way to combine those old principles with new ones" $(2005,14)$. Although a firm majority of Canadians believe that parties should receive a proportional number of seats, it is difficult to envision a Canada without local representation or even without single-member districts. Indeed, a viable system for Canada would reconcile these "old values" with the "new ones."

### 4.2.3 Accountable members (Criterion 4)

With first-past-the-post, voters are able to vote not only for political parties, but for individual candidates. This contrasts with closed list-proportional representation (PR) methods where voters vote for a party and not a candidate, or for the list vote in mixed-memberproportional (MMP) system that employs closed lists. Open-list systems avoid this pitfall. Currently, unpopular candidates can be thrown out of office in elections, including party leaders, because voters vote directly for every candidate. In systems with closed party lists, leaders and
those at the top of the list would essentially become immune or "unaccountable." As Richard Kelly writes in defence of first-past-the-post in the United Kingdom: "More than ever, it seems, voters require an electoral system that allows them to 'individualise' their support" $(2010,44)$.

Accustomed to using the same voting system and voting directly for candidates, any feasible or palatable alternative must allow voters to continue to vote for candidates and not just parties. Henry Milner wrote, after Ontario rejected a model of mixed-member proportional in a referendum in 2007, that it was "doomed" from the start in part because it proposed a model employing province-wide closed lists. As he explained, opponents "hammered away on the claim that there would be 39 MPPs beholden to party headquarters instead of voters... this image of unrepresentative party hacks from Toronto getting in through the back door was fatal" (2007). Having some party members accountable only to party headquarters and not directly to voters is, undoubtably, a difficult sell in Canada. As such, systems employing closed lists should not be considered as a viable option in Canada if the system is to be approved by citizens.

The ability for voters to "individualize" their vote under first-past-the-post may, however, be over-stated. Under the current arrangement parties only present one candidate per riding, so the "choice" this gives voters is questionable, since party loyalists or those strongly favouring certain parties have no choice within their preferred party. We might even consider the one candidate offered per party per riding to be a list of only one candidate. Voters can choose to endorse the party "list" by voting for the candidate, or vote for another candidate and party. One might be tempted to think that under first-past-the-post it would be impossible for parties to offer more than one candidate per riding since doing so would split that party's vote. As was noted earlier, although uncommon, if the rules were such that party votes were pooled at the
constituency level, each party could offer more than one candidate per riding without the risk of splitting their party's vote. In light of this, plurality systems, even in single-member districts, need not necessarily limit the number of candidates per riding, per party, to one. A minor change such as this would give voters more choice and make members more accountable; it could also have other benefits such as increasing the number of women and minorities in legislatures, as will be discussed later in this chapter. For this reason, and to increase member accountability and voter choice, voters should not only have the opportunity to endorse or reject candidates between parties, but also given a choice of candidate within the party.

### 4.2.4 Accountable government? (Criterion 5)

The performance of first-past-the-post for this criterion is not so straight-forward when it comes to government accountability. The party (or parties) with the most seats is identified as "the government" and its leader, the Prime Minister. Under single-party majority rule it is clear who is in charge and on whom the credit or blame should fall. Yet, even though first-past-thepost often "manufactures" majority governments, it also fairly often produces a Parliament in which no single party has a majority. Whether a majority or minority governments are more accountable is a subject of debate. Some argue that governments may even be more accountable in minority rather than majority situations (Thomas 2006). Paul Thomas, a Parliamentary intern who studied the 38th Parliament (minority) writes "the events of the 38th Parliament would suggests that Canada's democracy could be improved through the adoption of an electoral system that increased the frequency of minority governments" $(2006,23)$. Peter Russell, in Two Cheers for Minority Government, argues the merits of minority and coalition government.

My appeal is to those who have such a deep preference for majority government is to give parliamentary government-as opposed to prime-ministerial government - a chance, and to appreciate how minority government gives us the best opportunity to enjoy the virtues of parliamentary government (Russell 2008,158).

When, however, a majority of voters vote "against" the government, yet the government is rewarded with a majority, it brings the ability of voters to hold governments accountable seriously into question. Winning a majority government by receiving a majority of votes is one matter, but we must ask ourselves: does exaggerating the number of seats won by the strongest party so that it wins a majority of seats with much less than a majority of votes, make the government more accountable, or does it perhaps make it less accountable?

We can also wonder if governments can be considered accountable when the "wrong" party wins, that is, when another party receives more votes yet less seats. Kenneth Carty examines this issue both federally and provincially. He explains: "we have an electoral system that has a curious dynamic - one that can reward 'losers'. We have not had many Prime Ministers in our history, but four of them came to office when the majority of the population apparently preferred somebody else" (Carty 2005, 4). The table 4-1 below illustrates how common this "wrong winner" phenomenon has been provincially in recent years.

Table 4-1, More Recent "Wrong Winners"

| Province | Premier | Party |
| :--- | :--- | :--- |
| Newfoundland and Labrador | Clyde Wells | Liberal |
| Nova Scotia | Gerry Regan | Liberal |
| New Brunswick | Richard Hatfield | Progressive Conservative |
| Québec | Daniel Johnson <br> Lucien Bouchard | Liberal <br> Parti Québécois |
| Ontario | David Peterson | Liberal |
| Saskatchewan | Grant Devine <br> Roy Romanow | Progressive Conservative <br> New Democratic Party |
| British Columbia | Glen Clark | New Democratic Party |

(Carty 2005, 5)
The worst-case scenario may be when the most popular party in a given province not only loses, but wins no seats at all. In the federal election of 1926, the Conservative Party, despite having more votes than any other party, won zero seats in Manitoba (Johnston 2007, 10) thus leaving Manitobans without a single federal representative from their most preferred party! This example is, of course, an extreme one, but for a province to elect no members from its most popular party makes us question the ability of first-past-the-post to deliver a Parliament and a government that Canadians voted for. If the Parliament and the government delivered do not reflect voters' intentions, what does this say about the system's ability to hold politicians and governments accountable?

Canada is not the only country in which the first-past-the-post electoral system sometimes rewards "losing" parties. John Curtice explains that in Britain, "in 1951 and in February 1974, the party that secured most seats was not the party that secured most votes, an
outcome that would appear to compromise claims that single member plurality ensures that voters have the power to make and unmake governments" $(2009,29)$.

The arguments presented here show that as far as government accountability is concerned, the performance of first-past-the-post is troublesome. Although it may be commonly thought that majority government means accountable government, "accountable government" is, perhaps, inappropriately listed here as a "pro" of first-past-the-post. Its performance in this regard is questionable at best. Minority governments, it seems, actually increase government accountability by making governments more accountable to parliament and so an electoral system that increased the frequency of minority government could actually be a "good" thing. Further, a system which removed the seat "bonus" the winning party receives would mean that the government's seat share (and other parties' seat shares) would correspond to their share of votes-hence the legislature would be fully accountable to voters.

### 4.3 Cons of first-past-the-post

### 4.3.1 Meaningless votes (Criterion 6: Meaningful votes)

If one's preferred candidate is almost guaranteed to win or to lose in a voter's constituency, voters may feel that their vote is "meaningless":

In any single-member constituency electoral system where support for the various political parties is spatially polarised, there is likely to be a large number of seats that one of them regularly wins by a substantial margin, and which are therefore not likely to change hands at subsequent general elections (Hix et al 2010, 43).

We must also ask ourselves if this sense of votes being meaningless among some is suppressing voter turnout to an extent. Larry Johnston notes the disincentives to vote in countries using first-
past-the-post:
There are many reasons to vote, including the satisfaction of fulfilling one's civic duty and of having registered one's preference, but these are personal reasons and do not change the fact that wasted votes and surplus votes (i.e. votes a candidate receives beyond the total necessary to win a seat) have no direct role in the outcome $(2007,15)$.

There appears to be little incentive to vote if one's constituency is a "safe seat" for a given party, whether a voter supports the winning party, or another. Unless a voter's preferred candidate wins by one vote, a voter's individual vote will not impact on the election results. We would expect, for this reason, to see turnout lower in "safe" ridings than in competitive or marginal ones.

In many constituencies, electors may find that voting for their preferred party is of little value-because it is either bound to win there or almost certain to lose.They may therefore either consider their vote of little value and abstain (which is why turnout tends to be higher in marginal constituencies) or vote for a candidate/party who is not their first choice" (Hix et al 2010, 45).

Collectively, a certain amount of votes for the winning candidate do count, and a voter who votes for the winning candidate may feel that she has contributed to the candidate's election. Further, there may be philosophical reasons for voting, such as a feeling of "duty" as Johnston notes, or of "registering one's preference." Voters who vote for losing candidates have registered their preferences and fulfilled what some voters may see as a civic duty, but above and beyond these personal or philosophical reasons, their votes are meaningless since "wasted votes and surplus votes... have no direct role in the outcome" (Johnston 2007, 15). Ideally, all voters should be able to cast votes that directly affect the election results. These "wasted" and "surplus" votes would ideally be taken into account so that all voters could feel that their votes are meaningful on a real, not just philosophical level.

If one's vote were likely to have an impact on the election results, one might assume that
voter turnout would generally be higher. Voting is likely to have an impact on the voting result when a proportional voting system is used, contrary to the reality when first-past-the-post is used. Blais, Massicotte, and Dobrzynska write, "a proportional voting system is considered fairer by most citizens and generally tends to induce more electors to exercise their right to vote" $(2003,15)$. Admittedly, there are many other factors influencing voter turnout unrelated to the voting system. Blais, Massicotte, and Dobrzynska observe, however, that "turnout is 5 to 6 points higher in countries where the electoral system is proportional or mixed compensatory" $(2003,1)$.

Under first-past-the-post voters can ask "Whether to abstain because their preferred candidate/party is either: (a) so unlikely to win in the constituency that a vote for them would be wasted; or (b) so sure to win that a further vote would be unnecessary" (Hix et al 2010: 48). When one's vote is unlikely to have an impact, turnout is expected to be lower. Since federal elections in Alberta are remarkably uncompetitive, this province offers a unique Canadian opportunity to begin to test this hypothesis. Almost every federal Alberta seat has been won by the Conservative Party since the Party's merger (Heard 2013a) ${ }^{14}$, meaning that almost the entire province consists of "safe" seats for the party. We should expect, therefore, that voter turnout would be lower in Alberta compared to other provinces. Andrew Heard (2013a) breaks down voter turnout by province and territory, revealing that voter turnout is indeed lower in Alberta than in most other provinces, with turnout lower only in Newfoundland and Labrador, Nunavut, and the Northwest Territories.

In order to satisfy the democratic criterion of representation of all voting should be more

[^10]than simply "registering one's preference" or carrying out one's "civic duty" (for those who consider it as such). Regardless of the constituency they are cast in, votes should contribute to the election of a representative: "surplus" and otherwise "wasted" votes should also count. Ideally, all voters would cast meaningful votes on more than a philosophical level: their votes should actually help determine the makeup of the assembly, regardless of which constituency they are cast in.

### 4.3.2 Can create a "weak" or "ineffective" opposition (Criterion 7: Effective Opposition)

There are many examples where the first past the post electoral system has caused a weak opposition in Canada's provincial legislatures. Kenneth Carty notes that "British Columbia in 2001, the Liberals won 77 out of 79 seats while the outgoing NDP government retained only two. In Prince Edward Island in 2000, the Conservatives won all but one seat leaving the Liberals with a one-seat opposition" (2005, 8). In the 2007 Newfoundland and Labrador provincial election, the governing PCs received 92 percent of the seats with 70 percent of the vote, leaving only 4 out of 48 opposition members in the House of Assembly (Elections Newfoundland and Labrador 2007). An even more extreme Canadian example is New Brunswick's provincial election of 1987 when the Liberal Party won all the seats in the legislature with 60 percent of the vote (Johnston 2007, 10). Although a "clean sweep" is not common, the frequency that an "ineffective" or "weak" opposition has been created as a direct consequence of the electoral system, particularly in the provinces, is certainly cause for concern.

Although it is difficult to put a number or percentage on the seats that must be held by the opposition in order for it to be considered "effective," Alan Cairns defines it as at least one-third
(1968). Since the current electoral system frequently exaggerates the number of seats a winning party receives so greatly that it creates a weak or ineffective opposition, especially provincially, this should be avoided in a prospective system. A prospective electoral system should create a strong or effective opposition. A system that does not exaggerate the number of seats the winning party receives should be sufficient to create an "effective" or reasonable-sized opposition-or at least an opposition size that relates to its level of popular support.

### 4.3.3 Distorted election results (Criterion 8: Proportional representation of parties)

Canada's current, first-past-the-post electoral system produces distorted election results and causes many votes to be "wasted" or "ineffective." "[E]lection after election, we use a system in which there is no logical or direct connection between the share of a party's votes and its share of seats" (Carty 2005, 6). This tendency can be seen in just about any federal or provincial election, including the recent Newfoundland and Labrador provincial election in October 2011: The Progressive Conservatives returned with a majority, receiving 56.1 percent of the vote, yet won 77.1 percent of the seats (37/48). The Liberals received 19.1 percent of the vote, and won 12.5 percent of the seats (6/48), forming the official opposition. The NDP received 24.6 percent of the vote (more than the Liberals), and won 10.4 percent of the seats (5/48) (CBC 11 October 2011).

Other countries using the first-past-the-post system have distorted election results similar to those that have occur in Canada. John Curtice argues that the first-past-the-post system is "indefensible" because it makes Britain's government neither representative nor accountable: "while the system still clearly fails to produce anything like a representative legislature, it also
cannot be relied upon to help make governments accountable to their voters. A system that fails to fulfill either of the major functions of democratic elections would seem difficult to defend indeed" $(2009,44)$. It is clear that an accurate reflection of voters' preferences goes hand in hand with accountability, since ineffective votes and distorted election results make it difficult to hold governments accountable.

Distorted election results can be said to leave many Canadians "unrepresented" in the House of Commons or in provincial legislatures, and governments can be effectively shut out of certain provinces or regions despite having significant support. Distorted election results creates a disconnect between the percentage of votes a party receives and the percentage of seats the party is awarded. How the results are distorted also creates a distorted view of the country in terms of party support. "In Alberta, for example, the federal Liberal party has on occasion won as much as 25 percent of the vote and not been rewarded with a single seat" (Blais and Gidengil 1991, 53-54).

The level of distortion can be shown by Gallagher's least square index (LSq). The value of the index in the most recent federal election (2011) is 12.42, indicating a high level of disproportionality. Some of the most recent values of the index are shown below:

$$
\text { 1984: } 20.91
$$

1988: 11.33
1993: 17.67
1997: 13.26
2000: 13.56
2004: 9.81
2006: 8.61
2008: 10.09
2011: 12.42
(Gallagher 2013a)

A prospective system should not distort election results. The percentage of seats a party is awarded should reflect the percentage of votes that party received. In other words, there should be a proportional representation of parties in the legislatures. This is, of course, highly intertwined with many of the other issues given that the distorted election results are a source of many ills. As will be seen in the next section, another issue is that the results can be distorted in such as way that may contribute to regional alienation could be said to be detrimental to national unity.

### 4.3.4 Exaggerates regional differences (Criterion 9: Regionally balanced governments)

Jansen and Siaroff note that "the closest thing to a consensus in the literature on the Canadian electoral system is that the SMP system contributes to the regionalization of Canada's party system" (2004, 43).

In one of the foundational essays regarding the effects of the electoral system in Canada, Alan Cairns explains how the first past the post electoral system exaggerates regional cleavages and is detrimental to national unity, and is worth quoting at length:

The following basic effects of the electoral system have been noted. The electoral system has not been impartial in its translation of votes into seats. Its benefits have been disproportionately given to the strongest major party and a weak sectional party. The electoral system has made a major contribution to the identification of particular sections/provinces with particular parties. It has undervalued the partisan diversity within each section/province. By so doing it has rendered the parliamentary composition of each party less representative of the sectional interests in the political system than is the party electorate from which that representation is derived. The electoral system favours minor parties with concentrated sectional support, and discourages those with diffuse national support. The electoral system has consistently exaggerated the significance of cleavages demarcated by sectional/provincial boundaries and has thus tended to transform contests between parties into contests between sections/provinces $(1968,62)$.

Regional exaggerations caused by the electoral system are particularly worrisome with respect to Québec and the French-English divide in Canada. "Given the recurrent problems concerning the status of Quebec in Canadian federalism and the consistent tension in French-English relations it is self-evident that the effects of the electoral system noted above can be appropriately described as divisive and detrimental to national unity" (Cairns 1968, 60).

Trevor Knight also argues that regional exaggerations caused by the FPTP electoral system are 'unhealthy' for Canada. He writes:

The SMP electoral system causes regionalism to be accentuated by overrepresenting parties that make a regional appeal, while under-representing parties that have diffuse national support. In addition, the SMP system skews regional representation within the caucuses of national parties. This latter result causes parties to be less sensitive and responsive to certain regional interests. It also increases regional divisions by exaggerating the political differences between regions and by identifying certain regions with certain parties (Knight 1999).

The consensus in the Canadian literature is that first past the post exaggerates regionalism in Canada. The Law Commission of Canada confirmed this consensus by contending that "the first-past-the-post voting system undeniably plays a role in exacerbating regional differences" $(2002,16)$. With such a consensus, it could be argued that Canada's longterm survival as a country in its current form can only be aided by the adoption of an electoral system that facilitates regionally balanced governments.

Some authors question if territorially-based elections under first-past-the-post have a negative effect on government legitimacy in areas where the governing party is weak. Reeve and Ware explore this topic:

Does the emergence of strong regional patterns of voter support under a system of territorially-based elections reduce the legitimacy of a governing party in an area where it has little support? This was the problem which increasingly faced Liberal
governments in Canada, especially after the 1980 election. In 1980 the Liberals won a Parliamentary majority but obtained only two of the seventy-seven seats in the four western provinces. This increased western alienation from Ottawa (1992, 136).

The same question can be raised about the legitimacy of federal Liberal or Conservative governments in Québec when Québec was dominated by the Bloc Québecois, and of the current federal Conservative government now that Québec is dominated by the NDP. The legitimacy of federal Conservative government could also be called into questioned in Newfoundland and Labrador after the 2008 election when the party won no seats in the province (Elections Canada 2009). With 16.65 percent of the vote, the Conservatives would have had enough support for one of the province's seven seats if a proportional voting system were used (1.17 Hare quotas). This would have given the province a government representative, and no doubt, a cabinet minister from the province. The current system often makes it difficult for governments to be regionally balanced because it exaggerates regional differences. A prospective electoral system would ideally not exaggerate these regional differences and should therefore help create more regionally balanced governments.

### 4.3.5 Excludes local minorities from representation (Criterion 8: Proportional representation of

 parties)Because unanimous consent is impractical, if not impossible, it is commonly thought that in a democracy, the majority should govern. It does not follow, however, that the minority should be disqualified from representation. John Stuart Mill argued that the first-past-the-post system denies representation to many voters. "The electors who are on a different side in party politics from the local majority [or plurality] are unrepresented" (Mill 1862 [2010], 60). If a certain
number of voters are excluded from representation, the implication for democracy is that the 'representation of all' criterion is not fulfilled.

Mill's reasoning implies that since the minority does not elect anyone, they are not represented. This is one way of framing the issue-one that does not consider "virtual" representation, discussed in Chapter 2. Ideally, all voters would be represented actually, not virtually, by having their votes contribute to makeup of the assembly. Mill's line of reasoning remains valid because the crux of representative democracy is the ability to choose one's own representatives. Representative democracy it is more than simply government taking care of the interests of its subjects, or "virtually" representing them or their interests, which, of course, can also happen in forms of government that do not employ competitive elections.

The exclusion of local minorities from representation may, in fact, be worse today than as Mill describes. Under a two-party system, each local candidate would necessarily be elected by a local majority, but this would still leave a minority unrepresented. In Canada's multi-party system, each representative does not even need to secure a local majority; representatives are only required to receive one more vote than the nearest opponent, in other words, a "plurality". As it stands today in Canada, a minority, at least, is always left unrepresented in each riding, but it is frequently more than just a minority; because votes are split between multiple parties, a local majority is often left unrepresented. Although Mill was referring to 19th century Britain, this same criticism holds true for Britain and for Canada today. Members can, and sometimes are, elected with a majority in their riding, but there is no such requirement. Some recent extreme examples of members getting elected with low levels of support include the member for Gatineau getting elected with only 29 percent of the vote in 2008, and the member for Vancouver

Centre getting elected with only 31 percent of the vote (Parliament of Canada). The exclusion of local minorities from representation (their votes not being effective) can be considered "unfair" and is certainly at odds with the 'representation of all' criterion of representative democracy.

### 4.3.6 Does not ensure true majority rule (Criterion 8: Proportional representation of parties)

By excluding every local minority (or majority) from representation, Mill explains that government can be formed from a minority. "Democracy, thus constituted, does not even attain its ostensible object, that of giving the powers of government in all cases to the numerical majority. It does something very different; it gives them to a majority of the majority, who may be, and often are, but a minority of the whole" (Mill 1861 [2010], 60). The situation Mill describes is if every member were to be elected by a bare majority under the first past the post electoral system as would be the case in a strict two-party system. As Canada has a multi-party system and there is no such requirement for each member to receive a local majority, the government thus selected may, in fact, be worse than a majority of the majority; it may even be a majority of a minority. The latest majority government, elected in 2011, received 39.6 percent of the vote, clearly not a majority of votes (Library of Parliament 2013). Some of these voters, of course, would have cast ineffective votes, which begs the the question: what percent of total voters actually elected this majority government? It has been calculated that in the 2011 federal election, $1,455,077$ votes cast for Conservative Party were "wasted" (wastedvotes.ca 2013). By subtracting this number from the total number of votes cast for this party, 5,835,270 (Library of Parliament 2013), we are left with 4,380,193 effective votes cast for the Conservative Party (votes that elected a Conservative member), or 29.75 percent of the total valid vote. Therefore, it
could be said that recent majority government was elected with only 29.75 percent of the total valid vote. Whether we consider that 29.75 of the valid vote elected the government, or that the government conceivably represents 39.6 percent of Canadians, majority rule is not attained. Majority rule can be attained through a proportional representation of parties. With parties represented proportionally, a majority government would represent a majority of voters, or a minority government could pass legislation with the help of other parties, together representing a majority of voters.

### 4.3.7 Ineffective representation (Criterion 8: Proportional representation of parties)

Elections Canada $(2004,3)$ notes that the principle of "one elector-one vote" embodies the democratic goal of the electoral system which is set out in the Canada Elections Act. Elections Canada explains that "[t]he application of this principle was clarified in a 1991 decision of the Supreme Court of Canada, which held that the true meaning of the right to vote is not absolute equality of voting power but a right of effective representation"(2004, 3). If effective representation rather than absolute equality of voting power is the aim, the question then becomes, do Canadians in fact have effective representation under the current electoral system? Each constituency elects one member by plurality; all those who voted for this member are awarded representation in the assembly, while the rest of the voters can be considered to be left "unrepresented". Can this form of selecting representatives, whereby only a portion of voters get representation be truly considered "effective representation"? Can an elected member truthfully claim to represent 100 percent of the residents in her riding if she only received 40 percent of the vote? If the remaining 60 percent of the voting population preferred another
candidate or party, is this population's "right of effective representation" being respected? Even if a member is elected with a large majority of, say, 70 percent, is the remaining 30 percent who preferred another candidate and party "effectively represented"?

A riding representative is, of course, the technical representative for all people in that riding, but given that viewpoints in no riding will be homogenous, how can a member, by supporting or opposing a certain policy, be said to be representing all people in that riding? When the official representative of a given riding supports or opposes a policy or expresses a viewpoint, some people in that riding will no doubt side with the position of the representative, but can this be considered "effective" representation for those who disagree? Logically it seems that unless multiple representatives are permitted, multiple viewpoints cannot be effectively represented. Although the Supreme Court of Canada declared that Canadians have a "right of effective representation," this right does not appear to be well served by the first past the post electoral system. A system that enabled a proportional representation of parties would conceivably give Canadians effective representation because their vote would influence the makeup of the assemblies, regardless of where they reside. Multiple representatives or perhaps overlapping levels of representation would be needed, to some extent, to represent conflicting viewpoints. The idea that one single representative can effectively represent all people and viewpoints in a given geographic area defies logic. Local geographic representation is no doubt important and a good representative may, indeed, represent a majority opinion in the riding most of the time, but for one representative to have a monopoly on political representation for all people residing in any geographic area denies the heterogenous character of political reality.

### 4.2.8 Biased against women and minorities (Criterion 10: Demographic representation)

"Countries that rely exclusively on the "first-past-the-post" electoral system, as does Canada, consistently have lower levels of representation of women" (Cool 2010, 5). Since riding associations only nominate one candidate per riding, the result tends to be a bias towards men, with fewer women chosen as candidates. One of the biggest problems, it seems, is that fewer women than men put their names forward as candidates (Cool 2010, 3), naturally leading to fewer women elected in legislatures. Julie Cool makes the basic observation that, "When more women candidates run for office, more women are elected to office. Parties that have a greater proportion of women candidates tend to have a higher proportion of women in their caucuses" (Cool 2010: 5). The simple solution to this problem would be for parties to run an equal number of men and women candidates. The difficulty in reaching gender parity in candidate nominations, however, becomes evident when we look at process at the constituency level. Only one candidate can be chosen per riding per party: it can be a male or a female. Gender parity, for obvious reasons, cannot be created at the riding level if only one candidate is chosen per riding. Some ridings may choose a male candidate, while others may choose a female candidate; the problem is that consistently more men are chosen as candidates because, as mentioned above, more male candidates put their names forward. Because of this reality, "if parties adopt gender-neutral nominating rules the consequence would be a pool of candidates skewed towards men" (Matland 2005, 97).

In order to achieve gender parity in candidate nominations, must the party dictate to riding associations which half must nominate women, and which half must nominate men? There is another, simpler solution that could fix this dilemma. If an even number of candidates are
nominated per riding, creating an equal number of male and female candidates would become easy: simply make it a policy to nominate an equal number of men and women from each riding or on each list. Some political parties under first-past-the-post system have attempted to create gender parity or to increase the number of female candidates, but this policy is difficult to enforce under such a system. "Although political parties have occasionally set voluntary quotas for nominations for women candidates, local riding associations maintain a level of autonomy in the nomination process that makes it difficult for political parties to impose and meet these targets" (Cool 2010, 4). After all, on the micro level where riding associations nominate candidates, there is no problem in nominating a male or a female, but when we look at the aggregate results, we see that the number of male candidates far exceeds that of female candidates.

Allowing parties to nominate more than one candidate per riding could also help elect more minorities to Parliament. Parties would have an incentive to diversify their slate of candidates in order to appeal to a wider group of voters. Further, with parties permitted to nominate more than one candidate per riding, they would not need to "put all their eggs in one basket." Parties might therefore be more inclined to nominate more candidates from minority races, religions, or ethnicities without fearing that some voters might not find a candidate appealing, or without fearing prejudice on the part of some voters.

Therefore, for creating gender parity and increasing minority representation, we should prefer a system that allows parties to nominate more than one candidate per riding-at least two, and ideally an even number, and policy should be that parties nominate an equal number of men and women. A prospective electoral system would ideally help improve demographic
representation and help create more diverse legislatures by removing the bias against women and minorities.

## Chapter V: Other Electoral Systems

Since the possibilities for electoral systems are virtually limitless by tweaking the different combinations of the key variables (ballot structure, electoral formula, and district magnitude), not all possibilities can be discussed. Some of the "major" electoral system proposals and possibilities for Canada will be evaluated and discussed in this chapter.

### 5.1 Criteria for evaluation

The list of criteria for evaluating these systems, developed by studying the pros and cons of our first-past-the-post electoral system is listed below:

1. Palatability
2. Simplicity
3. Local geographic representation
4. Accountable members
5. Accountable government
6. Meaningful votes
7. Effective opposition
8. Proportional representation of parties
9. Regionally balanced governments
10. Demographic representation

This list takes into account change that is necessary in order to fulfil the ideal of democratic representation, as well as important practical considerations in Canada. It is a list tailored to Canada and based on the idea of adapting the first-past-the-post electoral system to overcome its shortcomings, and so it may not be universally applicable. Given that Canadians have shown to be hesitant to reform their electoral reform, a system with minimal change should be sought. Even though there is a great deal of overlap between the criteria, they should be examined separately. Above all, any prospective electoral system should be "palatable" or suitable for Canadians.

### 5.2 The alternative vote (AV)

Since the alternative vote (AV), also known as instant runoff voting (IRV) or the "ranked" or "preferential" ballot, is the most similar system to the current first-past-the-post system, it will be examined first. If the alternative vote were to be adopted, the electoral system would essentially stay the same except for the ballot structure. Constituencies would remain singlemember districts and voters would be asked to rank candidates in order of their preference. If no candidate received more than 50 percent of first-choice votes, the second choices of the candidate who received the lowest number of votes would be divvied out to the remaining candidates. This process would continue until a candidate receives over 50 percent of the vote. The rules of a particular system may stipulate whether or not all candidates on the ballot must be ranked in order for the ballot to be considered valid. This curious, perhaps needless rule is applied to elections in the Australian House of Representatives (Hix et al 2010, 51). A rule such as this would force voters to rank even disliked candidates or parties and could lead to an unnecessary number of spoiled ballots.

Since "splitting" the vote in the riding level would be prevented, the system could arguably be an improvement over first-past-the-post. The illustrate the idea of vote splitting, imagine the vote distributions below.

Candidate A: 350 votes (second choice: Candidate B; third choice: Candidate C) Candidate B: 50 votes (second choice: Candidate A; third choice: Candidate C) Candidate C: 290 votes (second choice: Candidate D; third choice: Candidate B) Candidate D: 310 (second choice: Candidate C; third choice: Candidate A) Total valid votes: 1000

This is, of course, a simplified example since it would be unlikely that supporters of a given candidate would all choose the same candidate as their second choice. Under first-past-the-post,

Candidate A would win the riding seat with 350 votes ( 35 percent). Under the alternative vote (AV), the lowest number of votes would be redistributed, in this case, votes for Candidate B (50) would be transferred to Candidate A, increasing the number of votes for Candidate A to 400 (40 percent). As this is not yet a majority, the votes for the candidate with the next lowest number of votes is then redistributed, in this case, Candidate C with 290 votes. Candidate C voters' second choice is Candidate D , leaving this candidate with 600 votes (a majority). Candidate D would therefore win this riding under the alternative vote, whereas Candidate A would win under first-past-the-post. Supporters of Candidates C and D are sympathetic to the other party and represent 60 percent of voters. The vote-splitting issue present under first-past-the-post appears to be resolved under the alternative vote; in this example, 60 percent of voters would be represented by either their first or second choice candidate.

A change such as this would not seem so great as to be considered a difficult transition or unpalatable for Canada. Would such a change improve democratic representation? In the example above, with Candidate D elected, 31 percent of voters would be represented by their first choice and 29 percent by their second choice. At first glance, one might therefore be tempted to see majority support in the alternative vote scenario but not in the first-past-the-post scenario. Interestingly, when comparing the AV scenario with the first-past-the-post scenario using the standard of AV (considering later preferences), however, reveals that Candidate A is also supported by a "majority". If Candidate A were elected, 35 percent would be represented by their first-choice candidate, 5 percent by their second choice, and 31 percent by their third choice ${ }^{15}$ (although these later preferences would not have been expressed). In this example, by

[^11]considering later preferences, both systems, electing different candidates, would have elected a candidate supported by a "majority." If we are to judge the alternative vote's ability to create majority winners by taking into consideration later choices, we must also judge first-past-thepost on the same measure, taking voters unexpressed later preferences into consideration.

By taking into consideration later preferences (at least the amount necessary to cross the majority threshold), it appears that vote effectiveness would increase under the alternative vote, even if only marginally. A website dedicated to track ineffective votes in Canadian elections (styled "orphaned votes" in the site) reports that if the alternative vote were used in the last federal election, based on survey results from EKOS where second-choice votes were reported, the number of ineffective votes would have fallen from 49.6 percent, to an estimated 45.4 percent (Orphaned Voter 2013a). An increase in vote effectiveness of less than 5 percent, would not, needless to say, come near achieving the goal of full vote effectiveness. It is not surprising that vote effectiveness crossed the 50 percent threshold since the system, by design, must take into consideration at least half of the votes cast in every riding. I pointed out that considering later preferences in the example above would have meant that the plurality winner would also have conceivably represented a majority of voters. Later preferences are not, as we know, taken into account under first-past-the-post, so these votes cannot be considered "effective" even if these voters are sympathetic to the winning candidate.

Since the alternative vote system has been used in Australia for nearly a hundred years (since 1918: Farrell 1997, 45), we can get a idea how proportional election results would be under this system by examining the least squares indices (LSq) from Australian elections. With a least squares index of 11.29 in 2010 and 10.27 in 2007, disproportionality in Australian elections
is high and is comparable to current Canadian levels. With such a high level of disproportionality, the ideal of representative democracy, including voter equality, majority rule, and the representation of all, cannot be said to be achieved in Australia. If Canada adopted Australia's alternative vote system, Canada would still fall short of achieving the ideal of representative democracy since the system would still give highly disproportional results.

It is important to note that a number of Canadians have come out in support of this system, including Liberal leader Justin Trudeau (Trudeau 2013), former Liberal leadership candidate Marc Garneau (Wherry 2013), as well as Stephen Harper's former political advisor Tom Flanagan (Flanagan 2001). Tom Flanagan writes: 'The objection that AV does not yield proportionality between percentage of popular votes and percentage of seats is certainly true. Its operation in this respect is closer to FPP [first-past-the-post] than to PR [proportional representation]. Those to whom proportionality is the highest political value should choose one of the many varieties of PR rather than AV" (2001).

The pros and cons of the alternative vote would be, for the most part, the same as under first-past-the-post. It would be simple, provide local geographic representation and accountable members. The changes under the system would not be so great as to make it a difficult transition or "unpalatable," however, those wanting proportional election results may find the proposal difficult to support. Votes would arguably be slightly more meaningful, since when a voter's first choice vote is ineffective (fails to help elect a member), the voter's second or third choice votes may (or may not) be effective. The system would not likely produce a significantly more proportional election result, improve government accountability, help ensure an effective opposition or regionally balanced governments, or help improve demographic representation. It
would arguably be a slight improvement from the current situation, since slightly more votes could be considered effective and it would eliminate vote-splitting on the riding level, but with most of the "cons" still largely intact, it would not significantly improve democratic representation in Canada or bring us near the ideal of representative democracy.

The alternative vote system shares a peculiar characteristic with other systems that employ preferential ballots or multiple rounds of election: it does not guarantee monotonicity (Gallagher 2013b; Tidemand and Richardson 2000). Monotonicity is defined by Gallagher as "the property that additional support cannot be damaging to a candidate" (2013b). At first a statement such as this may sound bizarre, and how this may occur is better understood with an example. I will use the numbers from Gallagher's example (2013b, 4-5) because his use of 100 votes makes it relatable to percentages, but with a modified scenario. Suppose that a three-way race unfolds as follows:

Candidate A: 39 votes
Candidate B: 30 votes
Candidate C: 31 votes

Candidate B is eliminated because she has the lowest number of votes, and voters' second preferences are redistributed. It turns out Candidate B supporters second-choices are evenly split, with 15 second-choice votes going each to Candidates A and C. The final tally gives A a victory with 54 votes total, and Candidate $\mathrm{C}, 46$. It is noticed during the final count, however, that two two votes had been mistakenly placed in Candidate C's pile and had marked Candidate A as their first preference, not Candidate C, further strengthening Candidate A's majority to 56 votes. Candidate A insisted a recount was not necessary because she had won with a clear majority, but

Candidate B demanded that one be conducted because it meant that she was no longer the first candidate eliminated. The corrected first choice votes are as follows:

Candidate A: 41 votes
Candidate B: 30 votes
Candidate C: 29 votes
The increase in support for Candidate A meant that Candidate C , and not B , was now the first candidate eliminated. Candidate C voters, it turns out, dislike Candidate A very much, and all of Candidate C's second choice votes go to Candidate B, electing Candidate B with a majority of 59 votes. Two mistaken ballots changed the election results from a "majority" for Candidate A (54 votes), to a "majority" for Candidate B (59 votes), because an increase in votes for Candidate A changed which candidate got eliminated first (numbers for scenario from Gallagher 2013b, 4-5).

So is the alternative vote better than first-past-the-post? This question is debatable. The alternative vote ensures that candidates elected have the support of at least a majority of votersbut not necessarily with first-choice preferences. In the scenario above, both Candidates A and B could be said to be supported by a majority if one also includes second-choice preferences, but it can be argued that this "majority" is not a genuine one. First-past-the-post cannot guarantee that a candidate will be elected with a majority of first choice votes, but for that matter, neither can the alternative vote. The scenario above, if conducted using first-past-the-post's plurality rule, Candidate A would win with 41 votes (not a majority). We would normally have no way of knowing if enough voters who did not prefer Candidate A as a first choice, preferred her as a second or later choice-enough to be supported, to some extent, by a majority of voters. It is statistically likely that any candidate elected would be a later-choice candidate for many voters.

In this scenario we know that 15 Candidate $B$ supporters feel that Candidate $A$ is second
best (but on a first-past-the-post ballot they cannot express it). To fairly compare first-past-thepost with the alternative vote in this scenario, we must compare them with the same measure. Neither system ensures the winning candidate will receive a majority of first-choice votes. If there is no majority winner in first-past-the-post, there is simply a plurality winner. When there is no majority winner under the alternative vote, the system creates one (artificially) by taking second and later preferences from eliminated candidates. But does considering second and later preferences actually create a majority winner where one does not exist? "The alternative vote does ensure that the winner will get majority backing, but it does so in a way that may seem artificial, by taking the first preferences for the winner and adding post facto secondary preferences from voters whose first preferences went to eliminated candidates" (Massicotte 2004, 123). First-past-the-post, of course, does not consider second and later preferences, but unless a majority of voters felt that the plurality winner is the last choice or most disliked candidate, then the plurality winner would also have "majority" support by the same standard under which majorities are created with the alternative vote.

Overall, it is a system that could conceivably be used in Canada since it is only marginally different than the current system. It may be difficult, however, to convince Canadians to support such a trivial reform that fails to address the other major issues with the electoral system such as disproportionality. It would, like any proposed change, encounter some resistance among those who want no change, but also among those who would prefer a more proportional system. This was certainly the case in the the United Kingdom leading up to the referendum on the alternative vote in May 2011. The alternative vote was defeated by 67.9 percent of the vote, with only 32.1 percent voting in favour of it (BBC May 6, 2011). Before the referendum, Vernon

Bogdanor wrote: " AV is a paltry alternative for reformers: Advocates of change want a proportional voting system, but the 5 May referendum offers no such option" (The Guardian February 22, 2011). John Curtice explained that even many of those campaigning for 'yes,' did not really want AV . "In truth, most of those leading and backing the campaign, including not least the Electoral Reform Society, really wanted proportional representation and they struggled to come up with arguments in favour of a system that for them was very much a second best" $(2011,16)$. Clearly, many reformers felt that the alternative vote was not the type of reform needed for Britain. A campaign emerged called "No to AV, Yes to PR" encouraging voters to vote against AV , arguing that it is no better than, perhaps even "worse" than first-past-the-post. Lord David Owen wrote:

I have been a long-standing supporter of proportional representation and joined the Electoral Reform Society in 1985, determinedly campaigning for proportional representation for more than two decades. This referendum will not set Britain down the path of real electoral reform; it will replace a bad system with a worse one, and risks putting off the prospect of real reform for generations (The Independent 13 March 2011).

By speaking of "real" electoral reform, the implication is that the alternative vote would be a "phoney" or "fake" reform, not improving the situation or bringing proportional representation any closer.

Another group, 'AV2011', with a site entitled "For An Informed Referendum Decision," campaigned against the alternative vote for the same reasons, writing: "for the most part AV is no better than our current voting system. Its few advantages are outweighed by its disadvantages. And it's no more a step towards proportional representation than our current system" (AV2011 2011). The site unabashedly takes a stance against the alternative vote, writing, "AV appears to
be the worst of all worlds: it won't satisfy reformers, it is rejected by traditionalists and it will create more problems than it solves for our democracy" (AV2011).

For groups such as 'AV2011' or 'No to Av, Yes to PR', voting 'no' did not signal their support for first-past-the-post, but a refusal to accept a system they did not consider fairer, and one that would not make elections more proportional. With so many negative campaigns against the alternative vote, it is not surprising that the referendum result was a decisive 'no.' Many Canadians could possibly likewise reject the alternative vote for similar reasons, if asked. Some would, of course, resist change, while others would feel that such a change would not go far enough. Fair Vote Canada, for example, says that adopting AV would be a "phoney reform." They argue: "Most Canadians are already "represented" by their second or third choice-that's the problem, not the solution" (2013). Indeed, those who would like to see the alternative vote implemented would be fighting an uphill battle against both 'reformers' and 'traditionalists.' To echo the words of the Law Commission of Canada, "the alternative vote system is not sufficiently proportional to constitute a viable alternative to the first-past-the-post system" (2004, 80).

### 5.3 The single transferable vote (STV)

The single transferable vote (STV) is a system that is frequently suggested by electoral reformers in Canada. It has the same ordinal ballot structure as the alternative vote, whereby voters rank candidates in order of preference in single-member districts. This system differs from the alternative vote in that it elects members from multi-member districts. The quota for winning
a seat is determined beforehand, typically the Droop quota ${ }^{16}$ Taagepera and Shugart $(1989,594)$. The single transferable vote is considered a "proportional" voting system, is popular among proportional representation (PR) advocates, and is used in the Australian Senate, Ireland, and Malta (Farrell 1996, Hix et al 2010, 69). Although considered a proportional system, it is important to acknowledge that a small district magnitude would decrease proportionality significantly. A district magnitude of 5 for all constituencies in Malta (ACE Electoral Knowledge Network 2013), produces a high level of proportionality (LSq: 2013: 1.75, 2008: 1.44, 2003: 1.81) (Gallagher 2013a). Ireland, with district magnitudes ranging from 3 to 5, typically produces a moderate degree of proportionality (LSq: 1997: 6.55, 2002: 6.62, 2007: 5.85) (Gallagher 2013a), however, the 2011 election produced a relatively low degree of proportionality (LSq: 8.69) (Gallagher 2013a).

In STV, candidates reaching the quota would be elected, with the second choices of surplus votes redistributed. Then, if no further quotas are met, the lowest-ranking candidate is eliminated and her votes redistributed to voters' next-choice candidates. The process repeats until all seats are filled. When a candidate's surplus votes are to be transferred, it must be determined to which candidates. This is determined by dividing the number of surplus votes by the number of votes for the candidate, then multiplying it by the number of next choice votes for each candidate (Farrell 1997, 121). To illustrate this, imagine that the quota is 950 and a candidate has a surplus of 50 ( 1000 votes in total). To calculate how many of the the 50 surplus votes would be transferred to each candidate, the next-choice votes for each candidate is multiplied by 0.05 (number of votes to be transferred/total votes for candidate: $50 / 1000=0.05$ ). In this case, a

[^12]candidate receiving 200 second-choice votes would transfer 10 of the 50 surplus votes ( 200 x $0.05=10$ ). Again, which ballots will transfer becomes an issue. Ireland and Australia (Senate) handle this issue differently: "In Ireland the returning officer simply picks the top ballot papers from each of the piles; in Australia the ballot papers are sorted according to all the remaining preferences and so the transfer (using fractions) takes adequate account of future vote transfers" (Farrell 1997, 123). The Irish method is simpler, but the Australian method is no doubt fairer. To illustrate this point, imagine that 10 surplus votes are to be transferred from a pile of 1000. If left to chance, 10 could possibly be selected with candidate $C$ ranked next, or 10 could be selected with candidate D ranked next. Which specific ballots are picked could mean the difference between a candidate being eliminated or elected. This also opens up the possibility that someone may deliberately try to advantage certain candidates by deliberately selecting transfer ballots that will help these candidates. To maximize fairness in the transfer of ballots, all rankings need to be taken into account, with the correct proportion transferred each time, as is done in the Australian Senate.

A frequent argument against STV is that it is "complicated" or "confusing" (Pilon 2010, 77, NO-STV 2009). The discussion about quotas and fractional surplus transfers illustrate this point. The Independent Commission on the Voting System in the United Kingdom (the Jenkins Commission) wrote famously wrote: "The counting is incontestably opaque, although this is of course different from saying that it is haphazard or unfair" (Jenkins Commission 1998, paragraph 98). The Jenkins Commission admitted, however, that the casting of a ballot under STV is not complex, but it is rather the counting. The commission writes: "This complexity (and consequent slowness) of counting should not be elevated into a fatal bar to STV, but nor can it be counted as
an advantage" (Jenkins Commission 1998, paragraph 97). The complexity of the counting makes STV vulnerable to attack, yet does not seem to hinder its performance in places where it is used such as Ireland or the Australian Senate.

Yet, the complicated nature of STV does not stop at the descriptions above. The singletransferable vote fails to eliminate the issue of non-monotonicity it shares with the alternative vote (an increase in support can harm a candidate, while a decrease in support can help a candidate). While the example in the alternative vote section illustrates how it is possible for one candidate to lose because of an increase in support, under the single-transferable vote, it is possible that this can further affect which other candidates will also be elected, leading some to refer to this phenomenon as the "butterfly effect" (Miller 2007). Michael Cross, professor of theoretical physics, writes: "The 'Butteryfly Effect,' or more technically the 'sensitive dependence on initial conditions,' is the essence of chaos" (2013). Michael Dummett famously described the single-transferable vote as "the second worst electoral system ever devised" (1992, 111), describing its seat allocation process as follows:

The assessment process of STV may, however, be said to be quasi-chaotic, in that small changes at the initial stage may be magnified into huge changes at later stages, because they cause different candidates to be eliminated, and that in turn may result in a big variation in the allocation of votes at subsequent stages, owing to the differing redistributions of votes from one candidate and from another. (Dummett 1997, 142).

Miller demonstrated the sensitivity of the single-transferable vote to the initial conditions with a striking example (see Miller 2007). To summarize, his example consisted of seven candidates (A, B, C, D, E, F, and G) competing for three seats. He constructed a ballot profile of voters' intentions before going to the polls, the end result electing Candidates C, F, and G. He constructed another ballot profile identical to the first, except that in this profile two voters
changed their minds and decided to support Candidate B instead of A (both losing candidates in the first ballot profile). The result of these two switched votes not only caused the candidate whose support dropped (A) to be elected, but changed the entire election result: Candidates A, D, and E now elected instead of Candidates C, F, and G (Miller 2007). Miller concludes that STV is "highly susceptible to strategic voting" $(2006,505)$, which must be conceded. Miller also admits that it is difficult for voters to predict and carry out "because the highly beneficial effect of such a strategic ballot is essentially impossible for the voters to foresee and, in any event, is highly dependent on the exact ballot profile they confront ... That is, the quasi-chaotic and nontransparent character of STV may render it effectively strategy-proof" $(2007,505)$.

Michael Gallagher (2013b) tackled the non-monotonicity issue inherent in STV and the many negative opinions regarding this possibility. He noted that "voters might still be disturbed by the impact of non-monotonicity even if they cannot take advantage of it through strategic voting" (2013b, 8). Gallagher contends that when it comes to assessing the significance of nonmonotonic outcomes, "the frequency with which [they] are likely to occur should enter the equation" (2013b, 8). The problem with determining its frequency however, is that it is difficult to detect: "non-monotonicity does not, so to speak, leap out of an election result waving a flag and shouting for attention" (Gallagher 2013b, 9). After examining the record of elections in Ireland between 1922 and 2011, Gallagher concludes that "non-monotonicity has arisen in around 1.5 per cent of all cases" $(2013,16)$. As to how serious this figure is, he leaves it up to the reader to decide.

Non-monotonicity can certainly be considered a problem with STV, but so can the fact that dominant candidates can be eliminated early. Tideman and Richardson write: "The problem
with sequential exclusions is that an excluded candidate may be someone who is the next choice of many voters whose current choices will be excluded later" $(2000,28)$. Tideman and Richardson explore a plethora of methods for electing candidates in STV and develop a method that does not involve sequential exclusions. Their method would instead compare all the pairs of outcomes (CPO-STV) (2000). The justification for such a method is the consensus that ideally, the candidate who would win in all paired comparisons (if one exists), should be the winner (Tideman and Richardson 2000, 28). To illustrate this with an extreme example, imagine a fivemember riding with 20 candidates. If the candidate receiving the fewest first-choice votes is the second choice of the rest of voters, this candidate would be the most preferred candidate overall, but would be eliminated before these second preferences would come into consideration, and so would not win any of the 5 seats. Tideman and Richardson admit, however, that comparing pairs of outcomes is something that can present some significant challenges. The authors write that there is a "refinement-manageability trade-off in the single transferable vote... every refinement comes at a cost of increased difficulty of understanding the vote-counting algorithm and increased cost of undertaking the count" $(2000,13)$. Although such a refinement could make the STV system fairer, the increased cost and complexity could be contentious. To get an idea of the breadth of computations that might be needed to calculate election results under this method, the authors write:

If there are 20 candidates for ten positions, then there are 184,756 different combinations of candidates who could be the winners, and therefore slightly more than 17 billion pairs of outcomes that might be compared, with each comparison requiring a separate analysis of each vote cast" (Tideman and Richardson 2000, 30).

If STV were to be adopted in Canada, the myriad of different counting methods should be considered, and whether or not it would be desirable to use technology to arrive at a fairer result. Encouraging such a discussion, however, would likely lead even more people to conclude that STV is 'too complicated'.

Most notably in Canada, an STV model was proposed by the British Columbia Citizens’ Assembly on Electoral Reform, "an independent, non-partisan assembly of citizens composed of 161 members-one man and one woman randomly selected from each of the 79 electoral districts, plus two First Nations members and a chair" (Elections BC 2005, 1). A referendum was held in May 2005, coinciding with the provincial general election, which asked voters: "Should British Columbia change to the BC-STV electoral system as recommended by the Citizens, Assembly on Electoral Reform?" (Elections BC 2005, 2). The proposal was supported by a majority of voters, however, the Electoral Reform Referendum Act stipulated that at least 60 percent of the valid popular vote would be required in order for the result to be binding, with greater than 50 percent support in at least 48 of 78 ridings. The proposal was supported by a majority of voters in 77 of 79 ridings, but fell short of reaching the 60 percent threshold with 57.69 percent in favour (Elections BC 2005, 9). Another referendum was held in May 2009, with support for STV dropping to 39.09 percent of voters. Further, in this referendum, in only eight of the 85 electoral districts, voters supported STV by more than 50 percent (Elections BC 2010, 17). Why support for STV dropped by nearly 19 percent between the two referenda is not exactly clear. Dennis Pilon studied this question in depth (2010). Interestingly, Pilon explained that

Academic survey work suggests that public attitudes around reform remained remarkably constant between the two votes: in both cases an overwhelming majority of British Columbians supported the general notion of proportionality in
election results and had very little knowledge of electoral rules, simple of otherwise $(2010,85)$.

He discussed possible reasons for the drop in support for STV and argued that two important factors were "elite manipulation of the process and partisan insecurity about their competitive position electorally" (Pilon 2010, 86). To understand partisan insecurity, it is important to understand the backdrop of the two referenda. In 1996 the NDP were re-elected with a majority despite having 3 percent fewer votes than the Liberals (Elections BC 1997, 10; Pilon 2010, 75), and in 2001 the Liberals won 77 of 79 seats with 57 percent of the popular vote (Pilon 2010, 75; Elections BC 2001, 11). These two extreme election results showed that the electoral system could be unfair to both Liberal and NDP supporters alike (as well as small party supporters). Leading into the second referendum in 2009, the party system had "normalized" with the Liberals gaining 46 seats and the NDP 33, with 45.8 and 42.52 percent of the popular vote respectively (Elections BC 2005, 13). "For Liberals and the NDP, the 2005 election results signaled everything was back to normal for the province's left/right competition" (Pilon 2010, 83). Suddenly, a system that had seemed patently unfair and unacceptable in two previous elections, produced an election result that made the system seem once again satisfactory.
"NO-STV" campaigned against BC-STV and summarized their complaints against the system as follows:

STV is complicated, confusing, prone to errors and delay, it reduces local accountability, increases the size of ridings, allows MLAs to avoid direct accountability for their decisions, increases party control and allows special interests to dominate party nominations... It also hasn't been proven to do many of the things its proponents claim-like increase the ability of third parties and independents to get elected, and it is not truly proportional in guaranteeing that each party will get the number of seats in the Legislature equivalent to the percentage of votes they received (NO-STV 2009).

If proposed in the future in Canada, arguments against the system such as these would be expected to re-emerge. Many of these claims, however, are questionable. Under STV, voters would vote directly for all MLAs (or MPs, MPPs, MHAs, or city councillors), making all members directly accountable to voters, contrary to what NO-STV claimed. This argument can be more legitimately be made against closed lists, since party elites rather than voters would determine the order of the list. Under STV, on the other hand, voters' ranking of candidates determines which candidates would get elected, making the claim that members would not be directly accountable, simply false. Further, with a choice of candidates within each party, member accountability could actually increase under STV when compared to first-past-the-post. How it would increase party control, as NO-STV claims, also seems baseless since there would be a degree competition between members who are competing within a district, contrasted with only one candidate per riding under the current system. NO-STV's claim that STV will not guarantee a proportional result, however, has some degree of merit. The district magnitude under the BC-STV model would have had 20 electoral districts with a district magnitude ranging from two to seven (Elections BC 2008, 130-136). The low district magnitude of two or three in four ridings would decrease proportionality in these ridings and overall proportionality. The district magnitude of four in eight ridings would give moderate proportionality, but no where near perfect. The remaining districts with five to seven members would be expected to deliver a fairly high degree of proportionality. Perfect or near-perfect proportionality would certainly not be achieved under the BC-STV model. It would, however, certainly deliver a more proportional result than under the first-past-the-post model.

Another noteworthy benefit of STV is that its ordinal ballot would permit otherwise wasted and surplus votes to be transferred to the remaining candidates; most voters could expect to have at least one representative for whom they voted. For this reason, voting could be perceived as more meaningful, since voters would likely be represented by at least one of their choices. Under the proposal, local geographic representation would still be maintained, but in the sparsely populated areas of the province, this would come at the cost of proportionality due to a low district magnitude. The boundaries commission wrote: "in sparsely populated areas of the province, the desire for proportionality must be balanced against the need to create BC-STV districts that reflect local community and regional interests, and that are serviceable" (Elections BC 2008, 321). With this in mind, a high district magnitude in these areas would not be practical.

Demographic representation could also be improved under STV, since parties are permitted to run multiple candidates. Since the party vote is not pooled, however, parties have an incentive to not run a "full" slate of candidates: doing so may split their party's vote too much. Nonetheless, when parties do run multiple candidates, the incentive to diversity their pool of candidates and include more female and minority candidates will be present.

Overall, there are many benefits of the single transferable vote when compared to first-past-the-post. Perhaps STV's biggest negative aspect, its complex counting method, appears more of a problem when it comes to gaining support from the citizenry more than it is a real detriment to the working of the system. If put in use, a number of different counting methods should be evaluated to determine which one would be most appropriate. It would be a significant improvement over first-past-the-post since it would give a more proportional result, helping create more regionally balanced governments and a more effective opposition, maintain local
geographic representation, it would make voting more meaningful, could help increase demographic representation and could create more accountable members. The system would likely be more palatable municipally than provincially, and provincially than federally, since riding sizes increase in that order. Arguably, its greatest strength is that since it takes into account only candidates, and not parties, it is particularly well suited for application in municipal councils where no parties exist. When parties do exist, however, the system seems to make matters needlessly complicated, since votes could simply be pooled by party and allocated proportionally like under list proportional representation (list-PR), discussed next.

### 5.4 List Proportional Representation (list-PR)

There are a wide variety of forms of list proportional representation that can be created by employing different combinations of electoral system features, as discussed in Chapter 3, such as varying the district magnitudes, formulae, types of lists, and number of tiers. To reiterate an important point from Chapter 3, the higher the district magnitude, the higher the level of proportionality that is possible. In list proportional representation, a formula determines the allotment of seats each party receives, such as a quota-largest remainder or highest average formula, discussed earlier. The obvious issue becomes: which party candidates will fill the seats won? To determine this, an 'open,' 'closed,' or 'semi-open' list can be used. In closed-list PR, parties submit a ranked list of candidates before the election; seats parties win go to their candidates by list ranking. Contrasted with closed lists are fully open lists. With open lists, voters' preferences alone, and not party ranking, determine which candidates receive party seats. Between a fully open and fully closed list, is an in-between type of list with which voter
preference and party ranking are both considered. This type of list can be referred to can be referred to as a semi-open, semi-closed, preferential, or "flexible." The degree of flexibility can vary with such a list, depending on the specific rules. Some examples of list proportional representation and their feasibility in Canada will be discussed below.

### 5.4.1 Closed-list PR

In closed-list proportional representation, voters vote for their party of choice, but they have no influence over which candidates from that party get elected: this is determined by the ranking on the party list created before the election. Israel, for example, uses closed lists in a single, nation-wide constituency with 120 seats (Rahat and Hazan 2005, 333-335) (LSq: 2013: 3.09, 2009: 1.61, 2006: 2.49) (Gallagher 2013a), while Spain uses closed lists in multi-member constituencies with district magnitudes ranging from one to thirty-five (Hopkin 2005, 387-379) (LSq: 2011: 6.93, 2008: 4.49, 2004: 4.25) (Gallagher 2013a). A closed-list system could improve demographic representation if the party elite were committed to offering a balanced list of candidates. Women in Parliament does not appear to be a priority in Israel, as they make up only 21.7 percent of the legislature, whereas in Spain they make up 36 percent, and in South Africa which also employs closed-list PR (Gouws and Mitchell 2005, 358), 42.3 percent (InterParliamentary Union 2013). Closed lists, however, are not a necessary prerequisite for women's representation: it can be achieved with fully open lists as has been shown in Finland, with 42.5 percent women in Parliament (Inter-Parliamentary Union 2013).

### 5.4.2 Open-list PR

Taagepera and Shugart explain that Finland uses a form of open-list proportional representation (PR), that might be better described as "quasi-list" PR (1989, 25). Under this system, voters have complete control over which candidates from the party will fill the party's seats. A voter votes for her preferred candidate by writing the identification number of the candidate on her ballot (Raunio 2005, 480). Since parties are permitted to nominate up to fourteen candidates per riding (Raunio 2005, 477), this number-write-in system no doubt simplifies the ballot a great deal and prevents it from being an unmanageable size. The number of votes a party receives determines the number of seats the party will receive, which will then be awarded to the candidates in that party who received the most votes. Voting in Finland is "very candidate-centred as preference votes alone determine the success of candidates within parties" (Raunio 2005, 481). This contrasts with closed-list PR where voters may only vote for a party and have no influence over which candidates get elected to fill seats awarded to parties. A vote cast in Finland is a vote for both for a candidate as well as a party, not unlike Canada. The major difference, of course, is that the number of votes a party receives in Canada is not directly linked to the number of seats that party will receive.

Finland is divided into fifteen constituencies: fourteen multi-member constituencies and one single-member district (Raunio 2005, 476; Ministry of Justice Finland 2010, 11), based primarily on traditional administrative provinces (Raunio 2005, 476). The district magnitude of the fourteen multi-member ridings currently ranges from six to thirty-five (Finlex 2010) and changes based on census data (Raunio 2005, 477). The d'Hondt system, which favours larger parties, is used to calculate the allocation of seats to parties (Raunio 2005, 482). For this reason
the three largest parties tend to receive a slightly higher proportion of seats than votes (roughly two percent more), while the smaller parties receive a slightly lower proportion of seats than votes (Raunio 2005, 482; Ministry of Justice Finland 2007, 2011). Proportionality is nonetheless high, with the noted slight advantage for the largest parties (LSq: 2011, 2.95, 2007: 3.20) (Gallagher 2013a). Tapio Raunio explains that the larger parties favour the current d'Hondt formula of allocating seats, while smaller parties have argued for the use of the Sainte-Laguë formula or the use of nation-wide adjustment seats $(2005,487)$.

### 5.4.3 Semi-open list $P R$

With a semi-open or flexible list, candidates are ranked, but voters may express a preference vote. The impact of expressing a preference in such a system will vary depending on the rules of the system. In Belgium, for example, voters can either endorse the party list or vote for a specific candidate. Candidates with low list-rankings in Belgium, however, have very little chance of getting elected (Farrell 1997, 73-77). Flexible lists are also used in Austria, the Netherlands, Norway, and Sweden (Farrell 1997, 73). The Law Commission of Canada in its proposal recommended that "flexible" (semi-open) lists be used for determining the list seats in its MMP proposal, "provid[ing] voters with the option of either endorsing the party "slate" or "ticket," or of indicating a preference for a candidate within the list" $(2004,175)$.

### 5.4.4 List-PR with multiple tiers of seat allocation

The district magnitude-proportionality trade-off is well known, but as discussed, one way to increase proportionality without creating excessively large constituencies is to employ
multiple tiers. "The basic idea is that any votes which have been 'wasted' at the first-tier-all remaining votes which have not been used to fill seats-are pooled and the distribution of the remaining seats is determined in the second-tier" (Farrell 1997, 69-70). If proportionality is already quite high in the first tier, fewer seats are required in higher-level tiers to correct for proportionality. Norway allots only about 5 percent of its seat to its second-tier, Sweden, 11 percent, Denmark and Iceland, 20 percent (Farrell 1997, 70).

### 5.4.5 Is list-PR a suitable option for Canada?

The Finnish model is a list-PR system that could plausibly work in Canada. It divides the country into its traditional administrative provinces: in Canada, multi-member constituencies could be made from Canadian provinces; large provinces could be further divided into provincial sub-regions. A degree of geographic representation would remain under the system, although, admittedly, it would not be as local as Canadians are accustomed to. If broken down into small regions, it would certainly come at the cost of a degree of proportionality. The Finnish system, nevertheless, makes an exception for Aland, which elects only one member, despite the remainder of the country being broken into multi-member constituencies (Ministry of Justice Finland 2010, 11). This principle could be applied to the sparsely populated territories. In such cases with a district magnitude of ' 1 ', list-PR becomes a familiar single-member plurality election. The downsides of first-past-the-post would be present, but its effects would not be as severe since most ridings would be multi-member. There seems to be a very high probability that if a list-PR system were to be designed for Canada, district magnitude would be relatively low given Canada's tradition of single-member districts, decreasing the level of proportionality.

Some voters in the inevitable single-member ridings remaining may feel that is it unfair to be unable to cast an effective vote while voters in multi-member ridings cast effective votes. It would be no less fair for voters in those ridings, however, than the current situation in those ridings under first-past-the-post, so overall the system would be a net improvement. A notable downside to list-PR, of course, is that an inevitable trade-offs must be made between local geographic representation and high proportionality.

Models of list-PR that would seem unsuitable or unpalatable for Canada are those of the Netherlands and Israel. Both of these countries employ nation-wide seat allocation-something which most would likely agree is unimaginable in Canada. Further, the Netherlands and Israel both used closed lists. Canadians are accustomed to being able to vote for individual candidates contesting local ridings, so the inability to vote for a specific candidate could further be contentious. It does not seem that this combination of list PR—closed lists in a nation-wide district-is a viable option for Canada. If closed lists were employed we would expect to hear similar complaints as were raised in the United Kingdom during European elections: "During the 2009 European elections, there were numerous complaints that the 'closed list' system of PR did not allow voters to endorse (or reject) specific individuals" (Kelly 2010, 43). The inability to endorse specific candidates would make high-ranking party members essentially unaccountable to the public, failing another one of the listed criterion.

Demographic representation could be expected to improve under list-PR since, as is the case in Finland, "parties try to ensure that the lists are as representative of the electorate or their potential voters as possible" (Raunio 2005, 485). The last parliamentary election in the Netherlands saw women fill 39.6 percent of the seats (2013), in Israel, 22.5 percent, in Finland,
42.5 percent (Inter-Parliamentary Union 2013), all using list-PR with one tier. We can compare this to Canada, with 24.7 percent, the United Kingdom, 22.5 percent, and 17.9 percent in the United States (Inter-Parliamentary Union 2013), all using first-past-the-post. As the case of Israel further indicates, lists alone, will not automatically increase the proportion of women in Parliament (but more women on those lists, of course, would). The case of Finland shows that open-list PR does not necessarily perform worse than closed-list PR in terms of women's representation. If Canada were to use a model of list proportional representation, parties would be pressured to present a balanced and more diverse slate of candidates. Further, it would be strategically beneficial for parties to do so in order to try to appeal to wider groups of voters. For these reasons, it would be reasonable to expect the number of women and minorities in Parliament to increase under list-PR.

More proportional election results under list-PR could result in higher government accountability since the parliament elected would largely reflect the political preferences of the country. Majority rule would be achieved since a majority government would require support from a majority of voters (or at least very close to it). A largely proportional outcome would help ensure that an opposition exists in size that is close to its level of support. It would also help governments be more regionally balanced and thus make it easier to create more regionally balanced cabinets.

Votes would be more meaningful as the vast majority would contribute to the election of a representative. Some voters in the few inevitably remaining single-member districts or lowmagnitude constituencies might, however, continue to perceive their votes as largely meaningless if they fail to help elect a member from their preferred party. In order to make all votes
meaningful in such a case, the system could have an overlapping tier which would adjust for otherwise ineffective votes.

When compared with the single-transferable, list-PR systems are rather 'simple'. Counting methods under STV, as noted, can be unwieldy and obscure, especially when one tries to optimize fairness and minimize anomalies that can arise. The candidate-centred nature of STV makes it a popular choice among some electoral reformers. List-PR can be party-centred (closed lists PR) or candidate-centred (open-list PR), or somewhere in between (semi-open or flexible-list PR). If one is desirous of a candidate-centred proportional voting system, either open-list-PR or STV would be good choices, however, if simplicity is also desired, as I would argue it is, open-list-PR would be preferable. In open-list-PR, the ballot could be such that a voter would mark an ' $x$ ' next to her preferred candidate, as is the case currently under first-past-the-post (but with a choice of candidates within parties). Alternatively, a voter might be given a 'blank' ballot on which to write the name or identification number of her most preferred candidate. A single vote would be meaningful on two dimensions: votes would count towards determining the seat allocation by party, and also towards determining which candidates would fill party seats won.

Potentially the most contentious issue would be the lack of very local geographic representation. Some voters may find this "unpalatable," while others may see the benefits of the system compared to the current one. The absence of single-member districts could potentially make it a difficult sell to Canadians, despite its many positive points. In the words of the Law Commission of Canada, "Although it provides a significant element of proportionality, a list-PR system represents a significant departure from our Parliamentary tradition" $(2004,82)$. If
adopted, district magnitude could plausibly be significantly smaller than the Finnish model, greatly affecting proportionality.

Adding a higher-level, compensatory tier would negate the effect a small district magnitude would have on proportionality. Indeed, the district magnitude of the first-tier could be reduced to one. In that case, of course, the system would cease to be classified as "list-PR," and would be a "mixed-compensatory" system, examples of which will be discussed in the next chapter.

Complex districting is another area where list-PR has another significant advantage over STV. Adding another, overlapping tier to a list-PR system is simple, allocating higher-tier seats in a compensatory manner so as to correct for disproportionality in the nominal tier. Although complex districting would be theoretically possible using a preferential ballot in the nominal tier, such as in STV, it seems impractical and needlessly complicated. If all voters' first-choice votes could count, what would be the purpose of subsequent rankings? In this case, subsequent preferences would seem superfluous since virtually all voters first-choice votes would contribute to the election of a representative. This is the line of reasoning of van der Hout, de Swart, and ter Veer when noting the appropriateness of the plurality rule in list-PR:
when allocating seats in a legislature, it is possible in principle for virtually everybody to be represented by the party he or she prefers most. In fact, under pure list PR, everybody does get a representative of the party he or she chooses, and thus everybody actually gets his first choice $(2006,465)$.

List proportional representation would fix many of the flaws of the current system and improve the quality of democracy in Canada. Adding multiple (or at least two) tiers of allocation would allow us to maintain local geographic representation through low district magnitude in the nominal tier, while achieve high proportionality. When district magnitude is minimized in the
nominal tier (1), the system would then classified as a 'mixed' system because of its resemblance both to list-PR and single-member plurality systems.

## Chapter VI: Mixed systems: the 'best of both worlds'

A 'mixed' electoral system refers to one that has at least two tiers of seat allocation, with the nominal tier consisting of single-member districts. Some leading electoral systems experts have referred to mixed systems as the "best of both worlds" (Shugart and Wattenberg 2003, 595). The dilemma we face in designing a list-PR system is that high proportionality comes at the expense of local geographic representation, and local geographic representation comes at the expense of high proportionality. A logical solution to this trade-off is to have multiple (at least two) tiers of seat allocation to correct for disproportionality in lower tiers. Using this method, we can even reduce district magnitude to familiar single-member districts, giving each constituency its local member. Higher tiers need not necessarily be compensatory or linked to the nominal tier; they can be independent or 'parallel,' as is the case in Japan (Reed 2005, 283; Gallagher and Mitchell 2005, 13) and formerly in Russia (Golosov 2012).

Gallagher and Mitchell write that "Having more than one level means that we might be able to have our cake and eat it" (Gallagher and Mitchell 2005, 12). They explain that "archetypal mixed systems," such as MMP in Germany, allocate half the seats to single-member ridings and the other half to list seats (Gallagher and Mitchell 2005, 12). The ability to maintain local geographic representation in line with Canadian tradition, with added benefit of proportionality, makes mixed systems particularly attractive for Canadian electoral reformers. Some of the mixed-compensatory variants and proposals will be discussed in this chapter.

### 6.1 Mixed-member proportional representation (MMP)

Mixed-member proportional (MMP) is a variety of mixed-compensatory system in which voters express two votes: one for a candidate and one for a party. The party vote determines the overall number of seats to be awarded to each party, and the number of single-member districts already won is subtracted from this total. Some of the Canadian MMP proposals will be discussed below.

### 6.1.1 Proposal of the Ontario Citizens'Assembly on Electoral Reform

The Ontario Citizens'Assembly on Electoral Reform proposed a mixed-member proportional representation (MMP) model that was ultimately rejected in a referendum with only 37 percent support (LeDuc 2009, 47). This model would have had 90 local members elected from single-member districts, with 39 list members: a 70-30 split (Ontario Citizens' Assembly on Electoral Reform 2007, 10). The list members would have been chosen from province-wide closed lists (2007, 8), a feature that, according to Henry Milner, "doomed" the system from the start (2007). Milner explained that it was a "built-in weakness that could be easily exploited by opponents of reform" (2007). Milner admits that the system would have been a "clear improvement on the status quo" but remarks that an alternate MMP model with list seats filled regionally would have been less vulnerable to such attacks and more acceptable to voters (2007). The other significant argument against MMP was its " 39 MPPs beholden to party headquarters instead of voters" (Milner 2007). This would still be the case if the model employed regional closed lists, and so open lists would be needed in order to prevent this other vulnerability. A system with open rather than closed lists, or at least semi-open lists, would have, no doubt, made
the system much more palatable for Ontarians. The model proposed by the Ontario Citizens' Assembly on Electoral Reform was flawed on two important dimensions: its lists would have been closed and province-wide. An improved version would still likely struggle to meet the supermajority threshold that was set at 60 percent of the vote and a majority in at least 60 percent of the electoral districts (Ontario Citizens' Assembly on Electoral Reform 2007, 15). A more appropriate model with a reasonable threshold for victory such as a majority of votes in a majority of ridings, would make such a proposal much more likely to succeed, whereas this version of MMP was indeed, "doomed from the start" (Milner 2007).

### 6.1.2 The Law Commission's proposal

The Law Commission of Canada, after conducting extensive research and public consultation, recommended a model of mixed-member proportional representation for Canada. They proposed that one-third of the seats be filled by list PR and the remaining two-thirds be filled by the current first past the post method (2004, 175). This is somewhat different from the German model of MMP where one-half of seats are filled through list PR (2004, 90). Under the Scottish model of MMP, 57 percent of the seats would be elected from single member districts, while the remaining 43 percent from party lists. New Zealand has a similar division of seats, with 58 percent of the seats in single member constituencies and 42 percent in list seats. The Law Commission's proposed proportion of list to constituency seats is less ambitious, and would perhaps not include enough second-tier seats to achieve near full proportionality. The purpose of the Law Commissions proposed model was not to accomplish perfect proportionality, but rather
to add an "element of proportionality" $(2004,175)$, which it certainly would accomplish if adopted.

The Law Commission's proposal recommended filling the party's list seats from a 'flexible' list ('semi-open'), whereby voters could either endorse the party's slate, or indicate a preferred candidate $(2004,175)$. The commission further recommended that parties develop initiatives to create gender parity and minority representation on lists (2004, 176-177). Howard Cody examined the effects of MMP on New Zealand and concluded that "it undeniably has enhanced the parliamentary representation of Maori, women and some minorities in New Zealand (2003, 41). The percentage of women in Parliament is an easily measurable and comparable figure since women (should) comprise roughly half of society. New Zealand saw its proportion of female MPs rise from a "relatively high $21 \%$ just before MMP" to 31 percent, most of which were elected from party lists (Cody 2003, 41). Currently, New Zealand's proportion of female MPs stands at 32.2 percent (Inter-Parliamentary Union 2013). Interestingly, this is very close to the percentage of women elected in the German Bundestag, which hovered around 32 percent for four elections, before reaching its record level of 36.5 percent this year (InterParliamentary Union 2013). By comparison, women comprise 24.7 percent of Canada's House of Commons, and in the United Kingdom, 22.5 percent. The United States' House of Representatives, also elected under first-past-the-post, is composed of 17.7 percent women. Countries with pure list-PR systems tend to have a significantly higher number of women elected to their assemblies: as of July 2013 there were 44.7 percent in Sweden, 42.5 percent in Finland, 42.3 percent in South Africa, 39.7 percent in Iceland, 39.6 percent in Norway, 39.1 percent in Denmark, 38.7 percent in the Netherlands, 38 percent in Belgium, and 36 percent in Spain (Inter-

Parliamentary Union 2013). The obvious trend here is that first-past-the-post elects very few female representatives compared with list proportional representation. Since representatives under mixed-member proportional are elected according to both these methods, lists and single-member-plurality, we would expect the proportion of women elected under this system to be somewhere in between: Germany and New Zealand illustrate that this is indeed the case. Mixedmember proportional would very likely improve representation of women and minorities but it would not, admittedly, be likely to perform as well in this regard as list proportional representation. Further, since the Law Commission's proposal of one-third list seats is significantly lower than Germany's 50 percent and New Zealand's 42 percent, the proposal would be expected to bear a closer resemblance to first-past-the-post in terms of demographic representation than to list proportional representation.

One potential issue with flexible lists used in the list tier would be the logistical problem of the size of the ballot. A proposed region in Québec for the purpose of list seats, "North and East Quebec" would have 27 single-member ridings with 13 additional list seats (2004, 181-182). If the list comprised the candidates from all the single-member ridings from the five main parties in Québec, the Liberal Party, the Conservative Party, the New Democratic Party, the Bloc Québecois, and the Green Party, the ballot could be quite burdensome with the names of 135 candidates! In addition to the main parties, there would also be small parties contesting constituencies and lists. There may need to be a limit placed on the number of candidates each party could place on the list in order to make the list more manageable. An easy way logistically to deal with a potentially large number of candidates and avoid an overly large ballot would be have voters, as in Finland, write the identification number of their preferred candidate on the
ballot. This method could also easily accommodate a fully-open list. Although a flexible list would be more favourable than a closed list, a fully open list for the list tier would give voters full control and would be preferable.

Alternatively, the 'list' seats could be filled by the most successful party candidates by percentage of votes in their local riding, who have not won a constituency seat. This would have the additional benefit of making the candidate vote more meaningful: votes that fail to elect a riding candidate may help this candidate win a 'list' seat. Would Canadians prefer that a vote cast for their most preferred candidate be automatically wasted if this candidate does not belong to the most popular party in their riding, or might Canadians prefer that this vote increase the chances of electing this candidate in another tier? It seems that for maximizing the meaningfulness of votes, the latter would be preferable. Both of these last options for determining which candidates are to fill second-tier seats, the Finnish candidate-number model, or the "best local candidates" option would prevent large, burdensome ballots that might otherwise exist in open-list systems.

The Law Commission further recommended that there be no restrictions on "double inclusion," that is, candidates would be permitted to run in a single-member district and for a list seat (2004, 125). Any system with two or more tiers of seat allocation that permits double inclusion opens itself up to the complaint that "losing" or "zombie" candidates could fill the second tier. Since the Law Commission's proposal would use a flexible list, list winners would win because they were specifically endorsed by voters at this level, either by preference votes, or by the endorsement of the party slate by the voter. As the Law Commission writes, "The flexible party list as proposed in this Report ought to minimize any potential voter unhappiness with
some candidates trying to maximize their chances for election by running at both levels" (2004, 125). This argument against double inclusion is most persuasive when the list is closed because it would mean that no matter how poorly a candidate performs in the single-member district, he could still be elected by virtue of a high list ranking. These last two options would minimize such claims because all candidates would gain their seats based on support from voters, and not through the "back door" by a pre-determined list created by party elites. Double inclusion is the norm among countries using multiple tiers of allocation, with only Thailand outright banning it (Law Commission of Canada 2004, 125). The "best candidates" method would be the simplest and perhaps most viable option for the second tier in Canada since the Finnish candidate-number model would be unfamiliar to Canadians, as would be choosing a candidate from an excessively large list. The 'best candidates' method, however, has some potential drawbacks that should be resolved before this option is considered.

As shown earlier, women are more successful on lists than in single-member districts. Party gender quotas and goals are easier to accomplish on lists than in single-member districts. The reason for this is simple: if parties desire gender parity, they can balance their lists of candidates. Constituency associations obviously cannot balance a list of one candidate-offer in each riding half a man and half a women. It seems then, if second-tier seats were to be allocated based on the "best candidates" within the single-member districts, that the proportion of women in Parliament would not be any better than under first-past-the-post. Another concern with such a set up would be the potential for a party to run out of candidates to fill its seat entitlement in Parliament. With a 50-50 seat distribution between single-member districts and second-tier seats, a party with only one candidate contesting each riding that wins a majority of seats would not
have enough candidates to fill those seats! There is, fortunately, a simple solution to this dilemma: allow parties to run two candidates per riding. Party votes would, of course, need to be pooled at the constituency level so as to prevent members of the same party splitting their vote ${ }^{17}$. Not only would this mean that parties would have enough candidates available should a majority government be won, but this arrangement would increase voter choice and member accountability: voters would have a choice of candidate within their preferred parties. Also, very importantly, it would give parties an incentive to offer a more diverse slate of candidates and it would facilitate in achieving gender parity: accomplishing this would be as simple as offering one male and one female per riding. With pressure put on parties to achieve gender parity, it could develop into a norm and expectation, easily visible by all if violated. Under such a system as the incumbency advantage would wear off over time in a Parliament with a current gender ratio of three males per female (Inter-Parliamentary Union 2010), this ratio should be expected to approach one to one.

List proportional representation performs better than first-past-the-post in terms of women's representation. Because Mixed-member proportional elects candidates both by first-past-the-post and lists, its performance in this regard is, not surprisingly, in between that of these two systems. A no-list version of MMP would be expected to perform better than existing MMP systems in this regard-perhaps even approach and eventually reach a 1:1 ratio-if parties were permitted to run two candidates per riding thereby making it possible and easy for party riding associations to nominate an equal number of men and women candidates in every riding. Party votes would would need to be pooled at the riding level in order to make this possible. If we

[^13]desire an equitable number of seats be filled by women, should we not be aiming for half, rather than one-third? There is, yet another potential defect with the 'best candidates' or 'no-list' method evident by its use in the German Länder of Baden-Württemberg. First, the issue of two votes must be addressed.

### 6.1.3 Why must voters have two votes in mixed-member proportional?

This section will touch on a question that can be asked about mixed-member proportional representation: why must voters have two votes? The simple answer to this question is that a second vote is not necessary; the system can function with just one vote. But as Michael Gallagher and Paul Mitchell explain,

In most mixed systems the voter casts two voters. Characteristically, the voter is faced with two ballot papers, or with one ballot paper with two columns: one on which they can indicate their choice of a candidate to represent the single-member constituency, and another on which they cast a vote for a party list $(2005,591)$.

Perhaps the reason behind the choice of two votes is because the "archetypal" MMP system in Germany (Gallagher and Mitchell 2005, 12) employs two votes. Other examples of places that have adopted a two-vote model of MMP are New Zealand, Wales, and Scotland. The Law Commission recommended recommended a two vote model $(2004,101)$, and so did Ontario's citizens' assembly $(2007,20)$. The Law Commission did not explain its choice of two votes beyond "In [mixed] systems, voters usually have two votes, one for a given candidate in a riding, and another for a party list" (2004, 83), and that two-vote systems are used in Germany, New Zealand, Scotland, and Wales (2001, 101). Is there a better explanation for proposing a two-vote system, other than "everybody's doing it"? The Ontario Citizens' Assembly on Electoral Reform attempts to tackled the question directly in their "general questions section":

## Why do I get two votes?

The first vote on the ballot allows you to choose a party. This vote determines the total share of seats each party gets in the legislature. The second vote allows you to choose an individual member to represent your local district. Together, the two votes give you strong local representation and produce fairer election results (Ontario Citizens'Assembly on Electoral Reform 2007, 20).

Interestingly, they tell us the function of the separate votes: to determine the seat share and elect a local representative, and what the system aims to accomplish, yet they fail to tell us why there are two votes since it seems obvious that a single vote could accomplish this. Given that the second vote can be considered an unnecessary complication and a departure from Canadian voting tradition, it seems rather curious that they would not give a justification for choosing to do with two votes something that could be done with one. Is there a reason why a vote for a candidate cannot and should not also be counted as a vote for the candidate's party? Massicotte writes: "The introduction of compensatory seats will in itself greatly upset people's habits, but we believe that such innovation is worth the trouble. Can the same be said for the double ballot or the alternative vote?" $(2004,122)$.

Perhaps it was New Zealand's Royal Commission on the Electoral System that set the trend for two votes when it recommended a German-style two-vote system. In addition to criticizing the commission for inventing the term "mixed-member proportional" (MMP) (Lijphart 1987, 100), Arend Lijphart criticized the commission for recommending the use of two votes:
it is surprising that the Commission decided in favor of having two separate votes since this feature has not worked well in Germany. Even after several decades, the German voters still do not understand the significance of the two votes. Moreover, the two-vote ballot is inherently misleading because the list vote is not just more important than the district vote but of almost exclusive importance; voters who
'split' their vote are in fact doing nothing of the kind-their list vote is the one that really counts. (Lijphart 1987, 101)

Currently, when a voter votes for a candidate, it is well understood that the voter, by helping this candidate get elected, is also helping the party. The only exception to this would be if the voter votes for an independent candidate. Except for when a candidate has no party affiliation, why should a vote for a candidate not also be considered as a vote for the candidate's party? If the vote for a candidate were to also be considered as a vote for the candidate's party, and secondtier seats allocated accordingly, would a second vote not be superfluous? Aside from there appearing to lack a justification for a two vote system, there are reasons why a one-vote system may be preferable.

Perhaps the biggest reason to caution against MMP is because of the system's easily exploitable loophole which permits parties to "achieve over-representation by encouraging voters to split their votes" and "outsmart the compensatory mechanism designed to lead to proportional results" (Bochsler 2012, 401). This loophole does not exist under one-vote systems since voters cannot 'split' their votes. It is generally assumed, however, that under mixed-member proportional representation (MMP) the voter gets two votes. In light of this I shall not refer to similar systems in which voters cast only one vote as "MMP." Similar systems with one vote would still be considered as "mixed-compensatory" systems, but I shall refrain from labelling them "mixed-member proportional representation" or MMP. I believe a distinction needs to be made between two-vote and one-vote systems and so for clarity I will restrict the use of the term MMP to mixed-compensatory systems with two votes. This loophole, or fatal design flaw with MMP, will be discussed in more detail in the next section, followed by potential one-vote mixedcompensatory systems.

### 6.1.4 Mixed-member proportional's fatal design flaw

Justification for two votes rather than one is lacking. Louis Massicotte writes that "the existence of a second vote is associated with higher levels of rejected ballots" $(2004,49)$. Yet, this is only a minor point compared to a potentially more serious issue: "the existence of a second vote may profoundly disturb the normal operation of a compensatory system" (Massicotte 2004, 51). Electoral system experts have been aware of the potential for manipulation in mixed-member proportional electoral systems for quite some time, but with very few countries using the system and few examples of large-scale manipulation until recently, the problem has not been given much attention in the past. As Rein Taagepera and Matthew Soberg Shugart have explained: "When the voter has two votes, the potential for manipulation exists. To some critics, the ability of voters to split their votes could provide incentives for parties working in collusion to gain more seats than could a single party with the same number of votes (Taagepera and Shugart 1989, 36). The seriousness of this problem has recently been brought to light by the ingenuity on the part of parties and voters in some countries that have adopted the system. Daniel Bochsler observed that "Under widespread split voting, mixed compensatory electoral systems do not lead to quasi-proportional results any more, but, instead, work similarly to mixed non-compensatory systems" (Bochsler 2012, 402).

Although MMP has appeared to function quite well in Germany for more than half a century, the revelation of this fatal design flaw which permits parties and voters to deliberately conspire to gain an unfair advantage may cause electoral reformers to rethink its utility as a system. Bochsler explains that "over-representation can be achieved if parties winning singleseat district seats encourage their voters to cast their party list vote for an allied electoral list. If a
sufficient number of voters adhere to these instructions, it leads to the over-representation of those parties that act strategically in this way and to the under-representation of others" (Bochsler 2012, 402). Manipulation may be deliberate and strategic (Bochsler 2012, 401), as noted, but even in the absence of such a deliberate strategy from parties, strategic voting on the part of rational voters can cause certain parties to be over-represented. If a voter realizes that her preferred party has little chance of gaining list seats because it will likely surpass its seat "entitlement" in the single-member districts, it makes sense to vote for a small, allied party in the list tier so that her list vote will not be wasted. With widespread vote-splitting, it is likely that certain parties will be over-represented in the single-member districts. Whether split-voting is a deliberate strategy by party leadership to gain extra seats or a strategic calculation on the part of voters, there appears to be little that can be done to fix this weakness inherent in two-vote versions of MMP.

Bochsler describes different strategies that have been used to gain over-representation in MMP. In Lesotho and Venezuela, "large" parties split their lists, using different party labels for the district and list seats. This way, the seats won in the single-member districts would not be subtracted from its proportional "entitlement" (2012, 405-406, 414). Bochsler explains that with modifications to electoral rules, cases like this can be prevented, but that the strategy employed by parties in the 2005 Albanian election are not easily preventable:

In the 2005 Albanian parliamentary elections, the major political parties encouraged supporters to cast their district ballots for candidates of the respective major parties and their PR ballots for small allied parties. The highly effective implementation of this strategy (with 79 percent of the large parties' voters following it) substantially affected seat allocation in the Albanian elections, and enabled a Democratic Party-based coalition to win an artificial majority of seats in parliament. This deprived the small parties of 60 percent of their seats, and of their role as pivotal voters in parliament. If all major parties' voters split their vote
in a similarly effective manner, then the outcome of the electoral system would be basically indistinguishable from a mixed non-compensatory system (Bochsler 2012, 413).

Outsmarting the compensatory mechanism in mixed-member proportional representation is facilitated by the design of the system which gives each voter two votes which can be "split." If the voter possessed only one vote, collective vote-splitting strategies among allied parties or by the use of "twin" or "decoy" lists would not be possible.

Massicotte perhaps went against the trend of electoral reforms when he advised against the use of two votes in 2004. Since then, more examples of the deliberate manipulation of MMP systems have come to light: Venezuela (2005), Albania (2005), Lesotho (2007) (Bochsler 2012).

I must side with Massicotte in advising that a mixed-compensatory system should employ one vote rather than two.
[T]hree considerations argue for one vote. It is the simplest option from the voter's standpoint and the one that least upsets acquired habits. It produces fewer rejected ballots. The great majority of voters will certainly understand the respective importance of the two votes available to them, but Germany's experience and New Zealand's clearly suggest the existence, even after 50 years in the first case, of a fringe of voters who understand less well. Finally, and above all, Italy's experience shows that the second vote opens the way to a manœuvre that would destroy the very essence of the compensatory system and turn it into a superimposed or parallel system no longer having much to do with PR (Massicotte 2004, 125).

### 6.2 One-Vote mixed-compensatory systems

### 6.2.1 Irvine's proposal

Considering the serious flaw with mixed-compensatory systems employing two votes
(MMP), William P. Irvine's 1979 proposal for a one-vote mixed-compensatory system of
proportional representation deserves renewed attention. He defends maintaining single-member districts by writing that "Any system which preserves territorial constituencies represented by a single parliamentarian has the advantage both of conforming more closely to Canadian traditions as well as preserving the attractive functional features of such systems" (Irvine 1979, 52). Not only would preserving single-member districts conform to Canadian tradition, but compared to MMP proposals, the ballot structure of his model would fit bitter with Canadian tradition as well. Irvine recognizes the existence of similar, two-vote models, but argues that a one-vote model is preferable for Canada:

Where voters cast only a single ballot, parties will have an incentive to nominate strong candidates and mount vigorous campaigns in each constituency. With a two-ballot system in Canada, one might expect parties naming token local candidates and putting a disproportionate amount of campaign resources in province-wide media campaigns. Even the Canadian provinces are not homogeneous. If the object is to reduce alienation by motivating parties to develop roots throughout provinces, a single ballot system seems indicated (Irvine 1979, 59).

His model would see 53 percent of MPs elected directly in single-member and the remaining 47 percent by provincial lists. To accomplish this, the House of Commons would be increased in size by one-quarter and the number of single-member districts reduced by one-third, with average constituency size increasing by one-half (Irvine 1979, 53). There might not be appetite for increasing the size of the House of Commons, but the idea of a one-vote mixed system is certainly worthy of consideration. "The proposed system," Irvine writes, "with voters casting but a single vote, was quite deliberately designed to make party success dependent on the ability to run strong local campaigns" (1979, 57-58). Unlike in mixed-member proportional representation systems, parties would not be able to gain votes in any riding without running candidates in that riding. For those who fear that proportional representation might cause the number of parties to
increase significantly by making it too easy for small parties to win seats, a one-vote system such as this would dampen any such possible effect. Parties could not simply put a list of candidates forward with a very few or no local candidates and hope for the best, as would be possible under a two-vote system.

A downside to Irvine's system, in terms of its palatability for Canadians, is that it would employ closed lists for the list tiers. Parties would present 11 lists: 10 provincial lists and one northern list for the territories. When a party's list-seat "entitlement" is determined for a party, candidates would be elected starting from the top of the list, skipping those already elected in single-member districts (Irvine 1979, 54). This would mean that high-ranking party members could be considered less accountable than other members. Like any system that employs a closed list, it has a vulnerable point that could be easily exploited by critics, potentially making the system a difficult sell to the public.

### 6.2.2 Baden-Württemberg's system

Although the electoral system used in the German province of Baden-Württemberg is similar to the MMP system used in Germany federally, it has two significant differences. It uses only one vote and does not use lists to fill second-tier seats. The system's single vote and lack of lists make it one that would conform more closely to Canadian political tradition. Matthias Trefs compares the German MMP system to the one used in Baden-Württemberg and praises its onevote ballot structure for its "comprehensibility" and "simplicity" (2003, 85). He further writes:

It is obvious that the often admired German model is not in trouble but may need some overhaul in regard to its clarity, seen from the position of the voter. Parts of the electorate simply do not understand the implications of the two votes or do not use them in the way conceived by the creators of the system. Hence, the idea of
reducing the number of votes to one seems justified. Not least, it would put an end to the obvious misuse of the vote-splitting option (Trefs 2003, 102).

The Baden-Württemberg system is no doubt simpler for voters than its two-vote cousin, not to mention the serious problem that two-vote versions can be easily manipulated to distort proportionality, as explained earlier.

It can be argued that voting is more meaningful in no-list, one-vote mixed systems such as the one in Baden-Württemberg. In two-vote systems, "the nominal vote is lost if it is cast for a candidate other than the one receiving the most votes" (Trefs 2003, 89). As such, in typical MMP systems, some voters cast two effective votes, while others cast one effective and one ineffective vote. This contrasts with Baden-Württemberg's system, where a vote is not automatically "wasted" if it fails to elect a local candidate:

In Baden-Würrttemberg elections [...] there are two reasons why the vote is not wasted. First, it is not wasted because it also counts towards the overall allocation of seats. Second, it is also not wasted because it directly contributes to the respective loser's chances of receiving a seat of his party's share in the governmental district (Trefs 2003, 89).

Like Irvine's proposal, the vote helps determine the allocation of seats to each party. Unlike Irvine's proposal, candidate votes help determine which members fill seats in the second tier. Filling the second-tier seats with popular candidates from the nominal tier would make all representatives fully accountable to voters. Further, it would make the system more palatable for Canadians than it would be if second-tier seats were filled from closed lists. Doing this also adds meaning to the one vote: even one's preferred candidate is unlikely to win her district seat, voting for this candidate will increase her chances of winning a second seat. The one-vote option and allocation of second seats based on the level of support received in the nominal tier greatly simplifies a mixed system, making it a more viable option than a two-vote system. As Trefs
writes, "comprehensibility and simplicity cannot be neglected" $(2003,85)$. This is especially true when it comes to reform in Canada, given that proportional electoral systems are often attacked based on their complexity.

The system in Baden-Württemberg is not, however, without issue. It would not, in its current state, improve women's representation: "experience confirms that recycling of the "best" defeated constituency candidates is less favourable to women. In the only State that uses this approach, women account for only $22 \%$ of the total" (Massicotte 2004, 80). Interestingly, the performance of this system in this respect is in line with first-past-the-post. The underlying reason for this is that in both systems parties put forward one candidate per riding. Even wellintentioned parties have difficulty reaching gender parity in such a situation. More men tend to put their names forward than women, as noted earlier. This leads to more men than women being endorsed by parties, in turn leading to more men than women elected to Parliament. It is impossible to balance gender at the riding level when parties can only put forward one candidate per riding. Lists will not automatically increase the proportion of women elected, as the case of Israel shows, but lists make it simple for parties to present balanced lists of candidates. Allowing parties to nominate two candidates per riding, needless to say, would make it easy for parties to balance gender at the riding level. This way, second-tier seats could be filled by 'best candidates' without sacrificing women's representation. Women's representation in Parliament under such a model would likely even be higher than in typical MMP models, and could eventually reach a ratio of $1: 1$.

Another serious problem with the Baden-Württemberg system is that the chances of winning a second-tier seat partly depends on the size of the ridings and voter turnout in those
ridings. Such an arrangement seems patently unfair to voters and candidates alike. Trefs argues that in order for the system to serve as a viable model for others, this flaw should be fixed. One way he suggests to correct this flaw is to make the sizes of constituencies equal. Another way he suggests to correct this is by using the "relative share of votes" a candidate receives as the basis of winning a second seat, instead of absolute number of votes (Trefs 2003, 101-102). Ideally, all constituencies would be an equal size, however, since the population distribution changes constantly, it is simply not possible to achieve or maintain. Even if accomplished, differences in voter turnout would cause the same effect.

In Canada, it not be realistically possible to make all constituencies perfectly equal, so reasonable deviations must be permitted, as they are currently. Irvine recommended for his system: "The constituencies are to be as equal in population as is consistent with recognizing established communities, natural boundaries and with preserving manageable size" (Irvine 1979, 52). The Electoral Boundaries Readjustment Act (1985) reaffirms the representation by population principle, but permits some deviations. The Act stipulates that the boundaries commission may depart from this rule in certain cases:
(a) in order to respect the community of interest or community of identity in or the historical pattern of an electoral district in the province, or (b) in order to maintain a manageable geographic size for districts in sparsely populated, rural or northern regions of the province

Obvious places that are currently exempted from strict representation by population guidelines include the Northwest Territories, Yukon, Nunavut, and Labrador. The recent Federal Electoral Boundaries Commission for the Province of Newfoundland and Labrador decided to keep

Labrador as a separate electoral district, despite a low population of 26, 728 reported in the 2011
census. In comparison, the population of the constituency of St. John's East in the commission's final report is estimated at $81,936(2012,33)$. The commission wrote:

Having regard to its history, geography, community of interest and the strength of its distinct Aboriginal communities, the Commission views the circumstances of the Labrador portion of the Province as being extraordinary and as warranting the continuance of a separate electoral district (2012, 7).

A system like Baden-Württemberg's would give candidates from the island portion of the province of Newfoundland and Labrador an advantage over Labrador candidates when it comes to winning provincial second-tier seats since the population in Labrador is significantly lower than electoral districts in Newfoundland. Allocating second seats to candidates according to "relative share of votes" rather than by absolute number of votes, as recommended by Trefs, would be a more realistic way to apply a one-vote, best-candidates model in Canada. This way it would be considered fair to candidates and citizens in all ridings, regardless of population size or voter turnout. Currently, the first-past-the-post system treats all ridings equally and so treating them equally for the purpose of second tier seat allocation would be in line with Canadian political tradition.

### 6.3 Evaluation of existing systems summarized

None of the existing systems seem to fully satisfy all ten of the listed criteria, listed again below.

1. Palatability
2. Simplicity
3. Local geographic representation
4. Accountable members
5. Accountable government
6. Meaningful votes
7. Effective opposition
8. Proportional representation of parties
9. Regionally balanced governments
10. Demographic representation

Proportional representation is essential in any prospective system. If voters are not proportionally represented, the system would fail to deliver a genuine representative democracy: it would not give representation to all voters, ensure majority rule, or political equality. The first-past-the-post and alternative vote systems provide the strongest local geographic representation through single-member districts, but deliver highly disproportional election results.

List proportional representation would provide the best opportunity to enhance demographic representation by allowing parties to create gender-balanced lists and increase diversity. High proportionality would mean that governments would be accountable, votes would be meaningful, governments would be more regionally balanced, and oppositions would be effective. Closed-list PR would be simple, but the inability for voters to hold individual members accountable would make this form of list-PR unpalatable. Open list-PR would be a more acceptable option for Canada as it would allow voters to hold individual members accountable. Increased proportionality under such systems, however, would come at a cost to local, geographic representation. Creating large districts may not be palatable for Canadians, however, given their familiarity with single-member districts. When districts are too small, a high degree of proportionality cannot be achieved. Fortunately, creating higher tier seats can correct for disproportionality in lower tiers caused by low district magnitudes. Using this method we can even minimize the size of the first tier seats, making them single-member districts. This method would deliver strong local geographic representation and be more palatable for Canadians who
are accustomed to single-member districts. The system would then, of course, be classified as a "mixed" system.

Mixed systems do not, however, perform as well as list-PR systems in terms of demographic representation because of the male bias in the single member districts. As with listPR, closed lists should be avoided; open-list mixed systems would be a better option. Choosing the list-tier members from among the best candidates in the single-member district seats seems to be an even better option. Problems with this method can be avoided by allowing each party to nominate two candidates per riding. A very successful party would not run out of candidates to fill seats and all members would be accountable to voters. Further, gender balance and better diversity among candidates could be achieved. To be fair to voters and candidates from all ridings using this method, second-tier seats should be awarded by relative success in one's riding rather than by absolute number of votes received.

There appears to be no real justification for employing two votes. A second vote is therefore a needless complication, ruling out $\mathrm{MMP}^{18}$ as a serious option. A similar mixed system that maintains simplicity by employing one vote would fit better with Canadian tradition. On the same note, a ranked ballot is also a needless complication. It is possible in proportional voting systems to make virtually all first-choice votes count, making subsequent rankings superfluous. Although the single-transferable vote is a good option where votes cannot easily be pooled, that is, where parties do not exist ${ }^{19}$, it is not ideal for Canada provincially or federally. Further, STV does not lend well to the creation of higher tiers which allow us to minimize the size of the

[^14]nominal tier and escape the trade-off between local geographic representation and proportionality.

A one-vote mixed system in which parties run two candidates per riding appears to be the only option discussed so far that would fit all ten criteria. For this reason, I believe that such a system would be one of the best systems possible for Canada federally and provincially. I believe, however, than an even better system is possible. The system I propose in the next chapter fits all ten of the listed criteria, is simpler, and would create more proportional results than those already discussed, making it, in my opinion, the ideal system for Canada.

## Chapter VII: Proportional-first-past-the-post

The name "proportional-first-past-the-post" may seem paradoxical at first, yet such a system can be created. The apparent paradox lies in the fact that first-past-the-post elects representatives from single-member districts using a plurality formula, which leads to disproportional results. Multi-member districts, to some extent, are needed to create proportional election results. The previous chapters examined other pre-existing electoral systems and evaluated them according to the list of criteria and their feasibility for Canada. In designing this system I have taken a different approach: keep the essence of first-past-the-post system, while making the overall result proportional. Many of the existing systems would be an improvement in terms of democracy and representation, but none seem "ideal" in the Canadian context. Mixed systems attempt to achieve the "best of both worlds" (Shugart and Wattenberg 2001), but an ideal system for a particular country should be tailored to its specific needs and political traditions. Election by plurality in single-member districts is ingrained in Canadian political tradition, and despite its weaknesses, first-past-the-post is familiar and is said to give recognizable, local representation, and is easy to understand on the riding level. An electoral system that fixes the deficiencies of first-past-the-post but maintains the positive and familiar features appears to be what Canada needs.

The old saying asks: "Why fix it if it's not broken?" The first-past-the-post electoral system, given its poor evaluation and inability to translate voters' intentions into a House that reflects those intentions, is by many accounts, indeed broken. Does this justify completely abandoning a system that has, according to some, served Canadians well in the past and one that forms part of our political norms and traditions? I argue that what this broken first-past-the-post
system demands is not a replacement, but an overhaul. Like an old, run down, once-magnificent building that needs major renovations to make it suitable for present-day use, so does our electoral system need some changes to make it suitable for Canadians today. The ideal thing to do in such a case is not demolition, but renovation. In short, proportional-first-past-the-post takes a new approach to electoral system design: one that attempts to fix this old system rather than simply replace it. The proposed system aims to keep the good features of first-past-the-post, while fixing its deficiencies. I will first give a brief summary of the system, then explain it in detail.

### 7.1 Summary of proportional-first-past-the-post

Proportional-first-past-the-post is a mixed electoral system with multiple, overlapping levels of representation. Half of the members would be elected to represent single-member ridings in which parties would be permitted to run two candidates. The other half of seats would be filled in higher-level tiers (provincial sub-region, province, region, nation). The allocation of these remaining seats would be based on the "points" pooled based on the percentage of votes received in each riding. Parties would elect a representative for every 50 points pooled, the equivalent of half of one riding. The basic idea of the overlapping tiers is to elect representatives to the lowest tier possible ( 50 points), with leftover points transferred to the next tier. Each province, territory, and provincial sub-region would have a seat quota which they would not be permitted to surpass. This quota would be twice the number of single-member districts in that province (or territory). Seats would be awarded to parties in order of points until the party or tier quota (provincial or provincial sub-region quota) has been filled. When a party receives a seat at
a higher-level tier level, it would be assigned to a lower-level tier according to the number of points from the tier, unless the tier (region, province, provincial sub-region) has filled its seat quota. Seats assigned to a given province or provincial sub-region would be filled by parties' most popular candidates by percent of the vote in their respective ridings. All percentage points would be rounded to the nearest 0.01 points.

### 7.2 Proportional-first-past-the-post (P-FPTP) explained

As noted, half the members would be elected to represent single-member ridings. These seats would be filled in a similar manner to first-past-the-post, the main difference being that parties would be permitted to run two candidates per riding. Without such a rule, it would be possible for a party to win more seats than it has candidates available since there would be twice as many seats as ridings ${ }^{20}$. To make it possible for parties to run two candidates per riding without splitting its vote, single-member riding seats would be won by party plurality. In other words, the party with the most votes in a riding would win the riding seat; the party's most popular of its two candidates would fill that seat. In this manner, every riding would elect one representative, filling half of the total seats.

Let us suppose that in "Riding 1," the Blueberry Party received 55 percent of the votes and won the district seat, illustrated below in figure 7-1:

[^15]Figure 7-1, "Riding 1"
Riding 1


The votes cast for the Orange and Apple Parties, 20 and 25 percent respectively, would normally be ineffective under first-past-the-post since these votes would not help the election of any representative. To make these votes meaningful and the overall results proportional, these votes would be pooled provincially (or in provincial sub-regions for large provinces). Further, when a party passes the 50 percent "post" in a riding, those extra percentage points would be added to the pool (surplus). Likewise, when a party wins a riding but fails to reach the 50 percent post, the difference would be subtracted from the pool (deficit). This is illustrated below in Figures 7-2 and 7-3.

Figure 7-2, "Riding 1 with 'post""


Figure 7-3, "Riding 2 with 'post""


For every 50 points pooled provincially (or in provincial sub-regions when they exist), a party would win one seat. It is important to note that leftover points would not be rounded. They would, instead, be transferred to the next tier (province, region, or nation). The process would be repeated, with a seat won for every 50 points a party pooled, with leftover points again transferred to the next tier. Only in the final, national tier would points be rounded in order to fill any remaining seats. The regions, listed below, would reflect geographic divisions and would roughly reflect the Senate divisions (Canada. Parliament. Senate. 2013).

Atlantic Canada: Newfoundland and Labrador, Nova Scotia, New Brunswick, Prince Edward Island
Western Canada: British Columbia, Alberta, Saskatchewan, Manitoba
Northern Canada: Northwest Territories, Yukon, Nunavut
Ontario (divided into provincial sub-regions ${ }^{21}$ )
Québec (divided into provincial sub-regions)

[^16]
### 7.3 Atlantic region simulation

To illustrate how the system might work in Canada, we can simulate the results under proportional-first-past-the-post using past election results. I will do a full simulation for the Atlantic provinces and calculate Gallagher's least squares index (LSq) to measure proportionality in each province under the proposed system and the current one. Typically, this index would be calculated at the national level, but since regional balance is a major concern in Canada, I have decided to calculate it for each of the Atlantic provinces in the simulation ${ }^{22}$. This will give us an indication of the level of distortion at the provincial level and what would be expected under proportional-first-past-the-post ${ }^{23}$.

Since the proposed system would halve the number of single-member ridings with two candidates per party per riding, we can use past election results to make a simulation. Of course, any simulation of an alternate system is inherently flawed given that voters may have voted differently knowing that their votes would have counted in different ways. The simulation will, however, give a sufficient illustration of how the system would work in practice and the level of proportionality expected to be achieved if voters voted in a similar way. I have used the most recent federal election (2011) and grouped two neighbouring single-member ridings together in order to simulate an election in which parties ran two candidates in ridings with roughly twice

[^17]the population. This method is only problematic when a province has an odd number of ridings.
In reality, a boundaries commission would establish the boundaries of ridings, make them of roughly equal size, and adjust them every ten years in accordance with the Electoral Boundaries Readjustment Act (Canada. Parliament. 1985 [2011]). Since the number of seats per province in the House of Commons cannot decrease from its 1985 level according to the Fair Representation Act (Canada. 2011, 3), the number of ridings for each of the Atlantic provinces would be a minimum of half its current number, rounded up.

### 7.3.1 New Brunswick simulation

Since New Brunswick has an even number of constituencies (10), it presents a good opportunity for simulating how an election under proportional-first-past-the-post might function: I have grouped its 10 constituencies from the 2011 election into 5 constituencies roughly twice as large, with two candidates per party, shown in table 7-1 below:

Table 7-1, "New Brunswick 2011 federal election P-FPTP simulation"

| New Brunswick 2011 federal election | Liberal | Cons. | NDP | Green | Ind. | Total: |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| P-FPTP simulation |  |  |  |  |  |  |


| New Brunswick 2011 federal election P-FPTP simulation | Liberal | Cons. | NDP | Green | Ind. | Total: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Combined Riding 4 | 14,656 | 39,639 | 18,039 | 3,436 | 716 | 76,486 |
| Percent in combined riding | 19.16\% | 51.83\% | 23.58\% | 4.49\% | 0.94\% | 100.00\% |
| Points in combined riding | 19.16 | 1.83 | 23.58 | 4.49 | 0.94 |  |
| Fundy Royal | 3,668 | 21,206 | 9,845 | 1,757 | 0 | 36,476 |
| Saint John-Rothesay | 5,964 | 18,456 | 11,382 | 1,017 | 294 | 37,113 |
| Combined Riding 5 | 9,632 | 39,662 | 21,227 | 2,774 | 294 | 73,589 |
| Percent in combined riding | 13.09\% | 53.90\% | 28.85\% | 3.77\% | 0.40\% | 100.00\% |
| Points in combined riding | 13.09 | 3.90 | 28.85 | 3.77 | 0.40 |  |
| Total votes | 87,871 | 170,419 | 115,830 | 12,317 | 2,300 | 388,737 |
| Total pooled points | 60.28 | 72.44 | 98.53 | 15.53 | 3.22 | 250 |
| Single-Member riding members (P-FPTP) | 1 | 3 | 1 | 0 | 0 | 5 |
| Provincial members (P-FPTP) | 1 | 1 | 1 | 0 | 0 | 3 |
| Total provincial seats P-FPTP | 2 | 4 | 2 | 0 | 0 | 8 |
| Leftover points transferred to Atlantic Region | 10.28 | 22.44 | 48.53 | 15.53 | 3.22 | 100 |
| Value of transfer points in seats | 0.21 | 0.45 | 0.97 | 0.31 | 0.06 | 2.00 |
| Total seat value (P-FPTP) | 2.21 | 4.45 | 2.97 | 0.31 | 0.06 | 10.00 |
| Seats + transfer value in percent | 22.06\% | 44.49\% | 29.71\% | 3.11\% | 0.64\% | 100.00\% |
| Popular vote | 22.60\% | 43.84\% | 29.80\% | 3.17\% | 0.59\% | 100.00\% |
| Difference | -0.55\% | 0.65\% | -0.09\% | -0.06\% | 0.05\% |  |
| Actual results | 1 | 8 | 1 | 0 | 0 | 10 |
| Percentage of seats (actual) | 10.00\% | 80.00\% | 10.00\% | 0.00\% | 0.00\% | 100.00\% |
| Difference | -12.60\% | 36.16\% | -19.80\% | -3.17\% | -0.59\% |  |
| LSq (actual) | 30.57 | Note: points for independent members cannot be pooled, but they are shown here nonetheless. |  |  |  |  |
| LSq (P-FPTP) | 0.61 |  |  |  |  |  |

The party holding a plurality in a riding would win the riding seat and the seat would be filled by that party's most popular of two candidate in that riding. This is illustrated below in figures $7-4$, 7-5, 7-6, 7-7, and 7-8, depicting the percentage of vote each candidate received in the combined ridings.

L = Liberal, C = Conservative, NDP = New Democratic Party, G = Green, Ind = Independent

Figure 7-4, "NB Riding 1"


Totals in NB Riding 1:
NDP: 51.02\% (NDPNB1 elected; +1.02 points)
Liberal: $17.32 \%$ ( +17.32 points)
Conservative: $30.70 \%$ ( +30.70 points)
Green: $0.96 \%$ ( +0.96 points)

Figure 7-6, "NB Riding 3"


Totals in NB Riding 3:
Liberal: 35.01\% (L6 elected; -14.99 points)
Conservative: $34.55 \%$ ( +34.55 points)
NDP: $26.22 \%$ ( +26.22 points)
Green: $4.21 \%$ ( +4.21 points)

Figure 7-5, "NB Riding 2"
NB Riding 2


Totals in NB Riding 2:
Conservative: $51.46 \%$ (C4 elected; +1.46 points)
Liberal: $25.70 \%$ ( +25.70 points)
NDP: $18.86 \%$ ( +18.86 points)
Green: $2.10 \%$ (+2.10 points)
Independent: 1.88\%
Figure 7-7, "NB Riding 4"


Totals in NB Riding 4:
Conservative: $51.83 \%$ (C8 elected; +1.83 points)
Liberal: 19.16\% (+19.16 points)
NDP: 23.58\% (23.58 points)
Green: $4.49 \%$ ( 4.49 points)
Independent: 0.94\%

Figure 7-8, "NB Riding 5"


Totals in NB Riding 5:
Conservative: $53.90 \%$ (C9 elected; +3.90 points)
Liberal: $13.09 \%$ ( +13.09 points)
NDP: 28.85\% ( 28.85 points)
Green: $3.77 \%$ (3.77 points)
Independent: $0.40 \%$

NB Single-member district winners:
NB Riding 1: NDP1
NB Riding 2: C4
NB Riding 3: L6
NB Riding 4: C8
NB Riding 5: C9
Points pooled provincially (NB):
Liberal: 60.28 points ( 1 seat +10.28 points)
Conservative: 72.44 points ( 1 seat +22.44 points)
NDP: 98.53 points ( 1 seat +48.53 points)
Green: 15.53 points
New Brunswick provincial seats filled by:
1 Conservative: C10
1 Liberal: L3
1 NDP: NDP10
Points transferred to Atlantic Region:
Liberal: 10.28 points
NDP: 48.53 points
Conservative: 22.44 points
LSq (NB actual): 30.57
LSq (NB P-FPTP simulated): 0.61

The seat quota for New Brunswick would be 10 (twice its number of single-member districts). A seat quota for each province would allow the system to comply with the Fair Representation Act, which determines the number of representatives from each province. At this point in the simulation, 8 of the 10 members would be elected so far-five representing single-member riding seats, and three representing the province of New Brunswick. The remaining two New Brunswick members would be elected to represent Atlantic Canada or Canada. In this simulation, the five ridings would be represented by three Conservatives, one Liberal, and one New

Democrat. Since the pooled points for each party surpassed 50 but not 100 , one provincial representative would also be elected for each of these three parties, for a running total of eight. These seats would be filled by the most popular candidates in those parties not already holding a seat. The remaining two members would fill atlantic or national seats, based on the number of
points transferred from each province, as will be seen in detail when the Atlantic Region seats are determined. The least squares index ( LSq ) of 0.61 indicates an extremely proportional result, which contrasts sharply with the actual, extremely disproportional result under first-past-the-post $(\mathrm{LSq}=30.57)$.

### 7.3.2 Prince Edward Island Simulation

The four Prince Edward Island ridings can also be neatly paired to create two larger ridings. This voting results in the combined ridings are shown in table 7-2 below:

Table 7-2, "Prince Edward Island 2011 federal election P-FPTP simulation"

| PEI 2011 federal election $P$ FPTP simulation | Liberal | Conservative | NDP | Green | CHP | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cardigan | 10486 | 8107 | 2164 | 373 |  | 21130 |
| Charlottetown | 7292 | 6040 | 4632 | 417 | 87 | 18468 |
| Combined (PEI Riding 1) | 17778 | 14147 | 6796 | 790 | 87 | 39598 |
| Percent in combined riding | 44.90\% | 35.73\% | 17.16\% | 2.00\% | 0.22\% | 100.00\% |
| Points in combined riding | -5.10 | 35.73 | 17.16 | 2.00 | 0.22 | 50.01 |
| Malpeque | 8605 | 7934 | 2970 | 785 |  | 20294 |
| Egmont | 5997 | 10467 | 2369 | 320 |  | 19153 |
| Combined (PEI Riding 2) | 14602 | 18401 | 5339 | 1105 |  | 39447 |
| Percent in combined riding | 37.02\% | 46.65\% | 13.53\% | 2.80\% |  | 100.00\% |
| Points in combined riding | 37.02 | -3.35 | 13.53 | 2.80 |  | 50 |
| Total votes: | 32380 | 32548 | 12135 | 1895 | 87 | 79045 |
| Total pooled points: | 31.92 | 32.38 | 30.69 | 4.8 | 0.22 | 100.01 |
| Single-Member riding members (P-FPTP simulated) | 1 | 1 | 0 | 0 | 0 | 2 |
| Provincial members (P-FPTP simulated) | 0 | 0 | 0 | 0 | 0 | 0 |
| Total seats in province $\mathbf{P}$ FPTP | 1 | 1 | 0 | 0 | 0 | 2 |
| Leftover points transferred to Atlantic Region | 31.92 | 32.38 | 30.69 | 4.8 | 0.22 | 100.01 |
| Value of transfer points in seats (points x $2 / 100$ ) | 0.64 | 0.65 | 0.61 | 0.10 | 0.00 | 2.00 |
| Total seat value | 1.64 | 1.65 | 0.61 | 0.10 | 0.00 | 4.00 |
| Seats + transfer value in percent | 40.96\% | 41.19\% | 15.34\% | 2.40\% | 0.11\% | 100.00\% |
| Popular vote (\%) | 40.96\% | 41.18\% | 15.35\% | 2.40\% | 0.11\% | 100.00\% |
| Difference (Simulated PFPTP) | -0.01\% | 0.01\% | -0.01\% | 0.00\% | -0.00\% |  |
| Actual seats (FPTP) | 3 | 1 | 0 | 0 | 0 | 4 |
| Percentage of seats (actual) | 75.00\% | 25.00\% | 0.00\% | 0.00\% | 0.00\% | 100.00\% |
| Difference (Actual FPTP) | 34.04\% | -16.18\% | -15.35\% | -2.40\% | -0.11\% | 0.00\% |
| LSq FPTP (actual PEI) | 28.83 |  |  |  |  |  |
| LSq (P-FPTP simulated) | 0.01 |  |  |  |  |  |

The actual Prince Edward Island seat allocation resulted in very high disproportionality $(\mathrm{LSq}=$ 28.83), whereas the simulated proportional-first-past-the-post result gave perfect proportionality $(\mathrm{LSq}=0.01)$. Since proportional-first-past-the post system treats every riding equally, differences in populations and voter turnout among ridings will have a distorting effect on proportionality. The perfect proportionality in Prince Edward Island can be accounted for mainly by the almost equal number of votes cast in both of the simulated ridings ( 39,598 and 39,447 ).

Further, in Prince Edward Island in 2011, no independent candidates contested any riding which would otherwise slightly skew proportionality since independent votes cannot be pooled but are nonetheless included in the vote total. These Prince Edward Island results are illustrated in figures 7-9 and 7-10 below.

L = Liberal, C = Conservative, NDP = New Democratic Party, G = Green, CHP = Christian Heritage Party

Figure 7-9, "PEI Riding 1"
PEI Riding 1


Totals in PEI Riding1:
Liberal: 44.90 \% (L1 elected; -5.10 points)
Conservative: $35.73 \%$ ( +35.73 points)
NDP: 17.16\% (+17.16 points)
Christian Heritage Party: $0.22 \%$ ( +0.22 points)
PEI Single-member ridings:
PEI Riding 1: L1
PEI Riding 2: C4
Points pooled provincially (PEI):
Liberal: 31.92
Conservative: 32.38
NDP: 30.69
Green: 4.80
Christian Heritage: 0.22

Figure 7-10, "PEI Riding 2"
PEI Riding 2


Totals in PEI Riding 2:
Conservative: $46.65 \%$ ( C 4 elected; -3.35 points)
Liberal: 37.02\% ( +37.02 points)
NDP: $13.53 \%$ ( +13.53 points)
Green: $2.80 \%$ ( +2.80 points)
Points transferred to Atlantic Region (PEI):
Liberal: 31.92
Conservative: 32.38
NDP: 30.69
Green: 4.80
Christian Heritage: 0.22
LSq (actual PEI): 28.83
LSq (P-FPTP simulated PEI): 0.01

### 7.3.3 Newfoundland and Labrador Simulation

A simulation for the province of Newfoundland and Labrador will not be as clean as those for New Brunswick and Prince Edward Island since it has an odd number of ridings which cannot be easily paired. Half of its seven ridings would give 3.5 ridings, rounded up to four ridings. As noted earlier, the recent boundaries commission for Newfoundland and Labrador has viewed "the circumstances of the Labrador portion of the Province as being extraordinary and as warranting the continuance of a separate electoral district" (Federal Electoral Boundaries Commission for the Province of Newfoundland and Labrador 2012, 7). With the number of ridings reduced to four, its exceptional circumstances mean that Labrador would likely continue as a separate riding. The number of ridings on the island portion of the province would be halved from six to three. For this simulation I have grouped the six 2011 ridings for the island portion of the province into three. Since major parties would likely run two candidates in Labrador, I have simulated this by dividing each major party's vote share unevenly into two ${ }^{24}$. Given the inevitably higher level of malapportionment due to the low population of Labrador when compared to other ridings, we should expect proportionality to be lower in Newfoundland and Labrador than in other provinces in this simulation. The results are shown below in table 7-3 and figures 7-11, 7-12, 7-13, and 7-14.

[^18]Table 7-3, "Newfoundland and Labrador 2011 federal election P-FPTP simulation"

| NL 2011 federal election P-FPTP simulation | Liberal | Cons. | NDP | Green | Ind. | Total: |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Avalon | 16008 | 14749 | 5157 | 218 | 276 | 36408 |
| Random-Burin-St. George's | 12914 | 8322 | 4465 | 307 |  | 26008 |
| Combined (NL1) | 28,922 | 23,071 | 9,622 | 525 | 276 | 62,416 |
| Percent in combined riding | 46.34\% | 36.96\% | 15.42\% | 0.84\% | 0.44\% | 100.00\% |
| Points in combined riding | -3.66 | 36.96 | 15.42 | 0.84 | 0.44 | 50 |
| Bonavista-Gander-Grand Falls -Winsor | 17977 | 8595 | 4306 | 279 |  | 31157 |
| Humber-St. Barbe-Baie Verte | 17119 | 7559 | 4751 | 253 | 332 | 30014 |
| Combined (NL2) | 35,096 | 16,154 | 9,057 | 532 | 332 | 61,171 |
| Percent in combined riding | 57.37\% | 26.41\% | 14.81\% | 0.87\% | 0.54\% | 100.00\% |
| Points in combined riding | 7.37 | 26.41 | 14.81 | 0.87 | 0.54 | 50 |
| St. John's South-Mount Pearl | 11130 | 8883 | 18681 | 291 |  | 38985 |
| St. John's East | 3019 | 9198 | 31388 | 467 |  | 44072 |
| Combined (NL3) | 14,149 | 18,081 | 50,069 | 758 |  | 83,057 |
| Percent in combined riding | 17.04\% | 21.77\% | 60.28\% | 0.91\% |  | 100.00\% |
| Points in combined riding | 17.04 | 21.77 | 10.28 | 0.91 |  | 50 |
| Labrador (NL4) | 4177 | 4256 | 2120 | 139 |  | 10692 |
| Percent | 39.07\% | 39.81\% | 19.83\% | 1.30\% |  | 100.00\% |
| Points | 39.07 | -10.19 | 19.83 | 1.30 |  | 50.01 |
| Total Votes | 82,344 | 61,562 | 70,868 | 1,954 | 608 | 217,336 |
| Total pooled points | 59.82 | 74.95 | 60.34 | 3.92 | 0.98 | 200.01 |
| Single-Member ridings P-FPTP simulated | 2 | 1 | 1 | 0 | 0 | 4 |
| Provincial seats P-FPTP simulated | 1 | 1 | 1 | 0 | 0 | 3 |
| Total seats P-FPTP simulated | 3 | 2 | 2 | 0 | 0 | 7 |
| Total seats in province P-FPTP simulated | 3 | 2 | 2 | 0 | 0 | 7 |
| Leftover points transferred to Atlantic Region | 9.82 | 24.95 | 10.34 | 3.92 | 0.98 | 50.01 |
| Value of points in seats | 0.20 | 0.50 | 0.21 | 0.08 | 0.02 | 1.00 |
| Total seat value simulated P-FPTP | 3.20 | 2.50 | 2.21 | 0.08 | 0.02 | 8.00 |
| Percentage seat value | 39.96\% | 31.24\% | 27.59\% | 0.98\% | 0.25\% | 8 |
| Popular vote in province | 37.89\% | 28.33\% | 32.61\% | 0.90\% | 0.28\% | 100.00\% |
| Difference | 2.07\% | 2.91\% | -5.02\% | 0.08\% | -0.03\% |  |
| Actual seats (FPTP) | 4 | 1 | 2 | 0 | 0 | 7 |
| Percentage of seats | 57.14\% | 14.29\% | 28.57\% | 0.00\% | 0.00\% | 100.00\% |
| Difference | 19.25\% | 14.04\% | 4.04\% | 0.90\% | 0.28\% |  |
| LSq (actual) | 17.10 |  |  |  |  |  |
| LSq (P-FPTP simulated) | 4.36 |  |  |  |  |  |

L = Liberal, C = Conservative, NDP = New Democratic Party, G = Green, Ind = Independent

Figure 7-11, "NL Riding 1"
NL Riding 1


Totals:
Liberal: 46.34\% (L1 elected; -3.66 points)
Conservative: $36.96 \%$ ( +36.96 points)
NDP: $15.42 \%$ ( +15.42 points)
Green: $0.84 \%$ ( +0.84 points)
Independent: $0.28 \%$
Figure 7-13, "NL Riding 3"

## NL Riding 3



Totals:
NDP: $60.28 \%$ (NDP6 elected; +10.28 points)
Liberal: 17.04\% (+17.04 points)
Conservative: $21.77 \%$ ( 21.77 points)
Green: $0.91 \%$ ( +0.91 points)

Figure 7-12, "NL Riding 2"


Totals:
Liberal: 57.37\% (L3 elected; +7.37 points)
Conservative: $26.41 \%$ ( +26.41 points)
NDP: 14.81\% (+14.81 points)
Green: $0.87 \%$ ( +0.87 points)
Independent: $0.54 \%$
Figure 7-14, "NL Riding 4"
NL Riding 4 (Labrador)


Totals:
Conservative: $39.81 \%$ (C7 elected; -10.19 points)
Liberal: $39.07 \%$ (+39.07 points)
NDP: 19.83\% (+19.83 points)
Green: $1.30 \%$ ( +1.30 points)

NL single-member riding seats:
NL1: L1
NL2: L3
NL3: NDP6
NL4: C7
Points pooled provincially (NL):
Liberal: 59.82 points (1 seat +9.82 points)
Conservative: 74.95 points ( 1 seat +24.95 points)
NDP: 60.24 points ( 1 seat +10.24 points)
Green: 3.92 points

Points transferred to Atlantic Region (NL):
Liberal: 9.82 points
Conservative: 22.44 points
NDP: 10.24 points
Green: 3.92 point
LSq (actual NL): 17.10
LSq (P-FPTP simulated NL): 4.36

The proportionality of proportional-first-past-the-post in Newfoundland and Labrador is expected to be lower than in other provinces because of the inevitable malapportionment due to the small population of Labrador, but with a simulated least squares index of 4.37 it is comparable to some other countries with proportional voting systems, including Germany: (3.40: 2009, 2.16: 2005, 4.61: 2002), Belgium: (3.77: 2010, 3.37: 2007, 5.16: 2003), Finland (2.95: 2011, 2007: 3.20, 3.16: 2003), Spain (6.93: 2011, 4.49: 2008, 4.25: 2004), New Zealand (2.38: 2011, 3.84: 2008) (Gallagher 2013a).

### 7.3.4 Nova Scotia Simulation

When simulating the results under proportional-first-past-the-post in Nova Scotia, we again run into the problem of there being an odd number of ridings: 11 . When pairing ridings there will be one riding left unpaired. I paired neighbouring ridings to create 5 ridings roughly twice as large, while leaving one riding unpaired. This is less than ideal, but it created 6 ridings in total with which to do the simulation. Having one riding with half the population of the others somewhat skewed proportionality in the simulation, but still gave a very high degree of proportionality with a least squares index of 1.77 . The combined ridings and result is shown in the table below:

Table 7-4, "Nova Scotia 2011 federal election P-FPTP simulation

| NS 2011 federal election PFPTP simulation | Liberal | Conservative | NDP | Green | CHP | ML | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cape Breton-Canso | 16,478 | 10,873 | 6,984 | 1,141 |  |  | 35,476 |
| Sydney-Victoria | 14,788 | 14,023 | 7,049 | 1,191 |  |  | 37,051 |
| Combined (NS1) | 31,266 | 24,896 | 14,033 | 2,332 |  |  | 72,527 |
| Percent in combined riding | 43.11\% | 34.33\% | 19.35\% | 3.22\% |  |  |  |
| Points in combined riding | -6.89 | 34.33 | 19.35 | 3.22 |  |  |  |
| Central Nova | 5,614 | 21,593 | 9,412 | 1,406 |  |  | 38,025 |
| Cumberland-ColchesterMusquodoboit Valley | 7,264 | 21,041 | 9,322 | 2,109 | 375 |  | 40,111 |
| Combined (NS2) | 12,878 | 42,634 | 18,734 | 3,515 | 375 |  | 78,136 |
| Percent in combined riding | 16.48\% | 54.56\% | 23.98\% | 4.50\% | 0.48\% |  |  |
| Points in combined riding | 16.48 | 4.56 | 23.98 | 4.50 | 0.48 |  |  |
| West Nova | 15,632 | 20,204 | 5,631 | 1,487 |  |  | 42,954 |
| South Shore-St. Margaret's | 7,037 | 17,948 | 15,033 | 1,579 |  |  | 41,597 |
| Combined (NS3) | 22,669 | 38,152 | 20,664 | 3,066 |  |  | 84,551 |
| Percent in combined riding | 26.81\% | 45.12\% | 24.44\% | 3.63\% |  |  |  |
| Points in combined riding | 26.81 | -4.88 | 24.44 | 3.63 |  |  |  |
| Halifax | 11,793 | 8,276 | 23,746 | 2,020 |  | 152 | 45,987 |
| Halifax West | 16,230 | 13,782 | 13,239 | 1,931 |  |  | 45,182 |
| Combined (NS4) | 28,023 | 22,058 | 36,985 | 3,951 |  | 152 | 91,169 |
| Percent in combined riding | 30.74\% | 24.19\% | 40.57\% | 4.33\% |  | 0.17\% |  |
| Points in combined riding | 30.74 | 24.19 | -9.43 | 4.33 |  | 0.17 |  |
| Sackville-Eastern Shore | 4,673 | 12,662 | 22,483 | 1,520 |  |  | 41,338 |
| Dartmouth-Cole Harbour | 15,181 | 10,702 | 15,678 | 1,662 |  |  | 43,223 |
| Combined (NS5) | 19,854 | 23,364 | 38,161 | 3,182 |  |  | 84,561 |
| Percent in combined riding | 23.48\% | 27.63\% | 45.13\% | 3.76\% |  |  |  |
| Points in combined riding | 23.48 | 27.63 | -4.87 | 3.76 |  |  |  |
| Kings-Hants (NS6) | 15,887 | 14,714 | 8,043 | 1,520 |  |  | 40,164 |
| Percent in riding | 39.56\% | 36.63\% | 20.03\% | 3.78\% |  |  |  |
| Points in riding | -10.44 | 36.63 | 20.03 | 3.78 |  |  |  |
| Total Votes | 130,577 | 165,818 | 136,620 | 17,566 | 375 | 152 | 451,108 |
| Total pooled points | 80.18 | 122.46 | 73.5 | 23.22 | 0.48 | 0.17 | 300.01 |
| Single-Member riding members (P-FPTP simulated) | 2 | 2 | 2 | 0 | 0 | 0 | 6 |
| Provincial members (P-FPTP simulated) | 1 | 2 | 1 | 0 | 0 | 0 | 4 |
| Total seats in province P-FPTP | 3 | 4 | 3 | 0 | 0 | 0 | 10 |
| Leftover points transferred to Atlantic Region | 30.18 | 22.46 | 23.50 | 23.22 | 0.48 | 0.17 | 100.01 |
| Value of transfer points in seats | 0.60 | 0.45 | 0.47 | 0.46 | 0.01 | 0.00 | 2.00 |
| Total seat value | 3.60 | 4.45 | 3.47 | 0.46 | 0.01 | 0.00 | 12.00 |
| Seats + transfer value in percent | 30.03\% | 37.08\% | 28.92\% | 3.87\% | 0.08\% | 0.03\% | 100.00\% |
| Popular vote (\%) | 28.95\% | 36.76\% | 30.29\% | 3.89\% | 0.08\% | 0.03\% | 100.00\% |
| Difference (Simulated P-FPTP) | 1.08\% | 0.32\% | -1.37\% | -0.02\% | -0.00\% | -0.01\% |  |
| Actual seats (FPTP) | 4 | 4 | 3 | 0 | 0 | 0 | 11 |
| Percentage of seats (actual) | 36.36\% | 36.36\% | 27.27\% | 0.00\% | 0.00\% | 0.00\% | 100.00\% |


| NS 2011 federal election PFPTP simulation | Liberal | Conservative | NDP | Green | CHP | ML | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Difference (Actual FPTP) | 7.42\% | -0.39\% | -3.01\% | -3.89\% | -0.08\% | -0.03\% |  |
| LSq P-FPTP (simulated NS) | 1.77 | 0.46 (if NS6 riding is doubled) |  |  |  |  |  |
| LSq FPTP (actual NS) | 6.30 | Note: points for independent members cannot be pooled, but they are shown here nonetheless. |  |  |  |  |  |

To understand what the effect of one very malapportioned riding would have on proportionality (in this case, one riding roughly half the size of the others), I ran another simulation, this time doubling the votes for each party in the odd riding. This had the effect of simulating a riding roughly the same size as the others, while making no change to the seat allocation or points won by each party. It also slightly changed the popular vote by party. Apportioning the ridings better by bringing the size of this riding in line with the others had the effect of increasing proportionality, evident by a lower least squares index of 0.46 . This demonstrates that the level of proportionality created by the system is sensitive to malapportioned ridings because it treats all ridings equally, but even with some very malapportioned ridings it would still deliver a high degree of proportionality. The results in the six simulated ridings for Nova Scotia are illustrated in the pie graphs below. In the case of the odd riding (NS6), I split the votes for each party into two uneven parts, simulating that parties ran two candidates, like the other ridings.

[^19]Figure 7-15, "NS Riding 1"
NS Riding 1


Totals NS Riding 1:
Liberal: $43.11 \%$ (L1 elected; -6.89 points)
Conservative: $34.33 \%$ ( +34.33 points)
NDP: $19.35 \%$ ( +19.35 points)
Green: $3.22 \%$ ( +3.22 points)
Figure 7-17, "NS Riding 3"
NS Riding 3


Totals NS Riding 3:
Conservative: $45.12 \%$ (C5 elected; -4.88 points)
Liberal: 26.81\% (+26.81 points)
NDP: $24.44 \%$ ( +24.44 points)
Green: 3.63\% (3.63 points)

Figure 7-16, "NS Riding 2"
NS Riding 2


Totals NS Riding 2:
Conservative: $54.56 \%$ (C3 elected; +4.56 points)
Liberal: 16.48\% (+16.48 points)
NDP: 23.98\% (+23.98 points)
Green: $4.50 \%$ ( +4.50 points)
Christian Heritage: $0.48 \%$ ( +0.48 points)
Figure 7-18, "NS Riding 4"
NS Riding 4


Totals NS Riding 4:
NDP: 40.57\% (NDP7 elected; -9.43 points)
Liberal: $30.74 \%$ (+30.74 points)
Conservative: $24.19 \%$ ( +24.19 points)
Green: $4.33 \%$ ( +4.33 points)
Marxist-Leninist: $0.17 \%$ ( 0.17 points)

Figure 7-19, "NS Riding 5"
NS Riding 5


Totals NS Riding 5:
NDP: 45.13\% (NDP9 elected; -4.87 points)
Liberal: $23.48 \%$ ( +23.48 points)
Conservative: $27.63 \%$ ( +27.63 points)
Green: $3.76 \%(+3.76$ points)
NS Single-member ridings:
NS Riding 1: L1
NS Riding 2: C3
NS Riding 3: C5
NS Riding 4: NDP7
NS Riding 5: NDP9
NS Riding 6: L2
Points pooled provincially (NS):
Liberal: 80.18 ( 1 seat +30.18 points)
Conservative: 122.46 ( 2 seats +22.46 points)
NDP: 73.50 ( 1 seat +23.50 points)
Green: 23.22
Christian Heritage: 0.48
Marxist-Leninist: 0.17

Figure 7-20, "NS Riding 6"


Totals NS Riding 6:
Liberal: 39.56\% (L12 elected; -10.44 points)
Conservative: $36.63 \%$ ( +36.63 points)
NDP: 20.03\% ( 20.03 points)
Green: 3.78\% (3.78 points)
NS provincial seats filled by:
1 Liberal: L2
2 Conservative: C4, C6
1 NDP: NDP10
Points transferred to Atlantic Region:
Liberal: 30.18 points
Conservative: 22.46 points
NDP: 23.50 points
Green: 23.22
Christian Heritage: 0.48
Marxist-Leninist: 0.17

### 7.3.5 Pooling regional points and assigning them to provinces:

When points are transferred from provinces to a regional pool, like earlier, a seat would be awarded for every 50 points. It is important to note that at this point, unlike the first transfer of points, only positive point balances would be transferred. In other words, if a party in a province had pooled a negative points balance provincially (or in a provincial sub-region), which
would be the case if a party won more single-member district seats than its overall entitlement, the party would not transfer this negative balance to the next tier. For example, in a province or sub-region with 5 single-member ridings, a party winning all 5 ridings with 40 percent of the vote in each riding would pool -50 points. This party would transfer 0 points (not -50 ) to the next tier. This is not problematic for the system because it would reduce the number of seats given by partial quota in the final tier.

The results in the single-member ridings and provincial seats in the Atlantic provinces have now been simulated. The points transferred from the provinces to the Atlantic Region can now be calculated and seats allocated accordingly. This is shown in the table 7-5 below:

Table 7-5, "Points pooled in Atlantic Region"

| Points pooled in <br> Atlantic Region | Liberal | Conservative | NDP | Green | CHP | MLSeat quota <br> remaining in <br> province |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| NL | 9.82 |  |  |  |  |  |  |
| NB | 10.28 | 24.95 | 10.24 | 3.92 |  |  |  |
| PEI | 31.92 | 22.44 | 48.53 | 15.53 |  |  |  |
| NS | 30.18 | 32.38 | 30.69 | 4.8 | 0.22 |  | 2 |
| Total (Atlantic): | $\mathbf{8 2 . 2}$ | $\mathbf{1 0 2 . 2 3}$ | $\mathbf{1 1 2 . 9 6}$ | 47.47 | $\mathbf{0 . 7 0}$ | $\mathbf{0 . 1 7}$ |  |
| Atlantic region seats: <br> Points to be transferred <br> to national tier | $\mathbf{1}$ | $\mathbf{3 2 . 2}$ | 23.50 | 23.22 | 0.48 | 0.17 | 2 |

Based on the number of pooled points, the Liberals will gain one Atlantic seat, while the Conservatives and New Democrats will each gain two. Next, it must be determined from which provinces these representatives will come. The members would represent Atlantic Canada, but it must nonetheless be determined which provinces would send these representatives. If this was based solely on the number of points from each province, Prince Edward Island would send a Liberal, a Conservative, and an NDP member to represent Atlantic Canada, passing its provincial quota. Since no province or territory would be permitted to pass its quota of total seats (double
its number of single-member ridings), we must devise a way to determine the order in which the seats should be allocated. Without such a quota of the total number of members that can be elected from a province, PEI in this case, would gain an extra seat at the expense of another province. This would not only be contentious, but it could be considered as a violation of the Fair Representation Act (Canada 2011, 3) which determines the number of representatives per province.

To prevent a province from surpassing its seat quota, a fair way to allocate seats without disrupting the total number of seats for each province would be to allocate them in order, starting with the highest number of points by party in the region. When a seat is allocated, it would be given to the province with the highest number of points from that party. We would then subtract 50 points from that party for the seat, and the process would be repeated until all the regional seats are allocated. In the simulation above, the New Democratic Party has the highest number of points at 112.96 and so would be given the first Atlantic seat. New Brunswick contributed 48.53 of those points, more than any other province, so a member from this province would fill this seat: it would be filled by the most popular party member by percent support in her respective riding who does not already hold a seat (NDP10). The NDP would now have 62.96 points remaining (112.96-50 = 62.96). The Conservative Party would then have the highest number of points at 102.23 and so would get the second Atlantic seat. It would go to a Conservative member from Prince Edward Island since this province would have contributed more Conservative points than the others. The Liberals would get the next seat, which would also be filled by a Prince Edward Island member. This province would now have filled its quota for seats (4), and so the fourth Atlantic seat (NDP) which would otherwise also go to PEI, is given instead
to Nova Scotia. The last Atlantic seat would be filled by a Conservative Party member from Newfoundland and Labrador. This province would now have also met its seat quota and like PEI, would not receive any more seats. This seat allocation process is demonstrated in table 7-6 below:

Table 7-6, "Atlantic Region seat allocation"

| Atlantic Region <br> seat allocation | Liberal | Cons. | NDP | Green | CHP | ML | Province <br> to fill seat | Candidate <br> name | seat quota <br> remaining |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| NL |  |  |  |  |  |  |  |  |  |

When the regional party seats are allocated to provinces, they would be filled by the most popular party candidates not already holding a seat. Despite this fact, the member would be a representative for the entire region. We could look back at our graphs and tables to determine who this candidate would be, but it would be helpful to create a ranked list of the candidates by party and province. This would be especially helpful in the larger provinces. Tables 7-8, 7-9. and 7-10 in Appendix A show the candidates of the three major parties by province in the Atlantic Region, ranked by percent of vote received in their respective riding. It also indicates if the candidates would represent their local riding, province, or region.

### 7.4 Pooling points nationally

After the regional allocation of seats, leftover points would be transferred to the final, national tier. At this level all remaining seats would be filled. In lower tiers no seat would be awarded for less than 50 points, but it would be permitted at this stage in order to fill the remaining seats and ensure that each province fills its seat quota. The last row of table 7-6 above shows the leftover points from the Atlantic Region that would be transferred to the national tier. These points would be pooled with points from all other regions in Canada (Western Canada, Northern Canada, Ontario, Québec). A full simulation for all of Canada has not been done ${ }^{25}$, but for the purpose of illustrating what would happen in the final, national tier, let us imagine that the leftover points from each region for the five major parties were as outlined in table 7-7 below:

Table 7-7, "Points transferred to national tier from each region"

| Points transferred to national tier from region | Liberal Party | Conservative Party | New Democratic Party | Green Party | Bloc Québecois | regional quota remaining |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Atlantic Canada | 32.20 | 2.23 | 12.96 | 47.47 |  | 2 |
| Western Canada | 46.76 | 25.53 | 28.77 | 47.09 |  | 3 |
| Northern Canada | 30.21 | 15.80 | 29.63 | 24.52 |  | 2 |
| Ontario | 40.09 | 3.29 | 16.84 | 4.13 |  | 2 |
| Québec | 39.67 | 27.90 | 30.25 | 29.88 | 39.10 | 3 |
| Total | 188.93 | 74.75 | 118.45 | 153.09 | 39.1 | 12 |

National seats would be awarded in order, beginning with the party with the highest number of points. When a national seat is won, it would be assigned to the region from which the most points came, essentially the same process as outlined in table 7-6, but at a higher level. In the

[^20]same manner, national seats allocated to regions, would in turn be allocated to a province, then to provincial sub-regions (if applicable), where the member to fill the seat would be determined. This member would be a party representative for the entire nation.

In the example above, the Liberal Party with the highest number of pooled points at 188.93, would receive the first national seat. This seat would be allocated to Western Canada since this region has contributed the most points (46.76). It would then be allocated to one of the provinces within Western Canada, according to which province contributed most of these points, and then to a provincial sub-region, if applicable. The Liberal Party candidate within this province (or provincial sub-region) would fill this seat as a representative for Canada. Western Canada would then have 3 seats remaining before it reached its quota.

Each time a seat is awarded, 50 points is subtracted. The party with the highest number of points would then be awarded the next seat. In this case, this next highest points total is the Green Party with 153.09 points. This seat would be allocated to Atlantic Canada, and 50 points subtracted, leaving a new total of 103.09 for the Green Party. This would fill one of Atlantic Canada's remaining two seats (see table 7-7). It must then be determined to which province this seat would be allocated. Table 7-6 shows that New Brunswick and Nova Scotia can each elect one more candidate before reaching their quotas (hence the two seats remaining for Atlantic Canada's quota). Of these two provinces with remaining quotas in Atlantic Canada, Nova Scotia has contributed the most points (see table 7-6), and so this national seat is filled by a candidate from this province ${ }^{26}$. The process of allocating seats to regions would continue until all quotas

[^21]are filled, even if it meant that some seats get filled by partial quota. The allocation of national seats to regions is illustrated in table 7-8 below.

Table 7-8, "Allocation of national seats to regions"

|  | Liberal | Cons. | NDP | Green | BQ | Seats remaining | Allocated to region | Quota remaining |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Points | 188.93 | 74.75 | 118.45 | 153.09 | 39.10 | 12 |  |  |
| 1st seat | 1 |  |  |  |  | 11 | West | 2 |
| remaining points | 138.93 | 74.75 | 118.45 | 153.09 | 39.10 |  |  |  |
| 2nd seat |  |  |  | 1 |  | 10 | Atlantic | 1 |
| remaining points | 138.93 | 74.75 | 118.45 | 103.09 | 39.10 |  |  |  |
| 3rd seat | 1 |  |  |  |  | 9 | Ontario | 1 |
| remaining points | 88.93 | 74.75 | 118.45 | 103.09 | 39.10 |  |  |  |
| 4th seat |  |  |  |  |  | 8 | Québec | 2 |
| remaining points | 88.93 | 74.75 | 68.45 | 103.09 | 39.10 |  |  |  |
| 5th seat |  |  |  |  |  | 7 | Québec | 1 |
| remaining points | 38.93 | 74.75 | 68.45 | 103.09 | 39.10 |  |  |  |
| 6th seat |  |  |  |  |  | 6 | West | 1 |
| remaining points | 38.93 | 74.75 | 68.45 | 53.09 | 39.10 |  |  |  |
| 7th seat |  |  |  |  |  | 5 | Québec | 0 |
| remaining points | 38.93 | 24.75 | 68.45 | 53.09 | 39.10 |  |  |  |
| 8th seat |  |  |  |  |  | 4 | North | 1 |
| remaining points | 38.93 | 24.75 | 18.45 | 53.09 | 39.10 |  |  |  |
| 9th seat |  |  |  | 1 |  | 3 | North | 0 |
| remaining points | 38.93 | 24.75 | 18.45 | 3.09 | 39.10 | Québec quot | a filled. No | andidate avai |
| remaining points | 38.93 | 24.75 | 18.45 | 3.09 | 39.10 |  |  |  |
| 10th seat | 1 |  |  |  |  | 2 | Atlantic | 0 |
| remaining points | 0 | 24.75 | 18.45 | 3.09 | 39.10 |  |  |  |


|  | Liberal | Cons. | NDP | Green | BQ | Seats <br> remaining | Allocated <br> to region | Quota <br> remaining |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 11th |  |  |  |  |  |  |  |  |
| West |  |  |  |  |  |  |  |  |

### 7.5 Large provinces with provincial sub-regions

Provincial sub-regions should be assigned to Ontario and Québec because of their large populations and high number of ridings (106 and 75 respectively, soon to be 121 and 78) (Canada 2012). Provincial sub-regions would not be needed in the small provinces, as the Atlantic Canada simulation has shown. Provincial sub-regions could be created in British Columbia, set to have 42 seats ( 21 ridings under P-FPTP), and Alberta, set to have 34 seats (17 ridings under P-FPTP). Provincial sub-regions would not be feasible for the other provinces at the moment, Saskatchewan and Manitoba being the next largest, currently with 14 seats each (7 ridings under P-FPTP) (Canada 2012).

Dividing larger provinces into sub-regions would make representation much more "local" than would be if they did not exist. The Law Commission of Canada in its 2004 MMP model proposed three regions for Ontario and two regions for Québec. Ontario's proposed regions were: "North and East Ontario," "South and West Ontario," "Toronto and Vicinity" (Law Commission of Canada 2004, 184-187). Québec's proposed regions were: "North and East Quebec, outside Montreal," and "Montreal and Immediate Vicinity" (2004, 182-184). Provincial regions similar to these could be used or different ones could be created. The regions should be large enough so that regional seats could reasonably be won (parties pool more than 50 points), yet because of the
existence of higher tiers, they would not need to be as large as in the Law Commission's proposal in order to make the results proportional. They should generally be comprised of at least five single-member ridings, but a bare minimum of four ridings could be acceptable in certain circumstances. Provincial sub-regions consisting of more than five ridings would have a better chance at gaining more sub-regional seats and having multiple parties represent the region. In a five-riding provincial sub-region, the number of seats that would be filled by members of that region (quota) would be ten (double the number of single-member districts). Five (half) of those seats would be filled by members representing the single-member ridings, while 2-3 provincial sub-region seats could reasonably be won. Any remaining seat quota would be won in higherlevel tiers (provincial, regional, national).

If provincial sub-regions were created in a given province, the sub-region seat quota would work the same way as the provincial seat quota: provincial regions would elect a number of members in total that is equal to double its number of single-member ridings. Half would come from the single-member ridings, while the rest from higher-tiers (provincial sub-region, province, region, nation). The concept of the multiple tiers is simple: percentage points would be pooled, a member would be elected for every 50 points a party pools, and the remainder would be transferred to the next higher tier where the process would be repeated. No seats would be allocated by partial quotas (less than 50 points) until the final, national tier.

I would recommend generally aiming for provincial regions consisting of 5-8 ridings, with a bare minimum of 4 ridings per sub-region. Halving the number of ridings per province according to the recent federal districts readjustment (2012) and rounding up, would give Ontario 61 ridings under proportional-first-past-the-post which could facilitate $7-12$ provincial regions. As such, this would make the provincial regions under this system much smaller than those proposed by the Law Commission, making representation under this proposal significantly more "local." Québec would have 39 single-member ridings which could facilitate 4-8 provincial subregions. British Columbia would have 21 single-member ridings, facilitating 2-5 provincial subregions, while Alberta would have 17 single-member ridings and could facilitate 2-4 provincial ridings. Details such as the number of provincial sub-regions and their boundaries would be decided by a boundaries commission with input from the public, much the same way riding boundaries are now determined.

### 7.6 Alberta simulation with provincial sub-regions

To demonstrate how provincial sub-regions would work under proportional-first-past-thepost, I have simulated the results of the 2011 federal election in Alberta. I have paired neighbouring ridings to create 14 single-member ridings and calculated the results in those ridings. I then grouped the ridings to create two provincial regions consisting of seven ridings each (Alberta North and Alberta South). Table 7-9A below shows the results for the four 'major' parties and independent members. Appendix B contains table 7-9B with the results for the eight 'minor' parties ${ }^{27}$.

[^22]Table 7-9A, "Alberta 2011 P-FPTP simulation: 'major' parties"

| Alberta 2011 (federal) P-FPTP simulation | Liberal | Cons. | NDP | Green | 'minor |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| parties |  |  |  |  |  | Ind. | Total |  |  |
| ---: | ---: | ---: |
| AB sub-region 1 (AB South) |  |  |
|  |  |  |


| Alberta 2011 (federal) P-FPTP simulation | Liberal | Cons. | NDP | Green | 'minor' parties | Ind. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Percent in combined riding | 6.82\% | 50.46\% | 39.18\% | 2.63\% | 0.60\% | 0.31\% | 100.00\% |
| Points in combined riding | 6.82 | 0.46 | 39.18 | 2.63 | 0.60 | 0.31 | 50.00 |
| Edmonton-Leduc | 7,270 | 37,778 | 11,488 | 2,896 |  |  | 59,432 |
| Edmonton-Spruce Grove | 5,483 | 41,782 | 9,272 | 2,232 |  |  | 58,769 |
| Combined (AB10) | 12,753 | 79,560 | 20,760 | 5,128 |  |  | 118,201 |
| Percent in combined riding | 10.79\% | 67.31\% | 17.56\% | 4.34\% |  |  | 100.00\% |
| Points in combined riding | 10.79 | 17.31 | 17.56 | 4.34 |  |  | 50.00 |
| Edmontont-St. Albert | 5,796 | 34,468 | 11,644 | 2,409 |  |  | 54,317 |
| Edmontont-Sherwood Park | 4,131 | 24,623 | 7,971 | 1,926 | 222 | 16,263 | 55,136 |
| Combined (AB11) | 9,927 | 59,091 | 19,615 | 4,335 | 222 | 16,263 | 109,453 |
| Percent in combined riding | 9.07\% | 53.99\% | 17.92\% | 3.96\% | 0.20\% | 14.86\% | 100.00\% |
| Points in combined riding | 9.07 | 3.99 | 17.92 | 3.96 | 0.20 | 14.86 | 50.00 |
| Peace River | 1,481 | 36,334 | 7,740 | 1,702 | 345 | 359 | 47,961 |
| Fort McMurray-Athabasca | 3,190 | 21,988 | 4,053 | 1,374 | 0 |  | 30,605 |
| Combined (AB12) | 4,671 | 58,322 | 11,793 | 3,076 | 345 | 359 | 78,566 |
| Percent in combined riding | 5.95\% | 74.23\% | 15.01\% | 3.92\% | 0.44\% | 0.46\% | 100.00\% |
| Points in combined riding | 5.95 | 24.23 | 15.01 | 3.92 | 0.44 | 0.46 | 50.01 |
| Yellowhead | 1,190 | 31,925 | 5,411 | 2,132 | 788 |  | 41,446 |
| Wetaskiwin | 1,348 | 37,756 | 5,281 | 1,978 | 0 |  | 46,363 |
| Combined (AB13) | 2,538 | 69,681 | 10,692 | 4,110 | 788 |  | 87,809 |
| Percent in combined riding | 2.89\% | 79.36\% | 12.18\% | 4.68\% | 0.90\% |  | 100.00\% |
| Points in combined riding | 2.89 | 29.36 | 12.18 | 4.68 | 0.90 |  | 50.01 |
| Westlock-St. Paul | 2,569 | 32,652 | 5,103 | 1,634 |  |  | 41,958 |
| Vegreville-Wainwright | 1,525 | 39,145 | 5,561 | 2,499 | 327 |  | 49,057 |
| Combined (AB14) | 4,094 | 71,797 | 10,664 | 4,133 | 327 |  | 91,015 |
| Percent in combined riding | 4.50\% | 78.88\% | 11.72\% | 4.54\% | 0.36\% |  | 100.00\% |
| Points in combined riding | 4.50 | 28.88 | 11.72 | 4.54 | 0.36 |  | 50.00 |
| Total AB sub-region 2 (AB North) | 54,634 | 433,806 | 140,050 | 26,286 | 2,617 | 16,915 | 674,308 |
| Points in Alberta sub-region 2 (AB North) | 55.00 | 104.53 | 144.72 | 27.25 | 2.89 | 15.63 | 350.02 |
| Seats (AB North) | 1 | 2 | 2 | 0 | 0 | 0 | 5 |
| Leftover points transferred to Province | 5.00 | 4.53 | 44.72 | 27.25 | 2.89 | 15.63 | 100.02 |
| Total votes (Alberta) | 129,292 | 932,765 | 234,730 | 73,058 | 8,116 | 17,681 | 1,395,642 |
| Provincial tier points | 29.86 | 36.13 | 87.07 | 72.09 | 8.48 | 16.37 | 250.00 |
| AB Provincial seats | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
| Leftover points transferred to Western Canada | 29.86 | 36.13 | 37.07 | 22.09 | 8.48 | 16.37 | 150.00 |
| Single-member riding seats | 0 | 14 | 0 | 0 | 0 | 0 | 14 |
| AB provincial sub-region seats | 2 | 4 | 3 | 0 | 0 | 0 | 9 |
| Total Alberta seats | 2 | 18 | 4 | 1 | 0 | 0 | 25 |
| Value of transfer points in seats | 0.60 | 0.72 | 0.74 | 0.44 | 0.17 | 0.33 | 3.00 |
| Total seat value Alberta | 2.60 | 18.72 | 4.74 | 1.44 | 0.17 | 0.00 | 28.00 |
| Total seat value (percent) | 9.28\% | 66.87\% | 16.93\% | 5.15\% | 0.61\% | 0.00\% | 100.00\% |
| Popular vote | 9.26\% | 66.83\% | 16.82\% | 5.23\% | 0.58\% | 1.27\% | 100.00\% |
| Difference | 0.01\% | 0.03\% | 0.11\% | -0.09\% | 0.02\% | -1.27\% | 0.00\% |
| LSq (P-FPTP simulated) | 0.10 |  |  |  |  |  |  |
| Total seats (actual) | 0 | 27 | 1 | 0 |  | 0 | 28 |
| Percentage of seats (actual) | 0.00\% | 96.43\% | 3.57\% | 0.00\% | 0.00\% | 0.00\% | 100.00\% |
| Difference with popular vote | -9.26\% | 29.59\% | -13.25\% | -5.23\% | -0.58\% | -1.27\% | 0.00\% |
| LSq (actual) | 24.13 |  |  |  |  |  |  |

'Minor' parties: Christian Heritage Party, Marxist-Leninist Party, Communist Party, Western Block Party, Pirate Party, Progressive Canadian Party, Canadian Action Party, Parti Rhinocéros

In the simulation, all 14 single-member ridings would elect a Conservative member. Points would be pooled within each provincial region. Alberta Region 1 (AB South) would elect one Liberal representative, two Conservative representatives, and one NDP representative. Alberta Region 2 (AB North) would elect one Liberal representative, two Conservative representatives, and two NDP representatives. These seats would be filled by the most popular party candidates from those provincial sub-regions (by percent vote in their respective ridings) who do not already hold a seat. The leftover positive points balances from each party from the provincial regions would be transferred to the next tier, the provincial pool. Negative points balances, if any existed (none exist in this simulation), would not be transferred from provincial regions to the provincial pool. Provincial seats would then be allocated for every 50 points pooled at the provincial level.

In this simulation, the NDP and the Green party, with 87.07 and 72.09 points in the provincial pool, respectively, would elect one provincial representative each. Neither provincial sub-region has yet filled its seat quota ( 14 seats each), with 11 of 14 members elected so far from Region 1 (Alberta South) and 12 of 14 elected so far from Region 2 (Alberta North). Provincial seats would be allocated to the provincial regions in order of highest points balance (in this case, however, order of seat allocation would not make a difference). Since the NDP has the highest points balance in the provincial pool, (more than the Green Party, the only other party eligible for a provincial seat), it would receive the first provincial seat. This seat would be filled by an NDP candidate from Alberta South because this region would have contributed more points to the provincial pool than the only other provincial region (42.35 to 37.07 ). Fifty points would be
subtracted for every seat allocated. At this point, neither provincial region's quota would be filled, so the next seat could be filled by a member from either region. The Green Party, the only remaining party with 50 or more points, would receive the next, and final provincial seat. A candidate from Alberta North (the most popular candidate by percent vote in their respective ridings) would fill this provincial seat, since this region would have contributed more points than Alberta South (44.84 points compared to 27.25).

In this simulation, Alberta would have elected 14 representatives for single-member ridings, 9 provincial sub-region representatives, and 2 provincial representatives. With 25 members so far elected, 3 more members from Alberta would be elected to fill the provinces quota - two from Alberta North, and one from Alberta South. These three members would be elected to higher tiers to represent either Western Canada or Canada.

### 7.7 What happens when a party wins more seats than it is'entitled'?

In any mixed system it is possible that a party might win more nominal tier seats (singlemember riding seats) than its overall proportional 'entitlement' and this system would be the same in this regard. A party that wins all single-member district seats in a given province or provincial sub-region with only a minority of votes would be somewhat 'overrepresented.' To illustrate, let us imagine a province or provincial sub-region consisting of 5 single-member ridings. A party that wins all 5 of these ridings with a minority of the vote would pool a negative point balance. If the party won all 5 seats with 40 percent of the vote in each riding, the party would pool -50 points. Under proportional-first-past-the-post a party would keep all of its singlemember riding seats already won, even if it meant the party would be somewhat
'overrepresented.' Further, this negative points balance would not be transferred to the next tier -the party would instead transfer zero points. This would effectively give the party a one-seat bonus, but it would not be problematic for the system because it would reduce the number of seats in the final tier awarded by partial quota.

As explained in section 7-4, all remaining seats would be filled in the final, national tier. These seats would be awarded in order of highest number of points and then allocated to region, then province, and finally to provincial sub-region (if applicable). Without any parties pooling a negative point balances at the provincial or provincial sub-region level, some seats will inevitably be awarded in the final tier without a full (50 points) quota. If, on the other hand, parties pooling negative points balances is a common occurrence, it is possible that some parties could have 50 or more points leftover in the national tier after all provincial seat quotas have been filled. One way to deal with such an event would be to expand the size of the House. Another way would be to keep the size of the House steady by maintaining the provincial (and sub-regional) seat quota (double its number of single-member ridings). I view the latter as preferable for a few reasons.

Firstly, expanding the size of the House would mean that some provinces would surpass their seat quotas. I believe that a province electing extra members in excess of its normal entitlement could be contentious and should, for this reason alone, be avoided. Secondly, expansion of the House could be considered a violation of the Fair Representation Act since it would alter (potentially significantly) the number of MPs per province. Lastly, maintaining a House that is fixed in size even if it meant some parties might occasionally miss out on seats otherwise earned, could act as a 'natural' threshold, eliminating the perceived need to add an
arbitrary threshold to the system. Gallagher and Mitchell write: "Proportionality is generally regarded as a 'good thing'-in moderation. Few electoral systems go for broke on the proportionality dimension; most have, in practice, some way of limiting it" (2005, 13). Likewise, proportional first-past-the-post would not 'go for broke' on the proportionality dimension as there is a built-in, natural threshold when the House is not permitted to expand. An arbitrary threshold, such as a total percent of the vote required before a party receives its first seat, would not be necessary under this system.

Not transferring negative points balances from the provincial tier to the regional tier (or from the provincial sub-regional tier to the provincial tier) would increase the total number of points pooled, but with a quota set on the number of members that can be elected from each province, this is not problematic. With some points spread across tiny parties without enough support to gain a seat and among independent candidates whose points cannot pool (independent candidates are essentially a party with only one member), not transferring negative point balances would reduce the number of seats in the final tier allocated by partial quota (less than 50 points) and would arguably improve the functioning of the system.

### 7.8 Comparing proportionality with other systems

Based on the simulations, proportional-first-past-the-post would deliver high proportionality as shown by a low least squares index (LSq). How would this level of proportionality compare to other forms of proportional representation? Would the overlapping tiers create more proportional outcomes than other proportional voting systems? The data used in the simulations above can be easily used to create simulations for certain voting systems. I have
used the results I tabled from the Atlantic provinces and from Alberta in the 2011 election to simulate the results under list-PR and one-vote MMP. Two-vote MMP would be a more difficult simulation since we do not have data regarding if and how voters would have cast two votes. A simulation for STV is also not feasible since we do not know how voters would have ranked candidates.

For list-PR, I have chosen to simulate the results using two largest remainder (LR) methods of seat allocation (LR-Hare ${ }^{28}$ and LR-Droop ${ }^{29}$ ) because of their ease of calculation when compared to highest-average methods. Gallagher and Mitchell write that LR-Hare is unbiased in terms of size of party and typically produces the same results as the Sainte-Laguë highest average method, while LR-Droop is biased towards larger parties and typically produces the same result as the D'Hondt highest average method (2005, 588).

For the MMP simulation, I have used the riding results from the P-FPTP simulation. I calculated the results using a 50-50 seat distribution for MMP (half the seats as single-member ridings and half as provincial seats). I then used the results of the LR-Hare and LR-Droop simulations to calculate the overall seat 'entitlement' for each province. Subtracting the singlemember districts won from the total seat entitlement gives the number of provincial compensatory seats by party. In the simulations for these five provinces the overall results for list-PR and MMP were the same. This is due to the fact that in both cases no party would have received more single-member riding seats than its proportional 'entitlement'. It is important to note that if voters cast two votes, however, the likelihood of a party's single-member district seats exceeding its proportionality entitlement would increase.

[^23]Table 7-10, "Nova Scotia 2011 list-PR and MMP simulation"

| Nova Scotia 2011 list-PR and MMP Simulation | Liberal | Conservative | NDP | Green | CHP | ML | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Votes | 130,577 | 165,818 | 136,620 | 17,566 | 375 | 152 | 451,10 |
| Popular vote (\%) | 28.95\% | 36.76\% | 30.29\% | 3.89\% | 0.08\% | 0.03\% | 100.00 |
| Droop Quota (votes/seats + 1)+1 | 37,593 |  |  |  |  |  |  |
| Total seats LR and MMP (Droop) | 4 | 4 | 4 | 0 | 0 | 0 | 12 |
| Percentage of seats | 36.36\% | 36.36\% | 36.36\% | 0.00\% | 0.00\% | 0.00\% |  |
| Difference from popular vote | 7.42\% | -0.39\% | 6.08\% | -3.89\% | -0.08\% | -0.03\% |  |
| LSq LR and MMP (Droop) | 5.25 |  |  |  |  |  |  |
| Hare quota | 37,592 |  |  |  |  |  |  |
| Total Seats LR and MMP (Hare) | 3 | 4 | 4 | 1 | 0 | 0 | 12 |
| Percentage of seats (LR-Hare) | 25.00\% | 33.33\% | 33.33\% | 8.33\% | 0.00\% | 0.00\% |  |
| Difference from popular vote | -3.95\% | -3.42\% | 3.05\% | 4.44\% | -0.08\% | -0.03\% |  |
| LSq LR and MMP (Hare) | 5.30 |  |  |  |  |  |  |

The same calculations were completed for the other provinces for which P-FPTP simulations were completed earlier in this chapter. The LSq for the simulations under each system is tabled below.

Table 7-11, "Actual and simulated LSq by province"

| LSq (2011 federal by province) | NS | NB | NL | PEI | AB |
| :--- | ---: | ---: | ---: | ---: | ---: |
| FPTP (actual) | 6.30 | 30.57 | 17.10 | 28.83 | 24.13 |
| LR and MMP (Hare) | 5.30 | 5.17 | 4.24 | 14.16 | 1.88 |
| LR and MMP (Droop) | 5.25 | 5.17 | 4.24 | 14.16 | 1.88 |
| P-FPTP | 1.77 | 0.61 | 4.37 | 0.01 | 0.10 |
| P-FPTP (reapportioned-NS) | 0.46 |  |  |  |  |

Interestingly, the results for LR-Hare, LR-Droop, MMP-Hare and MMP-Droop were identical in most cases. The Hare and Droop seat allocations differed only in Nova Scotia but it did not result in a significantly different LSq (5.30 and 5.25). As expected, Alberta, with a high district magnitude, (28) gave a very high level of proportionality ( $\mathrm{LSq}=1.88$ ) and Prince Edward Island with a low district magnitude (4) gave a very low level of proportionality ( $\mathrm{LSq}=14.16$ ). Newfoundland and Labrador, New Brunswick, and Nova Scotia with district magnitudes of 8, 10 , and 12 , respectively, gave a fairly high degree of proportionality.

Overall, these simulations show that list-PR and MMP would give a higher degree of proportionality than first-past-the-post, and that proportional-first-past-the-post would give a higher degree of proportionality than list-PR and MMP. The reason for this, of course, is because seat allocation at the provincial level under P-FPTP is not final. The P-FPTP calculations take into account the seat values that are transferred to higher tiers.

These simulations also show that better apportioned the ridings produce more proportional results under proportional-first-past-the-post. The only case where the level of proportionality of MMP and list-PR were effectively equal to proportional-first-past-the-post was in Newfoundland and Labrador. This is not surprising, however, considering that the riding of Labrador is inevitably very malapportioned ${ }^{30}$. The sensitivity to malapportioned ridings was further shown when two different least squares indices were calculated for Nova Scotia: one with a very malapportioned riding (half the population of the others), and one with the riding size comparable to the others (by doubling the votes received for each party in the riding). By better apportioning the riding, the LSq dropped from 1.77 to 0.46 . Since all ridings are treated equally under proportional-first-past-the-post, it is no surprise to confirm that malapportioned ridings have a negative effect on the level of proportionality under the system.

[^24]
## Chapter VIII: Conclusion

The first-past-the-post electoral system fails to meet the basic criteria for representative democracy: it does not give representation to all voters, does not treat voters equally, and does not ensure political equality. A proportional voting system would meet these basic democratic requirements, however, proportional representation is simply a theory of what ought to be and achieving it in reality is not so cut-and-dry. Various electoral systems come with their own set of issues, as such, no system can be considered ideal in all situations. Canadians have shown a favourable opinion of the idea of proportional representation, yet seem hesitant when faced with systems designed to improve proportionality. Since Canadians have also expressed satisfaction with the current, first-past-the-post system, I argue that Canadians would be more likely to accept a proportional electoral system if it were not too different than the current one. A system that changes as little as possible while fixing the current system's main problems, I believe, would be more palatable for Canadians than some of the main alternatives. With this in mind, I evaluated the first-past-the-post electoral system, identifying its main pros and cons. Based on these pros and cons I developed a list of criteria for a prospective electoral system:

1. Palatability
2. Simplicity
3. Local geographic representation
4. Accountable members
5. Accountable government
6. Meaningful votes
7. Effective opposition
8. Proportional representation of parties
9. Regionally balanced governments
10. Demographic representation

I then discussed some of the major electoral systems proposals or prospective systems for Canada and considered their application. Finding none of these systems 'ideal', I proposed a
unique, made-in-Canada electoral system, keeping with the idea that less change is better. The system is a proportional electoral system that I believe would be ideal for Canada and its provinces. The design of the system takes the first-past-the-post electoral system as a starting point, modifying it so that the positive aspects are maintained while the negative aspects are eliminated. Because the system is, at its core, the first-past-the-post system, modified to achieve a proportional result, I have called it 'proportional-first-past-the-post'. Tables 8-1 and 8-2 below summarize the evaluation of the various electoral systems discussed in this thesis, according to the list of criteria that was created:

Table 8-1, "Summary of electoral systems evaluation 1"

|  | FPTP | AV | STV | List-PR (closed list) | List-PR (open list) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Palatability | $\sqrt{ }$ | $\sqrt{ }$ | $\checkmark$ |  | $\checkmark$ |
| Simplicity | $\checkmark$ | $\sqrt{ }$ |  | $\sqrt{ }$ | $\sqrt{ }$ |
| Local geographic Representation | $\checkmark$ | $\sqrt{ }$ |  |  |  |
| Accountable members | $\sqrt{ }$ | $\sqrt{ }$ | $\checkmark$ |  | $\sqrt{ }$ |
| Accountable government |  |  | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Meaningful votes |  |  | $\checkmark$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Effective opposition |  |  | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Proportional representation of parties |  |  | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Regionally balanced governments |  |  | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Demographic representation |  |  | $\checkmark$ | $\sqrt{ }$ | $\sqrt{ }$ |

$\checkmark$ criterion met
$\checkmark$ criterion partially met
(blank) criterion not met

Table 8-2, "Summary of electoral systems evaluation 2"

|  | MMP <br> (closed list) | MMP <br> (open list) | one-vote <br> mixed <br> (closed <br> list) | one-vote mixed ('best candidates;' one can.*) | one-vote mixed ('best candidates;' two can.**) | P-FPTP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Palatability |  | $\sqrt{ }$ |  | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Simplicity |  |  | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Local geographic Representation | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\checkmark$ | $\checkmark$ | $\sqrt{ }$ |
| Accountable members | $\checkmark$ | $\sqrt{ }$ | $\checkmark$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Accountable government | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Meaningful votes | $\checkmark$ | $\checkmark$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Effective opposition | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Proportional representation of parties | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\checkmark$ | $\checkmark$ | $\sqrt{ }$ |
| Regionally balanced governments | $\sqrt{ }$ | $\sqrt{ }$ | $\sqrt{ }$ | $\checkmark$ | $\sqrt{ }$ | $\sqrt{ }$ |
| Demographic representation | $\checkmark$ | $\checkmark$ | $\checkmark$ |  | $\sqrt{ }$ | $\sqrt{ }$ |

*"one can.": parties present one candidate per riding
**"two can.": parties present two candidates per riding
$\sqrt{ }$ criterion met
$\checkmark$ criterion partially met
(blank) criterion not met

Proportional-first-past-the-post bears some resemblance to other mixed-compensatory systems, but I would argue, is simpler and better adapted to Canadian political tradition. Its unique formula based on percent vote won in each riding conforms to the tradition of treating all ridings equally and makes the formula easy to understand on the riding level. Canadians frequently deal with and have a firm grasp of the concept of percentages ${ }^{31}$ and so the workings of the system would be transparent and easy to understand-even for Canadians weak at mathematics. The same cannot be said about systems based on quotas and largest remainders or highest averages. The basic concept of the system is that otherwise wasted and surplus percentage points pool and for every 50 points, a new candidate is elected. Since a seat would only be awarded for a full 50 points until the final stage, rounding is kept to a minimum, representation kept as local as possible, while keeping proportionality high.

Under first-past-the-post a voter's single vote may be considered "ineffective" if it fails to elect anyone. Some models attempt to compensate for an ineffective first-choice vote by allowing the voter to rank her votes. In AV or STV, in the event that a first-choice vote is "ineffective," a subsequent vote may become "effective." Other models give the voter a second vote, as in MMP, so that even if one's candidate vote is ineffective, at least one's party vote will be effective. In proportional voting systems, as van der Hout, de Swart, and ter Veer correctly point out, it is possible for virtually all first-choice votes to be effective $(2006,465)$. This being the case, I would argue that a system should aim to come as close as possible to full first-choice vote effectiveness. If this can be achieved, as in the proportional-first-past-the-post system, subsequent rankings or multiple votes become needless complications. This is one of the reasons

[^25]that make the alternative vote, the single-transferable vote, and two-vote mixed systems less than ideal. Giving voters two votes or employing a ranked ballot would also be a significant departure from the current voting method, and one that lacks justification.

In terms of demographic representation, and in the easily measurable indicator of women's representation, list-PR tends to perform well, first-past-the-post, poorly, and mixedcompensatory systems employing lists somewhere in the middle of these two extremes. One of the major downfalls of list proportional representation is that it lacks strong local representation. The type of strong local geographic representation that single-member districts offer would simply not be possible under a list-PR system. For this reason, and since it represents perhaps a too great a departure from current political tradition, although an improvement in many respects, I do not consider it a viable option for Canada. A typical mixed-compensatory system, it seems, would improve women's representation somewhat, but would not approach parity. A mixedcompensatory system employing a 'best candidates' method would facilitate achieving gender parity if, and only if parties were permitted to run two candidates per riding, as would be the case under the proposed system. I believe proportional-first-past-the-post therefore represents the only serious Canadian proposal that would facility achieving gender parity in legislative bodies.

Any voting systems that delivers highly proportional election results can be considered as able to hold governments accountable. Voting systems that permit voters to at least endorse specific candidates would make members accountable. Systems that give voters a choice of candidates within parties would maximize member accountability. Systems employing closed lists, however, perform weakly in this regard since the power of voters to eliminate high-ranking party candidates is absent. The ability to hold individual members accountable, including party
leaders, is a positive feature of first-past-the-post that I would argue, is an essential feature in any prospective voting system that is to gain widespread support from Canadians. I believe that the idea of even some candidates being 'unaccountable' to the public due to their high party ranking would be enough to cause a prospective electoral system to be rejected by Canadians. The use of closed lists to fill all or some seats, such as for the list tier in a mixed-compensatory system, should be therefore, in my opinion, ruled out.

Most proportional systems would, of course, satisfy the criterion of proportional representation, with some systems performing better than others, depending on the design. Proportionality would also help deliver an effective opposition, accountable government, and more regionally balanced governments. Systems maintaining single-member districts would deliver strong local representation. Systems allowing members to endorse candidates would satisfy the accountable members criterion, with those allowing choice within parties excelling. A proportional voting system would make voting more meaningful than the current system since one's vote would "count" even when one does not support the most locally popular party or candidate. The systems performing the best in this regard would be one-vote models that allow virtually all voters' first-choice votes to be meaningful in two ways: influencing the number of seats awarded to each party and in determining which candidates fill those seats. Demographic representation would be expected to improve in systems that allow parties to present multiple candidates per riding. When parties present an even number of candidates, it makes achieving gender balance possible at the riding level; unbalanced slates of candidates would be visible by all. Every electoral system is, to some degree, more complicated than the first-past-the-post system. Some voting systems are, however, needlessly complicated including those that ask
voters to rank their ballots or cast two ballots since, ideally, every voter's first and only choice would be effective. Typical proportional formulae are more complicated than the plurality formula, but not excessively so.

Two voting systems, in my opinion, fully satisfy the list of criteria I have created: 1) a one-vote, no-list (best candidates model), mixed system that allows parties to run two candidates per riding, and 2) the proportional-first-past-the-post system (P-FPTP). The proportional-first-past-the-post system would offer a simpler, percentage-based formula, higher proportionality, and would be slightly more "local" as it could facilitate smaller second tier districts (provincial sub-regions) without sacrificing proportionality. Further, in addition to being a more proportional and local system, the ability of votes to combine across provinces and regions to elect candidates would have an extra benefit: nationally-oriented parties would no longer be disadvantaged when compared to regionally or provincially-oriented parties. The proportional-first-past-the-post system is therefore an ideal electoral system for Canada that could be used both federally and provincially. I believe it is significantly different from other models to merit its own name, and that the name I have given it is appropriate. It offers a proportional election result, is based on the first-past-the-post system, and the counting of percentage points within each district involves a metaphorical 'post' placed at 50 percent.

An essential part of solving Canada's democratic deficit is the adoption of a proportional voting system. For more than a decade, a solid majority of Canadians have consistently supported the idea of proportional representation (Environics 2010, 2013, Forum Research 2012, CRIC 2005, LeDuc and Pammett 2003, Chénier 2002, Bricker and Redfern 2001). Despite this reality, all provincial referenda to date have failed (Barnes and Robertson 2009). When searching
for an appropriate system it cannot be ignored that the vast majority of Canadians also support the current first-past-the-post voting system (LeDuc and Pammett 2003, 47-48). I have argued that because of these two potentially conflicting desires, a unique, Canadian solution should be sought. With this in mind I have succeeded in developing a proportional voting system that is essentially a modified first-past-the-post system. It is far too easy for reformers to focus on the negative aspects of first-past-the-post, ignoring or downplaying the system's positive features. It is my belief that the proposed system, because it maintains the positive and familiar features of first-past-the-post, will be more acceptable to Canadians than other electoral system options. This is, of course, a hypothesis, testable only by putting the system forward to Canadians. The system would achieve proportionality while maintaining the essence of first-past-the-post. A truly Canadian model of proportional representation has finally arrived: proportional-first-past-the-post.

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Appendix A, "Atlantic Region candidates from the three major parties"

Table 7-12, "Atlantic Conservative

|  | candidates" |  |
| :--- | :--- | :--- |
| Name | $\%$ | Elected |
| New Brunswick |  |  |
| C4 | $30.74 \%$ | NB2 |
| C9 | $28.82 \%$ | NB5 |
| C8 | $28.21 \%$ | NB4 |
| C10 | $25.08 \%$ | NB |
| C7 | $23.62 \%$ |  |
| C2 | $20.99 \%$ |  |
| C3 | $20.72 \%$ |  |
| C5 | $18.67 \%$ |  |
| C6 | $15.88 \%$ |  |
| C1 | $9.71 \%$ |  |

## Nova Scotia

| C3 | $27.64 \%$ | NS2 |
| :--- | :--- | :--- |
| C4 | $26.93 \%$ | NS |
| C5 | $23.90 \%$ | NS3 |
| C6 | $21.23 \%$ | NS |
| C2 | $19.33 \%$ |  |
| C12 | $19.25 \%$ |  |
| C11 | $17.39 \%$ |  |
| C8 | $15.12 \%$ |  |
| C1 | $14.99 \%$ |  |
| C9 | $14.97 \%$ |  |
| C10 | $12.66 \%$ |  |
| C7 | $9.08 \%$ |  |
| Prince |  |  |
| Cdward Island | $26.53 \%$ | PEI2 |
| C1 | $20.47 \%$ | Atlantic |
| C3 | $20.11 \%$ |  |
| C2 | $15.25 \%$ |  |

Newfoundland and Labrador

| C1 | $23.63 \%$ | NL |
| :--- | :--- | :--- |
| C8 | $20.33 \%$ | NL4 |
| C7 | $18.73 \%$ | Atlantic |
| C3 | $14.05 \%$ |  |
| C2 | $13.33 \%$ |  |
| C4 | $12.36 \%$ |  |
| C6 | $11.07 \%$ |  |
| C5 | $10.75 \%$ |  |

Table 7-13, "Atlantic Liberal candidates"

| Name | \% | Elected? |
| :--- | ---: | ---: |
| Newfoundland and Labrador |  |  |
| L3 | $29.39 \%$ | NL2 |
| L4 | $27.99 \%$ | NL |
| L1 | $25.65 \%$ | NL1 |
| L8 | $21.32 \%$ |  |
| L2 | $20.69 \%$ |  |
| L7 | $18.48 \%$ |  |
| L5 | $13.40 \%$ |  |
| L6 | $3.63 \%$ |  |
| Prince Edward Island |  |  |
| L1 | $26.48 \%$ | PEI1 |
| L3 | $21.81 \%$ | Atlantic |
| L2 | $18.42 \%$ |  |
| L4 | $15.20 \%$ |  |
| Nova Scotia |  |  |
| L1 | $22.72 \%$ | NS1 |
| L12 | $21.07 \%$ | NS6 |
| L2 | $20.39 \%$ | NS |
| L5 | $18.49 \%$ |  |
| L11 | $18.48 \%$ |  |
| L10 | $17.95 \%$ |  |
| L8 | $17.80 \%$ |  |
| L7 | $12.94 \%$ |  |
| L4 | $9.30 \%$ |  |
| L6 | $8.32 \%$ |  |
| L3 | $7.18 \%$ |  |
| L9 | $5.53 \%$ |  |
| New Brunswick |  |  |
| L6 | $18.66 \%$ | NB3 |
| L3 | $17.93 \%$ | NB |
| L5 | $16.35 \%$ |  |
| L8 | $13.51 \%$ |  |
| L2 | $8.86 \%$ |  |
| L1 | $8.46 \%$ |  |
| L10 | $8.10 \%$ |  |
| L4 |  |  |

Table 7-14, "Atlantic NDP candidates"

| Name | \% | Elected? |
| :---: | :---: | :---: |
| New Brunswick |  |  |
| NDP1 | 41.78\% | NB1 |
| NDP10 | 15.47\% | NB |
| NDP5 | 15.07\% | Atlantic |
| NDP8 | 13.89\% |  |
| NDP9 | 13.38\% |  |
| NDP6 | 11.15\% |  |
| NDP7 | 9.69\% |  |
| NDP3 | 9.56\% |  |
| NDP4 | 9.30\% |  |
| NDP2 | 9.25\% |  |

Newfoundland and Labrador

| NDP6 | $37.79 \%$ NL3 |
| :--- | ---: |
| NDP5 | $22.49 \%$ |
| NL |  |
| NDP7 | $11.61 \%$ |
| NDP1 | $8.26 \%$ |
| NDP8 | $8.22 \%$ |
| NDP4 | $7.77 \%$ |
| NDP2 | $7.15 \%$ |
| NDP3 | $7.04 \%$ |


| Nova Scotia |  |  |
| :---: | :---: | :---: |
| NDP9 | 26.59\% | NS5 |
| NDP7 | 26.05\% | NS4 |
| NDP10 | 18.54\% | NS |
| NDP6 | 17.78\% | Atlantic |
| NDP8 | 14.52\% |  |
| NDP12 | 12.33\% |  |
| NDP3 | 12.05\% |  |
| NDP4 | 11.93\% |  |
| NDP2 | 9.72\% |  |
| NDP1 | 9.63\% |  |
| NDP11 | 7.70\% |  |
| NDP5 | 6.66\% |  |

Prince Edward Island

| NDP2 | $11.70 \%$ |
| :--- | ---: |
| NDP3 | $7.53 \%$ |
| NDP4 | $6.01 \%$ |
| NDP1 | $5.46 \%$ |

Appendix B "Alberta simulation: 'minor' parties"

Table 7-9B, "Alberta simulation 2011: 'minor' parties"
CHP=Christian Heritage; ML=Marxist-Leninist; Com.=Communist; WBP=Western Block Party; Pir.=Pirate; PC=Progressive Canadian; Act. $=$ Canadian Action; Rh. $=$ Parti Rhinocéros

| Alberta 2011 (federal) P-FPTP simulation (minor parties) | 'major' parties | CHP | ML | Com. | WBP | Pir. | P.Can. | Act. | Rh. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AB Region 1 (AB South) |  |  |  |  |  |  |  |  |  |  |
| Calgary Centre | 49,217 |  |  |  |  |  |  |  |  | 49,217 |
| Calgary Centre-North | 50,115 |  | 203 |  |  |  |  |  |  | 50,318 |
| Combined (AB1) | 99,332 |  | 203 |  |  |  |  |  |  | 99,535 |
| Percent in combined riding | 99.80\% |  | 0.20\% |  |  |  |  |  |  | 100.00\% |
| Points in combined riding | 49.80 |  | 0.20 |  |  |  |  |  |  | 50.00 |
| Calgary-Nose Hill | 57,554 |  |  |  |  |  |  |  |  | 57,554 |
| Calgary West | 64,119 |  | 227 |  |  |  |  |  |  | 64,346 |
| Combined (AB2) | 121,673 |  | 227 |  |  |  |  |  |  | 121,900 |
| Percent in combined riding | 99.81\% |  | 0.19\% |  |  |  |  |  |  | 100.00\% |
| Points in combined riding | 49.81 |  | 0.19 |  |  |  |  |  |  | 50.00 |
| Calgary Northeast | 41,252 |  | 206 |  |  |  |  |  |  | 41,458 |
| Calgary East | 34,415 |  |  | 246 |  |  |  |  |  | 34,661 |
| Combined (AB3) | 75,667 |  | 206 | 246 |  |  |  |  |  | 76,119 |
| Percent in combined riding | 99.41\% |  | 0.27\% | 0.32\% |  |  |  |  |  | 100.00\% |
| Points in combined riding | 49.41 |  | 0.27 | 0.32 |  |  |  |  |  | 50.00 |
| Calgary Southwest | 56,933 |  |  |  |  |  |  |  |  | 56,933 |
| Calgary Southeast | 62,754 |  |  |  | 193 |  |  |  |  | 62,947 |
| Combined (AB4) | 119,687 |  |  |  | 193 |  |  |  |  | 119,880 |
| Percent in combined riding | 99.84\% |  |  |  | 0.16\% |  |  |  |  | 100.00\% |
| Points in combined riding | 49.84 |  |  |  | 0.16 |  |  |  |  | 50.00 |
| Wild Rose | 58,243 | 181 |  |  |  |  |  |  |  | 58,424 |
| Red Deer | 49,994 |  |  |  |  |  |  |  |  | 49,994 |
| Combined (AB5) | 108,237 | 181 |  |  |  |  |  |  |  | 108,418 |
| Percent in combined riding | 99.83\% | 0.17\% |  |  |  |  |  |  |  | 100.00\% |
| Points in combined riding | 49.83 | 0.17 |  |  |  |  |  |  |  | 50.00 |
| Crowfoot | 51,855 | 204 |  |  |  |  |  |  |  | 52,059 |
| Medicine Hat | 42,619 | 317 |  |  |  |  |  |  |  | 42,936 |
| (Combined (AB6) | 94,474 | 521 |  |  |  |  |  |  |  | 94,995 |
| Percent in combined riding | 99.45\% | 0.55\% |  |  |  |  |  |  |  | 100.00\% |
| Points in combined riding | 49.45 | 0.55 |  |  |  |  |  |  |  | 50.00 |
| MacLeod | 49,629 | 252 |  |  |  |  | 1,754 |  |  | 51,635 |
| Lethbridge | 46,370 | 1,716 |  |  |  |  |  |  |  | 48,086 |
| Combined (AB7) | 95,999 | 1,968 |  |  |  |  | 1,754 |  |  | 99,721 |
| Percent in combined riding | 96.27\% | 1.97\% |  |  |  |  | 1.76\% |  |  | 100.00\% |
| Points in combined riding | 46.27 | 1.97 |  |  |  |  | 1.76 |  |  | 50.00 |
| Total AB Region 1 (AB South) | 715,069 | 2,670 | 636 | 246 | 193 | 0 | 1,754 | 0 | 0 | 720,568 |
| Points in Alberta Region 1 (AB South) | 343.65 | 2.69 | 0.66 | 0.32 | 0.16 | 0.00 | 1.76 | 0.00 | 0.00 | 350.00 |
| Seats (AB South) | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| Leftover points transferred | 144 | 2.69 | 0.66 | 0.32 | 0.16 | 0.00 | 1.76 | 0.00 | 0.00 | 149.24 |
| AB Region 2 (AB North) |  |  |  |  |  |  |  |  |  |  |
| Edmonton Centre | 48,818 |  | 81 |  |  | 289 |  |  |  | 49,188 |
| Edmonton East | 45,710 |  |  |  |  |  |  |  |  | 45,710 |
| Combined (AB8) | 94,528 |  | 81 |  |  | 289 |  |  |  | 94,898 |


| Alberta 2011 (federal) P-FPTP simulation (minor parties) | 'major' parties | CHP | ML | Com. | WBP | Pir. | P.Can. | Act. | Rh. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Percent in combined riding | 99.61\% |  | 0.09\% |  |  | 0.30\% |  |  |  | 100.00\% |
| Points in combined riding | 49.61 |  | 0.09 |  |  | 0.30 |  |  |  | 50.00 |
| Edmonton-Strathcona | 48,346 |  | 91 |  |  |  |  |  |  | 48,437 |
| Edmonton-Mill WoodsBeaumont | 45,162 |  |  | 100 |  | 374 |  |  |  | 45,636 |
| Combined (AB9) | 93,508 |  | 91 | 100 |  | 374 |  |  |  | 94,073 |
| Percent in combined riding | 99.40\% |  | 0.10\% | 0.11\% |  | 0.40\% |  |  |  | 100.00\% |
| Points in combined riding | 49.40 |  | 0.10 | 0.11 |  | 0.40 |  |  |  | 50.01 |
| Edmonton-Leduc | 59,432 |  |  |  |  |  |  |  |  | 59,432 |
| Edmonton-Spruce Grove | 58,769 |  |  |  |  |  |  |  |  | 58,769 |
| Combined (AB10) | 118,201 |  |  |  |  |  |  |  |  | 118,201 |
| Percent in combined riding | 100.00\% |  |  |  |  |  |  |  |  | 100.00\% |
| Points in combined riding | 50.00 |  |  |  |  |  |  |  |  | 50.00 |
| Edmontont-St. Albert | 54,317 |  |  |  |  |  |  |  |  | 54,317 |
| Edmontont-Sherwood Park | 38,651 |  |  |  | 222 |  |  |  |  | 38,873 |
| Combined (AB11) | 92,968 |  |  |  | 222 |  |  |  |  | 93,190 |
| Percent in combined riding | 99.76\% |  |  |  | 0.24\% |  |  |  |  | 100.00\% |
| Points in combined riding | 49.76 |  |  |  | 0.20 |  |  |  |  | 49.96 |
| Peace River | 47,257 |  |  |  |  |  |  |  | 345 | 47,602 |
| Fort McMurray-Athabasca | 30,605 |  |  |  |  |  |  |  |  | 30,605 |
| Combined (AB12) | 77,862 |  |  |  |  |  |  |  | 345 | 78,207 |
| Percent in combined riding | 99.56\% |  |  |  |  |  |  |  | 0.44\% | 100.00\% |
| Points in combined riding | 49.56 |  |  |  |  |  |  |  | 0.44 | 50.00 |
| Yellowhead | 40,658 | 404 |  |  |  |  |  | 384 |  | 41,446 |
| Wetaskiwin | 46,363 |  |  |  |  |  |  |  |  | 46,363 |
| Combined (AB13) | 87,021 | 404 |  |  |  |  |  | 384 |  | 87,809 |
| Percent in combined riding | 99.10\% | 0.46\% |  |  |  |  |  | 0.44\% |  | 100.00\% |
| Points in combined riding | 49.10 | 0.46 |  |  |  |  |  | 0.44 |  | 50.00 |
| Westlock-St. Paul | 41,958 |  |  |  |  |  |  |  |  | 41,958 |
| Vegreville-Wainwright | 48,730 | 327 |  |  |  |  |  |  |  | 49,057 |
| Combined (AB14) | 90,688 | 327 |  |  |  |  |  |  |  | 91,015 |
| Percent in combined riding | 99.64\% | 0.36\% |  |  |  |  |  |  |  | 100.00\% |
| Points in combined riding | 49.64 | 0.36 |  |  |  |  |  |  |  | 50.00 |
| Total Alberta Region 2 (AB North) | 654,776 | 731 | 172 | 100 | 222 | 663 | 0 | 384 | 345 | 657,393 |
| Points in Alberta Region 2 (AB North) | 331.50 | 0.82 | 0.19 | 0.11 | 0.20 | 0.70 | 0.00 | 0.44 | 0.44 | 349.97 |
| Seats (AB North) | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Leftover points transferred | 82 | 0.82 | 0.19 | 0.11 | 0.20 | 0.70 | 0.00 | 0.44 | 0.44 | 84.40 |
| Total votes (Alberta) | 1,369,845 | 3,401 | 808 | 346 | 415 | 663 | 1,754 | 384 | 345 | 1,377,96 |
| Provincial tier points | 225.15 | 3.51 | 0.85 | 0.43 | 0.36 | 0.70 | 1.76 | 0.44 | 0.44 | 233.64 |
| AB Provincial seats | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Leftover points transferred | 125.15 | 3.51 | 0.85 | 0.43 | 0.36 | 0.70 | 1.76 | 0.44 | 0.44 | 133.64 |
| Single-member riding seats | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| AB provincial sub-region seats | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Total Alberta seats | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 |
| Value of transfer points in seats | 2.50 | 0.07 | 0.02 | 0.01 | 0.01 | 0.01 | 0.04 | 0.01 | 0.01 | 2.67 |
| Total seat value Alberta | 27.50 | 0.07 | 0.02 | 0.01 | 0.01 | 0.01 | 0.04 | 0.01 | 0.01 | 27.67 |
| Total seat value (percent) | 98.82\% | 0.25\% | 0.06\% | 0.03\% | 0.03\% | 0.05\% | 0.13\% | 0.03\% | 0.03\% | 100.00\% |
| Popular vote | 98.73\% | 0.25\% | 0.06\% | 0.03\% | 0.03\% | 0.05\% | 0.13\% | 0.03\% | 0.03\% | 100.00\% |


| Alberta 2011 (federal) P-FPTP simulation (minor parties) | 'major' parties | CHP | ML | Com. | WBP | Pir. | P.Can. | Act. | Rh. | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Difference | n/a | 0.01\% | 0.00\% | 0.01\% | -0.00\% | 0.00\% | -0.00\% | 0.00\% | 0.01\% | 0.00\% |
| LSq (P-FPTP simulated) | 0.10 |  |  |  |  |  |  |  |  |  |
| Total seats (actual) | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 |
| Percentage of seats (actual) | 100.00\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% | 0.00\% | 100.00\% |
| Difference with popular vote | $\mathrm{n} / \mathrm{a}$ | -0.25\% | -0.06\% | -0.03\% | -0.03\% | -0.05\% | -0.13\% | -0.03\% | -0.03\% | 0.00\% |
| LSq (actual) | 24.13 |  |  |  |  |  |  |  |  |  |


[^0]:    ${ }^{1}$ counting the 2008 and 2011 elections, which were not included in his book

[^1]:    ${ }^{2}$ For example, Alina Abott argues "Why Green is NOT a Wasted Vote": "Every vote cast for the Green Party sends a message that Green values and policies are important" (2007)

[^2]:    ${ }^{3}$ That is, unless one argues that by participating in an election, one authorizes the results. If this is the case, low voter turnout may be real cause for alarm.

[^3]:    ${ }^{4}$ A majority of Canadians are consistently favourable to the idea of proportional representation (Environics 2010, 2013, Forum Research 2012, CRIC 2005, LeDuc and Pammett 2003, Chénier 2002, Bricker and Redfern 2001).
    ${ }^{5}$ From statement by 132 political scientists from 36 universities (Fair Vote Canada 2010).

[^4]:    ${ }^{6}$ Even though a mistake was made, I suspect this ballot still counted. The communications manager of Elections BC explained, "The intent of the voter must be clear," (CBC News 8 May 2013) and in this case, the intent to vote Liberal was indeed clear.

[^5]:    ${ }^{7}$ The presidential contest can be considered a competition for a single seat in a single-member district (the nation).

[^6]:    8 "The single nontransferable vote (SNTV) is a special case of the limited vote in which each voter has only one vote in a district electing two or more representatives" (Lijphart 1984, 208).

[^7]:    ${ }^{9}$ Imagine a 5 -member riding in which parties A, B, C, and D had votes shares of $40,30,25$, and 5 percent, respectively. The plurality winner would be Party A with 40 percent, but how many of the 5 seats would it then be entitled to?
    ${ }^{10}$ section 3.3.3
    ${ }^{11}$ That is, if voters can indicate a choice between candidates from the same party, such as when an 'open list' is used, discussed in section 3.3.3.4.

[^8]:    ${ }^{12}$ It would be theoretically possible to award portions of seats by giving certain party members a weighted vote in Parliament, however, such an arrangement would be impractical.

[^9]:    ${ }^{13}$ inspired by Gallagher and Mitchell's illustration of highest average seat allocation (2005, 584-587).

[^10]:    ${ }^{14} 27$ of 28 seats in 2011 and 2008, 28 of 28 seats in 2006, and 26 of 28 seats in 2004

[^11]:    ${ }^{15}$ When second and third-choice votes are counted, Candidate A (the winner under first-past-the-post) turns out to be supported by 71 percent of voters.

[^12]:    ${ }^{16}($ votes $/$ seats +1$)+1$, rounded down

[^13]:    ${ }^{17}$ In other words, apply the plurality formula to parties rather than to candidates.

[^14]:    18 two-vote versions
    ${ }^{19}$ Such as some municipalities or for the election of boards in civil society.

[^15]:    ${ }^{20}$ Incidentally, with parties running two candidates per riding and there being half as many ridings as there currently are, the number of candidates per party would remain the same as under first-past-the-post.

[^16]:    ${ }^{21}$ Other fairly large provinces in terms of population could also be divided into provincial sub-regions, such as British Columbia and Alberta.

[^17]:    ${ }^{22}$ Lijphart $(1994,61)$ and Gallagher $(2005,604)$ explain that lumping "others" (very small parties) together would distort the value of the index. Lijphart disregards parties considered as "others" in his study (1994, 61). Gallagher writes that "simply disregarding Others will usually produce a result very close to the correct one," so this is the approach I will use for independent candidates, since they are essentially the smallest party possible: a party with only one candidate.
    ${ }^{23}$ The national figure, currently at 12.42 (Gallagher 2013a, 9; and calculated from Library of Parliament data) is very high, but does not reveal the exaggerations that occur on the provincial or regional level. These exaggerations at the regional and provincial level have significant implications for regionally balanced governments (or lack thereof). In the 1980 election, for example, the Liberals came to power with a majority despite winning only two seats in Western Canada, both in Manitoba (Harrison 1995, 3). The least squares index of 8.72 for the 1980 election (Gallagher 2013a) does not reveal details such as this. The least squares index ( LSq ) calculated provincially for the current system and simulated for other systems will give a better understanding of the levels of proportionality at the provincial level.

[^18]:    ${ }^{24}$ It makes more sense to split the party's vote unevenly because is unlikely that party candidates would be tied. The level of unevenness does not affect the number of points or seats received by each party.

[^19]:    $\mathrm{L}=$ Liberal Party, $\mathrm{C}=$ Conservative Party, NDP $=$ New Democratic Party, $\mathrm{G}=$ Green Party, CHP = Christian Heritage Party, ML = Marxist-Leninist Party

[^20]:    ${ }^{25}$ A full simulation for Alberta has been done, with the province divided it into provincial sub-regions, as will be seen later in this chapter.

[^21]:    ${ }^{26}$ Since, at this point, New Brunswick is the only remaining Atlantic province with an unfilled seat quota, the next seat allocated to Atlantic Canada would be filled by a candidate from New Brunswick.

[^22]:    ${ }^{27}$ The results for all parties were not able to fit in a single table.

[^23]:    ${ }^{28}$ Hare quota $=$ votes $/$ seats
    ${ }^{29}$ Droop quota $=($ votes $/$ seats +1$)+1$

[^24]:    ${ }^{30}$ Labrador represents one-quarter of the province's ridings under P-FPTP but only 5.2 percent of the population (Federal Boundaries Commission for the Province of Newfoundland and Labrador 2012, 33).

[^25]:    ${ }^{31}$ Canadians know, for example, that $13 \%$ HST on a $\$ 10$ item will be $\$ 1.30$ or $\$ 13$ on a $\$ 100$ item. They also understand that a $\$ 1000$ item would be better purchased in Alberta (if possible), since a GST rate of $5 \%$ would result in $\$ 50$ of taxes rather than $\$ 130$-a savings of $\$ 70$.

