
#### Abstract

Part 1. The Citizens Assembly's Statement makes a long list of weaknesses or vagaries of the $F P P$ system. I study this subject by taking voting data from all past Canadian elections, and seeing what the result would be if a more proportional system were used, if the district magnitude was M2, M3, M4, M5, M6, etc. (also various formula, like Droop quota). R. Taagepera carried out the same experiment, for Britain, and we both had the same results. At M2, every single one of the vagaries of M1-plurality/FPP - lack of PR; favours regionally concentrated parties; has 'wasted votes'; party with less votes wins more seats (and vice versa party with more votes gets less seats, example of BC, Canada; there is not always 'effective opposition', example of New Brunswick and BC; makes gerrymander easy, BC example of 'Gracie's finger', US example of NJ 'freeway' district; causes 'squeezing out' of third party, example of Britain and BC of Liberals; - disappeared.

In other words, if a critic's only reason for abandoning FPP is these stated vagaries, then there is no reason to go any higher in PR than M2. The C.A. Statement declared that they wanted 'a more proportional' system', while retaining local geographic representation. M2 obviously meets these criteria. So again there is no reason to look any further. However, I do not personally recommend M2. Perhaps 'effective district magnitude', as Taagepera calls it. An average of two. This would mean one-seat ridings in the North and other rural areas, and multi-seat districts in the GVRD.


The only reason to go higher, than 'more proportional', is to achieve perfect PR. Both Taagepera and I found that PR increases according to a mathematical (exponential curve) equation, and reaches complete PR at M6. In other words, there is no reason to switch to a system of extreme PR, especially the ones with nation-wide PR (not just Israel, Netherlands and Uruguay, but also the additional members mixed systems, that have regional elections and then top it off with national proportionality: Austria, Denmark, Germany, and now Italy and New Zealand). On the other hand, countries that use preferential ballots (Ireland, Malta) avoid making it overly complex by having average PR lower than M6 (all of Malta's are M5. Switzerland has a higher PR, but also has a means of avoiding this complexity). All other PR countries studied use regional districts based on rep by pop. This means residents of counties, cities, or provinces with huge populations do not have local geographic MPs. Since this is a goal of the C.A.., and complete PR is reached by M6, I have created a logarithmic formula based on population density, where the North of BC would retain one-seat ridings (attention: Chris Morey) (the Mixed system would make a federal riding in the North of BC the size of Germany; STV would do the same to a provincial riding), areas like the Okanagan valley would be added together to form multi-seat ridings (still having MLAs representing the interests of the Valley and having local offices) while areas like Vancouver would be divided up into ridings of M5. (This is not too different from Nick Loenen's recommendation, sans the superfluous or counterproductive preferential ballot).[go to p.20]

Part 2. The Citizens Assembly's Statement makes another long list of additional weaknesses or vagaries of the FPP system (has majority rule vs. consensus; a large party bias; more party discipline; more polarization vs consensus; less representation). All of these claims are

## erroneous.

I study this subject by taking voting data from the 30 countries that have the most semblance of a democratic system. Other studies have looked at this election data, but they have focused on the translation of votes into seats, into party representation in the legislature. Here we are interested in parties in the cabinet-government. We don't care if there are small third parties or minor extreme parties 'represented' in the legislature. We want to know if they are needed to form a coalition government, or to support a minority government, and their 'proportion of power' in the cabinet (not their proportion of representation in the legislature), both in number of cabinet posts, number of senior posts (the religious part Shas in Israel and the liberal party in the Netherlands are great examples of over-rep), and frequency of appearance in cabinets (the liberal party in Germany is a great example of over-rep). We measure this by using 'standard deviation' of parties from the political centre times their vote support. Our results show that the higher the PR, not only is one-party government replaced by coalitions, but that the junior partners in the coalitions always pull the government further away from the centre. In other words, the higher the PR, the more polarized the political spectrum becomes, and the harder it becomes to arrive at a consensus. [go to p. 35, or p.71]
Part 3. p. 97. Here we continue to study additional vagaries of extreme $P R$. In addition to deviation from the mean, standard deviation is also used to measure how easy or how difficult it is to form a (one party or coalition) government. Here we are measuring 'cabinet instability'. One result was that having more and more parties (as PR increases) doe not make coalition formation more difficult. Instead, the worst position for a major party to be in is to have only a single minor party in a position to help it form a majority (Germany is the best example). Just as interesting, this scenario is the same one that we would have considered as the 'ideal representation' of parties in the legislature. This is just one 'vagary' or weakness of (extreme) PR (note that the literature make no differentiation between semi PR and extreme PR. These are the same students of electoral systems who do differentiate M1 (FPP, Run-off and ATV) and PR (List, STV and Mixed) into 3 types). There are many others vagaries of extreme PR:

It produces extreme parties; produces unstable coalitions [A. stat'l, duration; B. cases of paralysis, and extreme parties]; the members of the cabinet are not chosen by the people [= manuf maj], and not 'responsible'/ + parties in opposition are still 'wasted' votes]; the members of the party, are chosen by leaders from a 'list' and are not chosen by the people [parties are 'elected', not indiv MPs; approx. = Cdn Senate appt]; there is strict party discipline [vs. movement today for free votes, MP independence, to rep 'constituents']; with regard to 'proportional power' small parties benefit the most.
Our final recommendation, is that if the PR of the electoral system is intended to produce representation of a specified number or category of parties in the legislature, and we already know what the relationship is between PR and the numbers of parties, then the first election should use the Run-off system. Using this system, in the first round parties do not have to worry about 'wasted' votes, and so they do not have to worry about being 'squeezed out'; i.e., the 'mechanical and psychological effects' of the FPP will be absent. Thus, in the first round, we can gage how many parties and 'salient issue' dimensions would be serious players if we weren't using FPP, if we were using PR. For example, if it turned out to be four parties, none of them splinters of existing parties, then we would know that we don't need extreme PR (a lower threshold) in order for those parties to be represented. M5 or M6 would be fine. (Jim Nielson
supports the Run-off, but for different reasons. He also makes a very succinct summary of the vagaries of PR, but without the data to back it up).[go to p.71]
'it may be desirable to use an electoral system in which it is still possible to express regional concerns through parties, but proportional enough that more than one party is represented by that district' p. 51
'Canada's federal Liberal party is the only large party at the centre (i.e. moderate) of the political spectrum in the world (which is more than ironic, given the amount of press that electoral reform movement in the country have received. Canada is the only country that meets the most important criteria, in terms of what type of government an electoral system should produce'. p. 72
'increasing PR higher than M6 is only to the benefit of small, ideologically extremist parties with no solid following in any region' p. 95
'The 'best' electoral system is therefore not one that aids minor parties with immoderate ideological policies (anti-system or divisive), but one that has been the most successful at including the smaller regions in cabinet (not including secessionist parties..'p. 115
Those interested in analysis (mostly critiques) of the German Mixed system may want to go to: pp. 51; p. 111

WHAT FOLLOWS IS A 'WORK IN PROGRESS', in order to make the deadline for members of the C.A. to read it. Please excuse any abbreviations, and read what you feel is pertinent. Thanks.

Comments and Questions (regarding data, citations or analysis) from readers is welcome.
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Aim
Why study electoral systems? Of what concern are they to the average citizen? What is their place or status within the discipline of political science?

The motivation for writing this book came about as a response to the decision of the government of British Columbia to form a 'Citizen's Assembly' of average citizens to re-examine the province's method of electing its members of the legislature - and to possibly recommend a new one.

After completing an MA thesis on electoral systems at UBC, I went to UC Irvine for my PhD. The reason I chose it, is because, as the author of the Citizens Assembly's primary text (Farrell) says, the 'freight train' of electoral studies has been coming from there. Given who my 'mentors' were, I had no thought that 'pupil' had surpassed 'teacher', and consequently it had not occurred to me that I needed to write my own book on the subject. It was with the occasion of the forming of BC Citizens Assembly, that I felt motivated to write a book that is more accessible to a general audience. It was also at this time that I realized how much misunderstanding there was remaining in this field.
This monograph consists of chapters dealing with a different aspect of electoral systems, each chapter making a transition into the next. It traces the development of various electoral systems, whereby gradually more and more proportionality leaves behind problems associated with the single-seat systems, and creates problems of its own.

From a scholarly standpoint, the most significant contribution to the field of electoral studies, is the analysis of data that demonstrates that 'choosing' between existing electoral systems is not a simple matter of either/or decisions. Previous literature has assumed that there is a 'trade-off' between one system and another, that each has strengths and weaknesses, and thus 'choosing' an electoral system is a simple matter of 'weighing' which one has the most desired (democratic) values, with the least amount of undesired side effects. This study demonstrates that no such 'tradeoff' exists, that different systems are not self-contained, but instead exist on a continuum. Furthermore, somewhere along this continuum, there are systems that lose the weaknesses of the archetypical system, while retaining its strengths. This discovery, found nowhere else in the literature, does not lead to the recommendation of these median systems. It does, however, change the very nature of the debate.

You may have noticed that the title of this work includes mention of forming a government. This statement is being made because a cursory glance at proposals for electoral reform shows that they are fixated on 'representation' in the Assembly. You would think that they are not even aware that the main purpose of an election is to choose a government, a cabinet that has the confidence of a majority of the legislature. The C.A. mandate in section b.) states that: it is to take into account the potential effect of its recommended model on the government, the Legislative Assembly, and the political parties. So, what is the effect on the government? Does it provide 'Peace Order and Good Government' (POGG)?

Choosing an electoral system should balance the need for POGG with the desire of individual citizens to have their preferences faithfully represented; but never forgetting that the former is a necessity, while the latter is a desired outcome. Also, we should
keep in mind that they are sometimes at odds, while at the same time POGG is partially dependent on who is represented: a better system of representation may improve POGG.

When the Citizens Assembly was formed, and they needed to learn enough about the subject that they could make an informed decision on a 'made in BC' electoral system. I soon realized that there was no book available that was written for this kind of audience. There is an excellent one for setting high standards of scientific research,(Taagepera and Shughart) and one describing the various types of systems to 'choose' from (Grofman and Lijpart). However, Taagepera's book is too technical for most political scientists, let alone the average general reader. Meanwhile, Grofman's book assumes the readers have a political science degree, and are familiar with all the concepts involved, such as 'representation', as well as having some familiarity with the cultural and historical idiosyncrasies of various countries that would make them prefer one electoral system over another. Readers less familiar with these concepts and countries will see the title and the chapter headings, and get the mistaken impression that 'choosing' an electoral system is like choosing a dinner off of a menu. Furthermore, because politics holds certain ideals, they will not think that this is any old menu, but a magic one, where a bottle of Chateau Lafitte can be ordered for the same price (free) as a bottle of home-made wine. In the case of politics and constitutions, this attitude produces: "I'll take the most perfectly representative or equally representative system". Unfortunately, it appears that BC is going to be presented in a referendum with a choice between two systems that have been promoted in just this fashion. This is what happened with the new 'Weimar' regime in Germany after WWI, and the new state of Israel after WWII; these are probably the two most dysfunctional systems that anyone can think of. This is probably not a coincidence, and illustrates the point that 'choosing' an electoral system is not that simple of a process.

Grofman's book is not itself such a 'menu', and in fact it includes a chapter by Hermans, discussing this very danger, of systems that are too proportional in representation, and open the door to extremists (who make things worse by either getting their 'share' of seats and causing an unstable government where the largest party lacks majority support in the legislature, or else get a share of power in the cabinet. Neither of these outcomes reflects the public 'will', what the general public wills as an election outcome). However, by organizing the book so that each section discusses a different type of electoral system, it gives the impression that countries 'choose' electoral systems the same way that they buy a car, or order from a menu; in this case by weighing the various pros and cons of models according to a set of democratic criteria, such a majority rule, representation, equality, accountability and so on. When in fact, countries almost never change the system they use, and choose the ones they have based on custom and convention, and the nature of the party system. Furthermore, because the Grofman book assumes some knowledge of history, geography and political theory on the part of the reader, it can proceed to immediately explore the various nuisances of different systems. Whereas, if we were to use the same format for the general reader, each chapter would have to describe the technical aspects of each system, since that is what electoral systems themselves are: a mathematical method of translating the votes a party receives, into seats in the legislature. Presented in this manner, each chapter would consist in having the average
person's eyes glaze over, as they attempt to understand which electoral system uses which mathematical equation.

What a non-specialized book on choosing an electoral system should have, is a 'menu', but one that explains the ends of different systems, more so than the systems/ equations themselves, the 'means'. It should have great intellectual depth, without requiring a great deal of technical (mathematical) expertise on the part of the reader. To borrow an analogy from Plato, it should aid in choosing which destination the passengers want to go; not how to run the ship. For example, Majority Rule may be the best system for a homogenous society, but what about a case like Northern Ireland, where a minority ended up being permanently out of government? On the other hand, Proportional Representation may be best for a heterogeneous population, but what about the inclusion of extremist parties in the coalition governments of Weimar Germany and Israel (both of which are homogenous)? In these cases, the electoral system chosen produced a level of instability that could not have been worse than if it had been the desired outcome. We see then that what is 'fair' - minority rights, stability, etc. - varies from one situation to another. 'Fair' is not some abstract, universal ideal, to be sought in all places, at all times; as proponents of 'proportional representation' seem to truly believe.

To begin with, the legitimate authority of democratic governments is based on fair elections. At this point, most people take their eyes off the ball, and worry about whether the ballots were counted accurately (e.g., Florida's 2000 'dangling chads'). Yet, where all the real action is taking place, is the method used to translate votes for candidates into seats for their parties, or vice versa - the electoral system. For, the electoral system used - and there are many of them to choose from - will have significant effects on which party wins the election and thus forms the government (In the 2000 US election, Gore actually received more votes nation-wide, while in Florida Bush won a handful more votes in a state with a population of 16 million, yet he was awarded every single one of its electoral college votes). The winning party or coalition of parties will point out that they have a majority of the seats in the legislature, and therefore have a 'mandate' to govern, and even to enact all of their election promises. Yet, if we look at real election results in almost any country, it is almost certain that if they had used a different electoral system, a different party would have won the election. This is the critical factor, not proportionality, etc.

Furthermore, politicians are fully aware of this fact, and inevitably choose the system that they think will help their party the most. Countries get capitalist or socialist (France, Italy, Germany), religious or secular (Italy, Netherlands, Belgium), pacifist or hawkish, agrarian or urban (Japan, Mexico, France) governing parties, based primarily on which electoral system they used. And it's those respective governing parties, that chose which electoral system their country would use. Whether or not, in spite of this conflict of interest, the system used is 'fair', it (underlying acceptance of procedural rules) nevertheless is the basis of legitimacy of democratic governments.

If what is 'fair' in elections is to some extent subjective, the rate of voter turnout in a certain country may be used as a measure of how much support there is for the current electoral system amongst the general population (crosscountry comparisons are less useful, as the two countries with the lowest turnout, the US and Switzerland, have by far the highest number of elected offices. In their cases, low turnout could just be voter fatigue). Proponents of 'proportional representation' in Canada argue that the recent low voter turnout (61.2\% of eligible voters in the 2000 election, compared with $75 \%$ just twelve years earlier, in 1988), is due to a feeling that a person's vote doesn't count, is a 'wasted vote', is not the decisive vote under the current 'First-Past-the-Post' system. For example, if the election result was $51 \%$ for one candidate, and $49 \%$ for another, a person could feel that their vote could reverse the outcome; whereas, if it is 6040, their vote would have no effect on the outcome. However, under a more 'proportional' system, four parties could receive 40-30-20-10 votes respectively, with five seats up for grabs. Under these circumstances, an individual's vote is more likely to affect the outcome, is less likely to be 'wasted.' However, the current system is the same system as always, one that once produced high turnout; and therefore by itself does not explain the change in the rate of turnout. At the same time, while the electoral system is not the cause of 'disaffected youth', and does not explain the 'problem' of declining turnout, having a (more proportional) electoral system that decreases the percentage or likelihood of 'wasted votes' may be part of the solution, that contributes to at least temporary increases in voter participation.

What the example of turnout shows us, is that choosing from the menu of electoral systems is not a simple matter of asking: "Which system is the fairest? The most egalitarian? Produces majority rule?" then expecting a clear answer of 'System A', and stating "Then I'll take A". Starry-eyed pursuers of the 'fairest' electoral system, one that most satisfies every 'democratic' ideal, forget that all of the knights of the Round Table who searched for the Holy Grail met their demise. Parcival ('pierce-vale') succeeded where others had failed, by realizing that there is no free lunch. So it is with government. As in life and nature, government is replete with contradictions, complexity, costs and benefits, grey areas, and polar opposites (that usually complement one another). There is no perfectly 'proportional', 'fair', 'majority rule', 'equal', or 'efficient' system. The 'menu' that the student of electoral systems has to 'choose' from, is: a 'trade-off' between 'democratic' ideals and 'stability'; between various degrees and types of 'proportionality' and 'majority rule'; and how suitable a type of system is to a specific country. These are the types of issues and concepts that make up the basic content and organization of this monograph. It is the only way to arrive at a 'Made in BC' solution.

Electoral systems take centre ring in political science for another reason. All of the social sciences suffer from 'physics envy', which is to say that they measure the standards of their own discipline according to how closely they emulate the methods of the physical sciences. By this criteria, studying the mechanical aspects of electoral systems is the most 'scientific' branch of the social sciences.

Quite aside from knowledge for knowledge's sake, or the constitutional engineering facets of electoral systems, the mechanical nature of translating votes into seats spares it from the plague of 'post-modern' discourse, which is that everyone is entitled to their 'opinion'. It is a sanctuary of reason, where we can describe and explain the process from the moment that voters cast their ballots, to the time that a new government is sworn in, without ever having to worry about personal biases, or conflicting opinions, or different perspectives. We only re-enter the world of opinions again, of doubt and dogma, if and when we have to decide which system is the 'fairest' or the best for other reasons. But for the most part, it is the perfect place to begin building political science on a solid scientific foundation, and then building a more general model of the 'political system' around it.

While electoral studies is the most scientific branch of political science, the discipline itself is placed under the faculty of Arts, not the faculty of Science, and this reflects the general interests of the vast majority of political scientists, who have traditionally shunned mathematics [a better name to make the discipline more all-inclusive would be 'politic-ology'']. The dilemma is obvious: how do we write a book about electoral systems, without losing the attention of the most natural audience? The answer is, one cannot possibly carry on an intelligent conversation or say anything interesting or important about electoral systems, without bringing up the subject of the systems themselves, which is to say their mathematical equations for translating votes into seats.
At some point, a book on electoral systems has to include tables with numbers of votes and seats, and equations for translating one into the other. Because this book does not want to lose its natural audience, students of politics, it does include tables and equations, but places them at the back of the book whenever possible.

