IN SEARCH
OF A COMPENSATORY MIXED
ELECTORAL SYSTEM
FOR QUÉBEC

SUMMARY

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Preliminary note

In July 2003, the Minister for the Reform of Democratic Institutions, Jacques P. Dupuis, mandated Louis Massicotte, associate professor in political science at the Université de Montréal, to investigate the possible approaches for a compensatory mixed electoral system that reflects Québec's specific conditions. It was agreed that the mandate would focus on the working model put forward by Prof. Massicotte and his colleague, Prof. André Blais. In this report *In Search of a Compensatory Mixed Electoral System for Québec*, Prof. Massicotte has brought his thoughts on this matter to fruition. A summary is provided in the following pages. Any reader interested in examining all of the supporting data will have to refer to the report itself.

In this summary, the expression “compensatory mixed electoral system” refers to an electoral system where the candidate who receives the most votes is elected to represent a single-member constituency and where the parties are then assigned compensatory seats, to ensure that each party's total number of seats is close to its share of the popular vote.

In the report, the first part covers what may be learned from the experience of societies where a compensatory mixed electoral system already exists. The focus is on the experiences of Germany (at the federal and Land levels), New Zealand, Scotland, and Wales. The different legislative approaches currently in force are an interesting source of inspiration and show the variety of possible arrangements for such a system in all its facets: constituency/list seat ratio; geographic framework for compensation (territory-wide or regional); seat distribution methods; different computation techniques for seat distribution; and excess seats.

The first part also covers the choices that voters may be asked to make, i.e., the possibility not only to vote for a constituency candidate, but also to vote separately for a political party, as well as to express preferences for certain candidates on a party list. This part also addresses the issue of coexistence between constituency members and list members in a single Parliament, as well as the issues of women's representation and replacement of elected members.

The second part is devoted to a series of simulations that project the outcomes of these different possible approaches when applied to the 1998 and 2003 Québec elections.

The third part encompasses the conclusion and the author's recommendations on the modalities of electoral reform.

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FIRST PART
Experiences of other countries

SEAT DISTRIBUTION
In a compensatory mixed system, seat distribution is a complex equation with many variables that come into play. We will examine the variables one by one.

Choosing a ratio
The ratio is the number of elected constituency members and the number of compensatory seats. A compensatory mixed system does not absolutely require an equal number of direct seats and compensatory seats—also called list seats. A ratio equal or very close to 50/50 is certainly used in Germany at the federal level and in eight Länder. But in the other Länder and countries under study the list seats make up 29% to 43% of the total. Such compensation will very effectively reduce the distortions of the first-past-the-post system, as long as the distortions are not too large. The initial ratio has seldom been substantially altered over the years. No government has taken the risk of reducing the total number of members by cutting back exclusively on the number of list seats, which are largely held by opposition members.

If the ratio is biased more to constituency seats, the distortions may be less completely corrected. The further one goes below the bar of 40%, the likelier there will not be enough compensatory seats to correct the distortions. The ratio one chooses will depend to some degree on whether there are regional subdivisions. Territory-wide compensation gives lawmakers much leeway in setting the ratio because the compensatory seats are not tied to any specific region. For a 125-seat Parliament, the ratio may easily range from 70/25 to 80/45 or 63/62. Regional compensation narrows the range of possible ratios, all the more so if the regions are small in size and large in number. If each region has 5 seats, the only possible ratios are 3+2 or 4+1.

The smaller the proportion of list seats, the likelier it is that the party that wins the most constituencies will have excess seats. The total number of seats will thus exceed the statutory total. This clearly emerges from a review of the 131 elections held under personalized proportional representation in Germany from 1947 to September 2004. Wherever list seats made up 40% or less of the total, and partly for this reason, excess seats were produced on average over half the time, versus less than a quarter of the time wherever list seats made up a higher proportion of the total. The more the ratio was biased to constituency seats, the lower the likelihood that the strongest party would receive list seats.

The level of compensatory seat distribution
Four options:

1. Territory-wide compensation is the simplest approach. A comparison is made, for each party, between the number of seats it would receive under proportional representation (PR), based on its national share of the popular vote, and the total number of seats it actually won. The second number is subtracted from the first to give the number of compensatory list seats the party is entitled to. The elected members for these seats are not tied to any specific territorial subdivision. Under a system of territory-wide compensation, nothing requires parties to produce regionally balanced lists, but in practice this is dictated by political common sense. New Zealand and most Länder have opted for territory-wide compensation.
2. If one wants list members to be anchored to more concrete and smaller territories, the solution is to group the single-member constituencies into a certain number of regions and to compute compensation separately in each region. This is *regional compensation*, which is notably used in the Land of Bavaria, in Scotland, and in Wales. It was in force in the first two Bundestag elections (1949 and 1953).

3. German lawmakers chose in 1956 to introduce a new seat distribution method, to make the final outcome more proportional. *Territory-wide compensation is followed by redistribution of party seats among the regions*. This method is still in force and uses two successive distributions. First, *seats are distributed among the parties at the national level, using the total number of valid second votes for each party that has cleared the 5% threshold*. Next, for each party, the seats received at the national level *are redistributed among the Land lists*, based on the Land’s share of all valid second votes for the party. In the second operation, each Land is competing with the other Länder for a share of each party’s seats.

4. *Regional redistribution may be optional*, i.e., left to the discretion of the parties. This variant is notably found in the Land of Berlin. Each party may present either a list for the whole territory or several regional lists. Seats are first distributed among the parties for the whole territory. The parties *that so wish* may then go on to a second distribution among their regional lists. If a party wishes to anchor its list members to limited territories, it can do so without affecting another party’s right to present a national list.

The choices in this area have three major implications. First, *territory-wide compensation reduces to a minimum the spread between each party’s percentage of the vote and its number of seats*. This method makes it likelier for small parties to be represented in Parliament because the entire territory forms one constituency for the purposes of computation—the surest way to minimize distortions. Conversely, the distortions are greater if the compensation is done regionally rather than territory-wide, and greater still if the regions are small in size and large in number.

Second, *territory-wide compensation reduces the possibility of excess seats*. Such seats are likelier to arise if the compensation is done within regions, and even more so if there are many small regions. The more regional entities there are, the likelier a party will be overrepresented in some regions. To offset overrepresentation by one party, these regions have to receive more representation to compensate the other parties and the total number of elected members will increase.

Third, there is a fear that a national list will give party leaders too much clout in choosing list candidates and that they might use this power to impose their favourites. With a national list, different geographic areas may still be equitably represented, but this outcome is less certain than it is with regional compensation.
Methods for distributing compensatory seats

The German method is by far the most common one. All seats are fictitiously distributed according to the vote for each party. From these seat standings are subtracted the number of constituency seats actually won by each party. The difference is the number of compensatory seats and as long as enough are available this operation will produce an overall outcome in proportion to each party's vote. With this method, a party may manage to win more constituency seats than the total number of seats it should get under PR (excess seats). So the total number of elected members has to increase.

The method used in Scotland and Wales avoids such an increase. To calculate PR within each region, this method first considers the constituency seats already won by each party. Each party's number of votes is divided by its number of constituency seats plus one, this being the basis for assigning the regional seats up to the statutory limit. This method prevents the final number of elected members from being higher than expected, but it slightly increases the strongest party's majority bonus in the region, since it is authorized to keep the excess seat or seats it may have won.

The loser and surplus method, a variant of which is used in Italy, adds up votes for the losers and winning margins2 of the winners among each party's constituency candidates. The total, which overrepresents the weakest parties, becomes the basis for any of the usual techniques of PR seat distribution. In Germany, this method was discontinued wherever it had been used because it produced too much distortion. It does not, however, increase the total number of elected members.

Whichever of the three methods is chosen, the seats will be distributed among the parties by one of the traditional computation techniques: the Largest Average technique (D'Hondt), the Sainte-Laguë technique4; and the Largest Remainder technique.5 It matters little which technique is chosen if seat distribution is calculated at the province-wide level. But when applied to smaller regional entities, these techniques may produce somewhat different outcomes. The D'Hondt technique will favour the strongest parties, whereas the Sainte-Laguë and Largest Remainder techniques will give rise to a more proportional distribution, despite the existence of regions. The Largest Remainder technique tends to favour the weakest parties, all the more so if there are many regions. In Germany, at both the federal and Land levels, the Largest Remainder technique has superseded the D'Hondt technique. The Sainte-Laguë technique is used in New Zealand.

2. The difference between the votes for the winning candidate and the votes for the runner-up.
3. The D'Hondt technique divides the number of votes for each party successively by 1, 2, 3, etc. and gives the seats to the parties with the highest quotients.
4. The Sainte-Laguë technique divides the number of votes for each party successively by odd numbers (1, 3, 5, 7, etc.) and gives the seats to the parties with the highest quotients.
5. The Largest Remainder technique first requires calculating a quotient: the total number of votes for the eligible parties divided by the number of seats. The votes for each party are then divided by this quotient. The whole number produced by the division will be that party's number of seats. If this operation fails to distribute all of the seats, the unassigned seats will go to the parties that, after division by the quotient, have the largest remainders, until all of the seats have been filled.
The problem of excess seats

With the German method, as mentioned above, the number of seats may end up higher than expected and may vary from one election to the next.

Excess seats are not unusual. In Germany, they have arisen in 11 of the 15 federal elections since 1949, as they have in 41 of the 116 Land elections held under personalized PR from 1947 to September 2004. Excess seats, especially if their appearance leads to a concomitant creation of additional seats to keep the outcome proportional, sometimes create the possibility of a very substantial increase in the total number of seats. In such a case, if a party wins excess seats, additional compensatory seats are created for the other parties to make the outcome fully proportional. This approach creates the possibility of an even larger increase in the total number of seats.

Previously, there were very few excess seats at the federal level. Their numbers have risen with the incorporation of the eastern Länder. Nonetheless, the increase in the statutory size of the Bundestag, due to excess seats, has never exceeded 2.4% and has been on average less than 1%. On the other hand, in the Länder, the increase has sometimes been markedly higher (up to 37% more elected members than expected), partly because of the compensatory additional seats that result from excess seats.

Based on our analysis of elections in other countries, excess seats most often arise under three conditions: the spread is large between the strongest party’s percentage of the vote and its percentage of the constituency seats; the constituency/list ratio is biased to constituency seats; and compensation is done within regions rather than territory-wide. The last condition is all the more important if the regions have only a few seats.

Thresholds

With the experience of the Weimer Republic in mind, the Germans appear to have been among the first to impose an explicit statutory threshold to limit the fragmenting of parliamentary representation. The situation of the postwar era and the pressures of the occupying powers led Länder in the British zone to require a minimum number of votes before a party could receive list seats. This requirement was imposed as early as the first Bundestag election, in 1949. It has since spread to all Länder. A figure of 5% of all valid ballots has over the years become the standard everywhere. New Zealand has opted for a 5% threshold at the national level. No statutory threshold exists in Scotland or Wales, where the fragmentation of the territory into regions limits the chances of small parties anyway. In some societies, the threshold may be waived for parties that fail to reach it but still manage to win one or more constituency seats.
Thresholds may stray from the proportionalist ideal but they are fairly common. A recent survey shows that, out of 29 democratic countries using PR for election by list, no fewer than 19 impose some kind of threshold (national or regional) on seat distribution. Turkey has the highest one (10%), followed by Poland (7%). In contrast, Israel sets its threshold at 1.5% and the Netherlands at only 0.67%.

The real consequences of a threshold are unpredictable because it is impossible to know how the vote will break down in future elections. In some societies, the consequences can be severe, with many parties failing to clear the threshold despite receiving a high percentage of the vote. If we look at parties excluded from Parliament by a 5% threshold, their votes came to about 20% of the total in the 1990 Czechoslovak election and reached a staggering 49.5% in the 1995 Russian election. In 2002, Turkey’s 10% threshold excluded all but two parties from Parliament, the leading party winning 65.6% of the seats with only 43.2% of the vote. In Germany and New Zealand, the consequences have not been considerable, the excluded parties often receiving a tiny number of votes.

**VOTER CHOICE**

One vote or two?

A compensatory mixed system may work quite well when a single vote is cast for a constituency candidate and is also considered a vote for that candidate’s party. Each party receives compensatory seats simply on the basis of the total votes for all of its candidates. This was the form in which the compensatory mixed system was introduced into Germany.

It is also possible to give each voter two votes: the first vote will be cast for one of the constituency candidates and the second for a party list. The first vote will be used to choose the constituency candidate and the second to determine the overall distribution of seats among the parties, this being the most important choice. Voters may, for example, support the party of their choosing while not backing a candidate who seems unsatisfactory.

*When a voter has two votes, the constituency vote matters only in the constituency where it is cast. It may be interesting, however, to add up nation-wide the constituency votes for a party’s candidates. Analysts will sometimes look at a constituency to compare the vote for a party’s constituency candidate and the vote for the party to see how popular or well known a politician is (or how unpopular and unknown). The official terminology for the two votes varies from one place to another. Sometimes, the two votes are cast on a single ballot, sometimes on two different ballots.*
Most compensatory mixed systems had only one vote when introduced, but the overwhelming majority now have two votes.

What do the experiences of foreign countries tell us on this point?

- The existence of a second vote simplifies the task for small parties. If voters can cast a second vote for a list, a small party may present a list with only several names and field only very few or no constituency candidates, since such candidates clearly have no chance of getting elected. This factor seems to have led to successive introduction of the second vote in the Länder from the 1970s on.

- It is difficult to estimate the number of voters who will split their allegiances and to foresee the consequences of this split voting on each party's relative strength. In German federal elections from 1953 on, the differences were initially small between the distributions of first and second votes. Beginning in the 1970s, more voters began to split their allegiances. “Split ballots” reached about 20% of the total in 1998 and 22% in 2002. Wherever personalized PR has been more recently introduced, split voting has soon caught on with voters, reaching respectively 21% and 19% in Scotland and Wales in 1999. In New Zealand, it has taken on exceptional proportions: 37% in 1996; 35% in 1999; and 39% in 2002.

- When voters have two votes, the big parties generally do better on the first vote than on the second, the reverse being true for the small parties. This phenomenon arises partly because some of the small parties field few or no constituency candidates while presenting a list.

- The existence of a second vote is associated with higher rates of rejected ballots (roughly twice as many). This phenomenon has been rigorously demonstrated.

- The two votes open the door to vote swapping between parties. Some voters who support a big party will choose to cast their list vote for an ideologically close small party, to put it over the 5% threshold. They reason that a parliament with three parties, where their party is the dominant partner in a winning coalition, is better than one with two parties, where their party sits in the opposition.

- The existence of a second vote may profoundly upset the normal operation of a compensatory system. This was Italy’s experience in the 2001 election. The list seats were assigned on the basis of the second vote, minus the winning margins of members elected in local constituencies, so as to create a compensatory effect. Silvio Berlusconi’s party resorted to the shrewd ploy of giving most of its constituency candidates a party label different from the one for its list candidates. The compensatory effect was almost cancelled out and the distortions were higher.
Should voters be allowed to indicate preferences among list candidates?

This question implies that the voters have two votes and that the compensatory seats are distributed on the basis of lists presented by political parties. If so, there are two options. Under the “closed list” system, list candidates may be elected in the order they appear on the list. Whoever establishes the list order therefore largely determines who will be elected. This factor may be countered by preferential voting, which allows voters to alter the candidate list order by expressing one or more preferences for candidates of the party they support.

Among the compensatory mixed systems we examined, Bavaria is the only one where a voter can vote for a constituency candidate and also express a preference for one of the list candidates, through a fairly complex procedure. In practice, voters take very seriously the possibility available to them of demoting less popular candidates and promoting others to the top of the list who were initially further down. Each party’s star candidates tend to receive an exorbitant number of individual preferences. One result of preferential voting is that regional candidates belonging to the same party will compete against each other at election time.

In a compensatory system where double candidacy is widely practised, the effect of preferences is relative. Indeed, many list candidates are struck from the party list on election night because they have been elected in a constituency. Any value, other than a moral one, is removed from the list preferences they may have received.

DESIGNATING AND REPLACING ELECTED MEMBERS

There are two factors. First, for anyone who is accustomed to voting for a person and to meeting him or her during a term of office, it does matter how this person is picked to fill a compensatory seat assigned to a party. Second, elected members are worried about seeing other members alongside them who have been elected in a different way. But are there really grounds for fearing the creation of two classes of members who will be differentiated not only by their mode of election but also by the nature of their work, their prestige, their career opportunities, and even their pay? This fear seems groundless in countries that have adopted compensatory mixed systems.

Two classes of members?

The literature on mixed systems seldom refers to the existence of “castes” of parliamentarians, either list members who are mocked by “real” members or, conversely, list members who snub their lowly counterparts from the “stagnant ponds.” Instead, it explicitly emphasizes there have been no problems due to the coexistence of members who enter parliament through separate modes of election and at different territorial levels.

In Germany, voters tend to communicate just as well with constituency members as with list members. For these voters, the member’s party allegiance is the main factor that determines the priority of contact. The most that may be said is that list members are less inclined than their colleagues to think their reelection chances will depend on securing construction projects for their constituencies. They are also a little less
inclined to sit on parliamentary committees that deal with local issues. It might be possible that this second group of members, who are elected from lists in larger territories, will generate serious conflicts that end up calling the system into question. But this possibility has never materialized.

Scotland’s experience appears to have been more laborious. Some regional members tend to compete unfairly with duly elected constituency members, and for some constituency members it is difficult to accept that another member has set up shop in “their” constituency. Still, many constituency members admit that the voters win from this rivalry.

The type of parliamentary mandate does not affect the actual seating arrangement of members in the house. Everywhere, the rule is to group together members from the same party. Nowhere are list members seated together independently of party affiliation. Nowhere does a member’s pay depend on his or her type of parliamentary mandate, although allowances may vary in some cases. As for career prospects, both constituency members and list members are found in each of the prestigious offices of parliament: government leader; ministers; speakers; and caucus chairs. In general, constituency members predominate simply because the strongest party usually sits on the government side. Most of its members come from constituencies, the reverse being true for the other parties.

How will compensatory seats be filled?

Two solutions are possible. Compensatory seats may go to the highest-scoring defeated constituency candidates of each party, according to either the number of votes they received or their percentage of the vote. Compensatory seats may also go to candidates on lists submitted by each party before the election.

The approach whereby defeated constituency candidates are recycled has been used in Baden-Württemberg since 1956. The winning constituency candidate receives a “direct mandate.” The popular vote is then used to determine the number of compensatory seats each party is entitled to. These seats are then assigned to defeated candidates who received the highest number of votes in the region (and not percentage of the vote). A single constituency may have two, three, or even four members and this number may vary from one election to the next.

For all intents, such a system makes double candidacy necessary. A person can hope to receive a compensatory seat only by running in a constituency. Compensatory seats will thus be held by elected candidates who have developed local roots and received a high number of votes. As well, party leaders cannot control assignment of these seats since no list is used.

The approach whereby compensatory seats go to candidates on a list is used in almost all other compensatory systems. The list of candidates and their order on the list are determined by the party. Germany tends to regulate the way lists are prepared to ensure they are prepared democratically.
The other countries leave it up to the parties to determine list composition, while leaving it up to the party rank and file to prevent their leaders from manipulating the lists behind closed doors and leaving it up to the voters to punish parties that have resorted to excessively autocratic procedures.

Double candidacy, the key to compensatory systems

The problem of two classes of elected members does not materialize in Germany. This is largely due to two reasons. The overwhelming majority of elected members run both in constituencies and on lists (double candidacy). As well, the vagaries of shifting voting patterns increase the number of members who have belonged to both categories during their careers.

Electoral laws do not forbid double candidacy. In the event of double success, however, they state that the fortunate candidate must take the constituency mandate. His or her name is automatically struck from the list and the list seat goes to the next non-elected candidate on the list. Although double candidacy is allowed, it is not required.

In theory, each party may field two completely separate teams of candidates. In practice, the top positions on the list go to people who are also candidates in specific constituencies. Double candidacy is therefore widespread.

This practice does not result from a legislative requirement but from a simple and rational strategic calculation by the parties and the candidates. In a compensatory system, the more constituency seats a party wins, the fewer list seats it will receive. It is therefore unwise, and even dangerous, for candidates to rely entirely on being elected from a list. If their party sweeps the constituencies, they may very well not be entitled to any list seats. It is also unwise for a constituency candidate to forego the safety net of being on a list. If the party is swept out of power, most of its elected members will come from the list. So a candidate should avoid putting all of his or her eggs in one basket and instead run on both levels, since it is impossible to foresee the electorate’s verdict several weeks in advance. Therefore, for someone who has tried to belong to the other category of elected member, it becomes difficult to denigrate it.

In the last Bundestag election (2002), 35% of the candidates resorted to double candidacy. Among the big parties, the only ones in practice with a serious chance of winning a constituency, the proportion was almost half (47.6%). The overwhelming majority of constituency candidates fielded by the major parties had the safety net of being on a list: 83.5% of Christian Democratic Union (CDU) candidates; and 97% of Social Democratic Party (SPD) candidates. A very large majority of elected members ran in constituencies and only a very small minority of elected list members did not (3.6% in the last German federal election and about 4.5% in the Länder as a whole).

This German practice has spread to countries that have adopted such a system. The percentage of candidates who did not run in constituencies was only 8.5% and 3.3% respectively in the 2003 Scottish and Welsh elections, and only 5.8% in the 2002 New Zealand election.

The historical data available indicate that double candidacy was originally not as widespread as it is today. The practice seems to have resulted from lessons learned over many elections. With experience, people realized it was clearly preferable.
There is another factor that reduces the likelihood of conflict between constituency members and list members: the possibility that in the course of a political career a candidate will switch from one category to the other. Hopefully, members will think twice before putting down the other category if it is highly likely that they once belonged to it or will later belong. This likelihood is far from small. In the Bundestag, 19% of the members who sat between 1949 and 2002 alternately held constituency seats and list seats. In the six Länder with comparable data, the proportions ranged from 8% to 24%. If one looks only at the 53 Bundestag members whose careers exceeded 10,000 days, over half of them were alternately constituency members and list members. This possibility enabled Chancellor Kohl to sit in the Bundestag despite occasional defeats in his constituency, without his authority being affected.

Women's representation in parliaments

The percentage of women is high in parliaments that use the compensatory mixed system. The Bundestag that was elected in 2002 is 33% female. In Länder using the same system, the proportion ranges between 27% and 41%. The corresponding figures for New Zealand, Scotland, and Wales are respectively 28%, 39%, and 50%. Most of these percentages are slightly higher than the one for the 2003 Québec election (30.4%).

The opinion that territory-wide compensation is an absolute prerequisite for substantial women's representation is not confirmed by experience. On average, women make up 35.7% of the six regionally subdivided parliaments. On average, they make up 32.3% of the ten parliaments where compensatory seats are distributed for the entire territory. In the one state that recycles the best defeated candidates, women account for only 22% of the total.

How should vacancies be filled between general elections?

With the first-past-the-post system (single or double ballot), by-elections are the most common way to replace members whose seats have become vacant. With PR systems, the most common technique is to choose the “next person on the list.”

The situation is more complex in a mixed system. In the Bundestag and in almost all Länder using personalized PR, a list member is replaced by the next non-elected candidate on that party’s list, with the revealing proviso that he or she must still be a member of the party, in keeping with the spirit of PR. A vacant constituency seat is also filled by the highest non-elected candidate on the party list, so as to eliminate the need for a by-election. This solution has the advantage of preserving election-night party standings for the life of the Parliament while sparing the cost of holding by-elections. It also helps preserve government stability when many vacancies occur within the caucus of a party or coalition with a very slim parliamentary majority. Finally, replacements may be made without delay. On the other hand, this solution makes it impossible for a newly chosen minister or party leader to enter Parliament before the next general election.
The Länder of Hesse and Rhineland-Palatinate use a different method. If a seat (whether a constituency seat or a list seat) becomes vacant, it is filled by a substitute candidate from the same party who is chosen at the same time as the primary candidate.

In New Zealand, Scotland, and Wales, the next person on the list is used to fill any vacancies that occur among list seats. For constituency seats, by-elections are preferred.
SECOND PART
Simulations based on the 1998 and 2003 Québec elections

METHODOLOGY
The above analysis of elections in other countries provided us with some interesting insights. We felt it necessary to verify these insights by running simulations with Québec election data.

In keeping with the aims of this study, we sought:

• to estimate the distribution of seats among the parties running in the 1998 and 2003 elections, based on a compensatory mixed system with a constituency/list seat ratio of 60/40;

• to investigate the impact of different variables on party representation, on the magnitude of vote/seat distortions and, potentially, on the creation of excess seats;

• to see whether the different approaches would perpetuate, reduce, or eliminate the asymmetry that characterizes the operation of the current electoral system; and

• to see which scenarios are most favourable to small parties.

To this end, we ran simulations. Different methods and techniques were applied to the actual results of the last two Québec elections.

Constituency/list ratio

In the case of compensatory mixed systems, simulations pose a special challenge. It seemed unrealistic to keep the current 125 constituencies. With a 60/40 ratio, this would mean adding about 80 compensatory seats for a total of over 200 seats in the National Assembly. No one seems to have countenanced such figures if one goes by proposals made in recent years. A total of 125 MNAs seemed to reflect the most popular view and, for our purposes, this would mean subdividing the province into much fewer constituencies. Now it so happens that Québec has had 75 constituencies on the federal electoral map since the last federal election in June 2004. This map is based on the 2001 census and was prepared by an independent electoral boundaries commission, which held regional hearings on an initial draft version. Its constituencies differ very little in population, making it quite faithful to rep. by pop.

When the 1998 election results were transposed into these 75 constituencies, the outcome was 47 seats for the PQ, 28 for the QLP, and none for the ADQ. When the 2003 results were transposed, the outcome was 47 seats for the QLP, 25 for the PQ, and 3 for the ADQ. This transposition was used invariably for all of our simulations. The constituency seats were supplemented with compensatory seats according to different scenarios.

In distributing the compensatory seats, we looked at many different combinations of three types of variable: territorial subdivision; seat distribution method; and computation technique.

Territorial subdivision

Compensation could be province-wide with all of Québec forming just one constituency for this purpose. If compensation is done regionally, there must be basic single-member constituencies distributed among the regions. Five different regional subdivisions were prepared by consolidating the 75 federal constituencies in different ways. The province was thus subdivided into 26, 16, 13, and 4 regions, whereas with province-wide compensation all of Québec formed but one “region.” These subdivisions were made strictly for purposes of computation. The 60/40 ratio was respected within each region, e.g., a region with a total of 5 MNAs
would have 3 constituencies and 2 compensatory seats. All five territorial subdivisions produced a total of 124 seats: 75 constituency seats and 49 compensatory seats.

Seat distribution method

Three methods for seat distribution were tested: German regional compensation; province-wide compensation followed by redistribution of party seats among the regions; and Scottish regional compensation. With the first and third methods, compensatory seats are assigned separately within each region. With the second method, compensatory seats are assigned first at the provincial level. The seats assigned to each party are then redistributed among the regions according to the party's number of votes in each region.

Computation techniques

For computation purposes, the three main techniques were used: the Sainte-Lagué technique; the D'Hondt technique; and the Largest Remainder technique. Each of them is compatible with the German method, but the Scottish method has to date been combined only with the D'Hondt technique. For this study, computation procedures were designed (see Appendix VI of this report) to adapt the Scottish method to the Sainte-Lagué and Largest Remainder techniques. These procedures were submitted for discussion to Prof. John Curtice, of the University of Strathclyde in Scotland, who has judged them to be correct.

Other variables

- Computations were based on the votes for party candidates in the two Québec elections under study. We assumed that voting patterns would have remained the same.
- A 5% threshold was applied for Québec as a whole.
- No projection was made to determine the personal identities of elected members.

OUTCOMES

By combining the five territorial subdivision assumptions, the three seat-distribution methods, and the three computation techniques, we produced 3 series of 14 outcomes for a total palette of 42 scenarios.

For each simulation and for each election, a detailed table gives the distribution of constituency seats and compensatory seats by party in each region, as well as the totals for all of Québec. These tables appear in the appendices of the report.

Using these tables, we prepared summary tables that bring together the total results for each simulation. They give the total number of seats assigned to each party (in absolute numbers and in percentages of the total) and the number of resulting excess seats, if any. These tables are printed in the body of the text.

With these data, we designed tables that give the overall level of distortion produced by each simulation. We used the index developed by Michael Gallagher. Tables were also prepared, showing the majority bonus produced for each simulation, i.e., the difference between the strongest party's percentage of the valid votes (in ballots cast) and its percentage of the seats. Outcomes were also analyzed in terms of the presence or absence of
regional monopolies, i.e., cases where a party manages to win all of the available seats in a region. The number of excess seats produced by each method, if likely to be produced, was also compiled. We also sought to see whether a method would or would not correct reversals of party standings, such as what happened in 1998. Finally, we verified the degree to which the different approaches work symmetrically or asymmetrically.

KEY FINDINGS

Overall level of distortion and majority bonus

The simulations produced outcomes that largely agree with the lessons from experiences in other countries. There were four main findings:

- Only electoral system reform will correct the anomalies that have been pointed out in the current first-past-the-post system. Even with a complete redrawing of the electoral map, such as subdivision of the province into 75 constituencies, the distortions remain considerable and the asymmetry is almost just as pronounced.

- All of the scenarios reduce the distortions, i.e., they produce outcomes that are clearly more proportional to each party's share of the popular vote than the current first-past-the-post system.

- The compensatory mixed system would end the regional monopolies of the two main parties and encourage more party pluralism within each region.

- Finally, excess seats may be a serious disadvantage.

If we look at the degree of regional subdivision, the simulations indicate that province-wide compensation would produce a minimal level of distortion and virtually eliminate the majority bonus of the big parties. As soon as compensation is done within four large regions, majority bonuses and higher distortions become apparent. At this point too, excess seats begin to appear. All three trends grow in magnitude as the number of regions is increased to 13, 16, and 26.

The effects of the three seat-distribution methods may be summarized as follows:

- German regional compensation proved to be highly versatile. Even with 26 regions, the distortions and majority bonus may be minimized by using the Largest Remainder technique. Using the D'Hondt technique increases the majority bonus. The German method's main weakness is the high number of excess seats it produces—as many as 11 for a total number of 135 seats in the legislature. Analysis of the outcomes indicates that excess seats are a serious problem. First, the legislature may temporarily expand to a size that remains unforeseeable until the election results are known. Second, the excess seats also upset interregional balance, since some regions receive them and others do not. These seats arise almost always outside the Island of Montréal and thus increase the relative weight of the other regions. The greater the distortion between the distribution of valid votes and the distribution of constituency seats within a region, the likelier the region will have excess seats, this being a sort of distortion bonus. If we wish to know which parties benefit, excess seats go more to the PQ (which is more popular outside Montréal) and never to the ADQ (which does not clearly dominate any region).
Regional compensation with redistribution of party seats among the regions produces very similar outcomes for all scenarios, whatever the territorial subdivision or computation technique. This method tends to produce a lower level of distortion and majority bonus than do the other two methods. To a lesser degree than German regional compensation, it also leads to excess seats. The simulations reveal two problematic consequences of this method. First, each region’s final representation remains uncertain until election night. An above-average turnout may give a region more seats than expected whereas a relatively low turnout may deprive a region of one of the compensatory seats it was entitled to by virtue of its population. The chances are high (two out of three) that the total number of compensatory seats assigned to a region will differ from the expected number. Second, a region whose turnout was well below average may for this reason not receive any compensatory seats.

Scottish regional compensation produces outcomes similar to those of German regional compensation. In regions where no excess seats arise, the two methods produce identical results. Where they do arise, the Scottish method solves the problem to the detriment of the weakest parties. Distortions and majority bonus are a little higher than with German regional compensation, but this is the price to be paid to avoid increasing the total number of elected members and upsetting the regional balance of representation.

As for computation techniques, distortions and majority bonus reach a maximum level with the D'Hondt technique and are brought back to a clearly lower level with the other techniques. The impact of computation techniques varies greatly with the degree of territorial subdivision. The kind of technique matters more if compensation is done regionally and this factor will increase in importance as the number of regions increases. Conversely, the differences vanish if compensation is province-wide, regardless of whether this distribution is followed by redistribution among the regions. The simulations also reveal that the D'Hondt technique tends to produce fewer excess seats than the other two.

Reversals of party standings and asymmetry of the different approaches

The electoral systems differ intrinsically in their ability to represent parties in Parliament in the order that voters choose. Reversals of party standings may be perceived to be an undesirable anomaly. They are not unusual with the first-past-the-post system and they might arise with a PR system. For any compensatory system, the Sainte-Laguë and Largest Remainder techniques will produce reversals more often than will the D'Hondt technique. No reversals appear with province-wide compensation or a 4-region subdivision, but they occur more often with other territorial subdivisions.
One of the reproaches made against the first-past-the-post system, in Québec, is that it treats the two main parties differently, even when they are equal in the popular vote. In the 1998 and 2003 elections, the winning party won 76 of the 125 seats. To achieve this result, the QLP needed a 13-point lead in the popular vote in 2003. The PQ achieved the same standing in 1998 with a half-point less than its main rival. In 1994, with a 13,000-vote lead, the PQ won 30 seats more than the QLP did. In 1998, with a 27,000-vote lead, the QLP won 28 seats less than the PQ did. This type of spread has been a constant of the Québec political landscape since 1944, and it largely explains why a party won three elections (1944, 1966, and 1998) with fewer votes than its main rival. The same anomaly would have occurred in the 1995 referendum under a first-past-the-post system. Of course, there were no serious consequences because only the popular vote counted.

In neutral language, the system works asymmetrically. In more polemical language, it is biased systematically toward one of the two big parties and against the other. This effect can be measured by projections based on election results. A commonly used method in the academic literature starts with the results of a given election and gives a party 1% less (and its rival 1% more) in each constituency, with the vote for the other parties remaining identical. The number of total seats each party would win is then computed.

When projections are made from the 2003 results, very clear trends emerge:

- When applied to the current 125 constituencies, the first-past-the-post system works very asymmetrically, as could be seen in 1998, and this effect persisted in 2003. For each percentage of the vote, the QLP would always win fewer seats than would the PQ with the same share of the popular vote. With 47% of the vote, the QLP would win 60.8% of the seats in 2003 and the PQ 75%.
- When applied to the current 75 federal constituencies, the first-past-the-post system scarcely works less asymmetrically. The asymmetry would survive even a complete overhaul of the electoral map as long as the current electoral system is maintained.
- With Scottish regional compensation, the asymmetry is very greatly reduced. In our simulations, this approach always gave the most seats to the party with the most votes.
- The asymmetry is even weaker with German regional compensation and with moderate regional PR. It is reduced almost to zero with province-wide compensation.
- The direction of the bias almost always favours the PQ. With equal shares of the popular vote, the PQ tends to win more seats than does the QLP. This is true for all of the approaches, albeit with significant differences.
Thresholds and small parties

The absence of any threshold for representation is a prerequisite for representation of the small parties, since these parties received less than 5% of the valid votes in the last two elections. The absence of any threshold does not necessarily mean that the small parties would be automatically represented in the National Assembly. Province-wide compensation, followed or not by regional redistribution would be the ideal scenario for these parties, given the number of votes they actually received in the last two elections.

Identity of list members

Understandably, it was impossible to determine who would be elected from the party lists. If list seats went to the _best defeated candidates_, we could at least predict which constituencies would receive such seats. With each party’s defeated candidates placed in decreasing order, by either number of votes or percentage of the vote, the highest candidates on the list would be declared “elected” until each party had received all of the compensatory seats it was entitled to.

When applied to province-wide compensation, the simulation reveals that compensatory seats would go preferentially to some constituencies and not to others. For all intents, Île de Montréal and Outaouais would receive none, because the winning margins of elected constituency candidates are higher there. The defeated candidates thus have too few votes to qualify for compensatory seats at the provincial level. On the other hand, constituencies in the other regions, where the fights are closer, would take almost all of the compensatory seats, since the defeated candidates have relatively more votes.

When applied to the 26-region territorial subdivision, for the 1998 and 2003 elections, this method would not lead to any serious regional distortion. Each region would receive an appropriate number of compensatory seats. Another kind of problem, however, would arise in regions where one of the parties very clearly outperforms its rivals. This party may not only win all three of the constituencies up for grabs but also be entitled to a fourth seat, given its high proportion of the vote in the region (e.g., 70%). The winning party has no “best loser” to recycle, simply because it has no losers at all. This problem would likely be endemic in Québec. It appears in 7 regions and in 1998 would have involved 8 seats in 5 regions (6 seats in 2003).
THIRD PART
Conclusion and recommendations

ADVANTAGES
When applied to Québec, the compensatory mixed electoral system would have several advantages. It would reduce the recurring problem of distortions. It would bring a party’s percentage of the seats closer to its percentage of the vote. All parties would be more equitably represented and the doors of Parliament may be opened to new parties with a minimum level of popular support. There would be more political and party pluralism not only in the National Assembly but also in the regions, and it would become exceptional for a party to monopolize representation of a specific region. A compensatory system would work much more symmetrically and equitably than does the current electoral system. A reversal of standings for the main parties would be much less possible and it would become extremely unlikely for a party, as in 1998, to win an absolute majority of the seats without even receiving a plurality of the popular vote. In addition, these goals would be reached without losing what many consider to be one of the key advantages of the current electoral system: the existence of single-member constituencies that help preserve a closer bond with the electorate.

ELECTORAL SYSTEM CHARACTERISTICS
No one is pushing for an increase in the number of MNA. At 125, the National Assembly has more members than any other Canadian legislature. A 60/40 ratio seems to provide the most balance. Any ratio that is more biased to compensatory seats would imply a concomitant decrease in the number of constituencies and an increase in their size. Any ratio that is more biased to constituencies would increase the number of excess seats. By choosing a 60/40 ratio, we would create about 75 constituency seats and 50 compensatory seats. This would enable us to use the federal electoral map for election of constituency MNA and thereby hasten introduction of the new system, in particular for the next election.

Under the new system, constituency members will be the most numerous MNA. How should they be elected? Under all of the compensatory mixed systems we examined, constituency members are elected by a plurality of the vote. Conceivably, this election could take place through a double ballot, as in France, or through alternative voting, as in Australia.

If a double-ballot system is used, we must decide which figures will be used to calculate the overall seat distribution and, thus, each party’s final number of seats. Depending on whether one uses the results of the first ballot or the “decisive ballot” (the ballot where one of the parties wins the constituency), small parties will either benefit or be excluded when the final PR computation is made, since political realism or legal requirements will force them to withdraw their candidates before the second ballot. The same dilemma arises with the alternative voting system. Should one use the distribution of first preferences, i.e., the ones counted on election night, or the final distribution after transfer of preferences? This analysis leads to the following conclusion: if the double-ballot system or the alternative voting system is used to elect constituency MNA, compensation will have to be based on a separate supplementary vote that the voter casts for a political party.
By replacing the current electoral system with the double-ballot or alternative voting system, we would clearly face additional complications in electing constituency MNAs. It is less clear what advantages we would gain with either approach. There would be no expected gain in terms of increased PR. Moreover, the double ballot and alternative voting do not reduce the distortions of the first-past-the-post system. They may even aggravate them. These ways of voting are unknown in Québec, and the second type alone would require a campaign to educate the public because of the new kind of ballot it entails. Both systems would have the effect of guaranteeing that more constituency MNAs receive an absolute majority of the vote. Nothing, however, suggests that voters feel an MNA is less legitimate just because he or she was elected with less than half the votes. How many voters know this detail about their own MNA?

Some of the 42 scenarios can be ruled out on self-evident grounds. Thus, regional compensation, with redistribution of party seats to the regions, probably suits a highly proportionalist society where concern for a mathematically exact result trumps all other considerations. But it would leave Québec's political players and citizens in the dark until election night as to the number of compensatory seats that will go to the different regions. The chances are two times out of three that this number will differ from the expected total and some regions may not receive any compensatory seats—a sure way to get their residents deeply upset.

German regional compensation tries to correct this fault by assigning each region a fixed number of compensatory seats. But like the previous method it can lead to excess seats. Such seats are, the author feels, a major problem. They upset the regional balance of representation and cause the total number of elected members to vary from one election to the next. In several 1998 election simulations, excess seats gave a plurality of the seats to the party that came second in the popular vote. This is in fact one of the anomalies to be corrected.

Scottish regional compensation seems preferable. It does not prevent a party from winning more constituencies in a region than it is entitled to, but it ensures that the region’s total number of seats will remain unchanged, at the risk of penalizing other parties by reducing their representation. The simulations showed that this breach of proportionality would have had no major impact on the 2003 election. With a 26-region subdivision of the province, the Scottish method would have given the strongest party 53% of the seats and produced no excess seats, versus 52% for the German method—at a cost of nine excess seats.

When we choose the geographic framework for compensation, there is a tension between two opposing principles of representation. Some people would give the priority to territory: for them, it is essential to elect the list MNAs in relatively homogeneous and recognizable territorial entities. This view naturally leads to subdividing the province into 26 regions, as regional PR proponents had concluded in their time. This subdivision means, however, that some classic distortions will persist in parliamentary representation of the parties, to the benefit of the strongest parties.

Consequently, some people would instead give priority to mathematical exactness of representation, i.e., more or less total proportionality. The most appropriate solution in this case would be province-wide compensation, with all of Québec forming just
one constituency for computation purposes. If we pursue this same logic, no minimum threshold should keep small parties out of the National Assembly.

Which of these two priorities should we choose? This debate is a completely political one in which an expert opinion can only help clarify the options. These options should be submitted to the government and the public for purposes of discussion and decision making. The author feels it preferable to choose an electoral subdivision with small regions, at the risk of bending the principle of proportionality, and a 26-region subdivision appears to him to be the most satisfactory working model. Of course, province-wide compensation would reduce the distortions almost to zero. But such a solution may seem undesirable to most Québeckers, who are accustomed to linking an MNA to a territory and who, though interested in more electoral fairness, would not go so far as to allow an infinite proliferation of political parties. A public debate would reveal the opinions of MNAs and the public on this subject.

Electoral reform also includes the issue of having two votes. Although a second vote has some advantages, three considerations argue for a single vote. It is the simplest option from the voter’s standpoint. It produces fewer rejected ballots. Finally, as has been seen in Italy, a second vote may pave the way for electoral practices that destroy the very essence of the compensatory system. Proponents of a second vote should suggest mechanisms that will exclude this type of abuse.

To be on the safe side, lawmakers could require that, for the first election under the new system, proportionality will be based on votes for constituency candidates. This is the form in which personalized PR was introduced into Germany. The harm it does to small parties is minor. They only have to field candidates in all constituencies (which will be reduced to 75 in number) to make the most of their potential votes.

Compensatory seats can be filled by recycling the best defeated constituency candidates or by using a closed list. These seem to be the only options possible.

The second option prevails in almost all societies with compensatory mixed systems. From the candidates’ standpoint, it has the disadvantage of setting a predetermined order, which may be flattering for those near the top, but not so for those further down. It has the advantage of ensuring more security for party leaders and giving, for example, more priority to women candidates. Moreover, it enables an elected member to preserve a close tie to a region as a whole, while providing an official rationale for working in a specific constituency if the member so chooses.

It does not seem advisable for now to allow voters to express preferences for some list candidates. Introduction of this option could be considered in the future.

If the compensatory system is to work properly, constituency MNAs and list MNAs must not form two classes in permanent conflict with each other. Some precautions are therefore in order. Notably, each party should fill the top places on its lists with its constituency candidates for that region. This would preserve the advantage of the system of recycling the best defeated candidates, i.e., it would guarantee that the immense majority of MNAs, whatever their status, will have passed the test of electoral campaigning in a constituency. Be it for pay, allowances, or responsibilities, the principle of equality between constituency MNAs and list MNAs should prevail.
With regard to list preparation, the government should trust the parties and the voters to avoid any abuses. It would be difficult to find a uniform approach that would satisfy all political parties. By not meddling in the internal workings of political parties, Québec would only be imitating the overwhelming majority of democratic countries.

To replace a list MNA who has died or resigned, we should use the highest non-elected candidate on the list. Parties should be asked to submit lists with enough candidates to deal with all possible outcomes, on the understanding that the seat will remain vacant if no one eligible is on the list. If a constituency seat becomes vacant, it seems preferable to call a by-election.
For information, please contact your Member of the National Assembly:

• by ordinary mail:
  Hôtel du Parlement
  Québec (Québec) G1A 1A4

• by e-mail, using the list of the Members’ addresses on the National Assembly’s Web site at: http://www.assnat.qc.ca

You may also get in touch with the Government House Leader and Minister for the Reform of Democratic Institutions:

• by ordinary mail:
  Office of the Government House Leader
  Minister for the Reform of Democratic Institutions
  Édifice Pamphile-Le May
  1045, rue des Parlementaires, bureau 1.39
  Québec (Québec) G1A 1A4

• by e-mail:
  ministre.srid@mce.gouv.qc.ca

Finally, you may consult the Web site of the Secrétariat à la réforme des institutions démocratiques at: www.institutions-democratiques.gouv.qc.ca