

Legislative Voting in the Canadian Parliament

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Abstract:

We analyze legislative voting in the 35th (1994-1997), 38th (2004-2005), and 39th (2006-2008) Canadian Parliaments. Using Poole's (2005) Optimal Classification algorithm, we locate MPs and their parties in a two dimensional geometric model. The first dimension represents the division between governing and opposition parties that has been found in similar parliamentary systems. The second dimension captures the opposition between the Bloc Québécois and the rest of the legislature. We find a clear separation between the Reform Party (and later the Conservative Party) and the Bloc Québécois in the 35th and 38th Parliaments, whereas the Liberal and the New Democratic parties occupy the center. However, in the 39th Parliament, the ordering changes with the Conservatives and the New Democrats near the center, and Liberal and Bloc MPs occupying the extremes. We explain this change by the capacity of the governing party to control the legislative agenda and the recent minority governments in the House of Commons.

Résumé :

Nous analysons le vote législatif au 35em (1994-1997), 38em (2004-2005), et 39em (2006-2008) Parlements canadiens. En utilisant la méthode de Classification Optimale développée par Poole (2005), nous situons les députés de la Chambre des communes et leurs partis dans un modèle géométrique comprenant deux dimensions. La première dimension représente le conflit entre le gouvernement et les partis d'opposition que l'on retrouve également dans d'autres systèmes parlementaires, alors que la seconde dimension correspond à l'opposition régionale qui existe entre le Bloc Québécois et les partis fédéraux. Nous identifions une nette polarisation entre le Parti réformiste (et plus tard le Parti conservateur) et le Bloc québécois, qui se situe à proximité des Néo-démocrates et des Libéraux aux 35em et 38em Parlements. Cependant, au 39em Parlement, nous observons un changement dans la polarisation régionale, puisque ce sont maintenant les Libéraux et les Bloquistes qui occupent les deux extrémités, alors que les

Conservateurs et les Néo-démocrates se situent au centre. Nous expliquons ces mouvements par la capacité du gouvernement de contrôler l'agenda législatif et par les récents gouvernements minoritaires à la Chambre des communes.

The geometric analysis of legislative voting in a multidimensional space is commonly used to study the United States Congress (e.g. Poole and Rosenthal, 2007, 1997; Clinton, Jackman and Rivers, 2004; Heckman and Snyder, 1997), Latin America (e.g. Morgenstern and Nacif, 2002), and the European Union (e.g. Hix, Noury and Roland, 2007). These techniques are based on the spatial theory of voting, which assumes that legislators have underlying preferences (i.e. ideal points) across a set of policy alternatives (Davis, Hinich and Ordeshook, 1970).

In the geometric model of voting, the distribution of ideal points forms a spatial map which demonstrates how divisions in the legislature represent partisan affiliation, regionalism, or ideological polarization (Poole, 2005). These ideal points are calculated by aggregating the outcome of individual recorded votes to create preference based scores for each legislator in one or more distinct choice spaces. Ultimately, legislators are expected to support any alternative that is closest to their own preferred policy position. Thus, lawmakers who are close together on this map have similar voting records.

Of course, party cohesion and discipline can influence the outcome of individual legislative choices. In Westminster style parliamentary systems we cannot always assume that lawmakers vote sincerely for the alternative that is closest to their own ideal point (Spirling and McLean, 2007, 2006). Given a high level of discipline, we may find very little variation in the voting behaviour of representatives who share the same partisan affiliation. However, we could still observe some variance across the voting records of members from different parties, especially if certain parties collaborate more with the government than others. Hence, the geometric analysis of legislative votes in Westminster style parliamentary systems could provide us with a meaningful mapping of parties in a multidimensional issue space.

In this study, we argue that such an analysis is necessary to understand some of the most recent changes in the Canadian party system and the legislative organization of the House of Commons. To begin, the introduction of two new parties in the 35th Parliament has been associated with the emergence of a salient dimension of conflict between Québec nationalists (represented by the Bloc Québécois) and western regionalists (represented by the Reform Party, which was renamed the Canadian Alliance in 2000) (Flanagan, 1998).

We believe that this legislative conflict goes beyond the usual division that sets the governing party(ies) against the opposition in parliamentary systems (Hix and Noury, 2007). This is because the Bloc Québécois has vowed to prioritize the interests of Québec in all votes, regardless of whether a bill originates from the government or not. The opposite pattern of legislative behaviour may also be found with the Reform Party since this formation originates from a pro-western, social-conservative and anti-Québec movement (Laycock, 2002).

Consequently, the primary task of this study will be to determine whether the difference in legislative voting between Canadian parties actually reflects regional conflicts, and whether this opposition has subsided in recent parliaments.

We test this claim by analyzing the recorded votes of the 35th (1994-1997), 38th (2004-2005) and 39th (2006-2008) legislatures. We select these terms because the Reform and the Bloc Québécois first elected representatives in the 35th Parliament, whereas the 38th and 39th have been governed successively by a Liberal and Conservative minority government.

To obtain the revealed location of each Member of Parliament and their parties in a geometric model, we employ Keith Poole's Optimal Classification (OC) algorithm (Poole, 2005). For all its limitations, the OC approach may be preferable to parametric methods—such as standard

Bayesian item response models or W-NOMINATE (Poole and Rosenthal, 2007; Clinton, 2007; Martin and Quinn, 2006)—to study the Canadian legislature. Indeed, the nature of party discipline in the House of Commons may break more fundamentally with the assumed utility functions of the more standard models (Spirling and McLean, 2007; Rosenthal and Voeten, 2004).

The paper is organized as follow. In the first section, we provide a brief overview of some of the most important spatial analysis of legislative voting. In the subsequent section, we explain the recent changes in the Canadian party system. In this section, we also introduce our research hypothesis (i.e. the two-dimension legislature), which will guide the remainder of this empirical study of legislative voting. In the third and fourth sections, we present the data and methodology employed in our analysis of votes and review some of the key findings. In the final section, we conclude.

Analyzing Legislative Voting

One of the principal characteristics of the spatial analysis of legislative voting is that the distribution of ideal points between legislators generally reflects different partisan coalitions. In the United States Congress for example, Democrats are inclined to cluster together at one extreme and Republicans at the other, while moderates like Senator Joe Lieberman are found in between these two groups. This is because party members are more likely to have similar voting records over the course of a legislative session. The most important finding of the geometric analysis of legislative voting in the United States is that much of the behaviour can be explained by a stable, low-dimensional issue space, which is generally limited to no more than two dimensions. This also holds true in a variety of other national legislatures (Hix and Noury, 2007).

In the United States Congress, Poole and Rosenthal (2007; 1997) interpret the meaning of the first dimension of legislative voting to represent the traditional conflict along the left/right ideological spectrum. The authors also show that any remaining votes that cannot be explained by this first dimension generally fall onto a second dimension related to a different type of conflict in the legislature, such as the opposition between southern and northern Democrats over civil rights in the 1960s.

Of course, the geometric analysis of legislative voting is not well suited for every type of legislature. In the most "preferred" scenario, the absence of parties, log-rolls, or other features affecting legislative preferences should theoretically give us the precise location of a lawmaker's ideal point in a spatial model. However, legislatures usually have institutional characteristics that constrain the behaviour of its members (such as committee gate keeping powers, party whips, or amendment rules).¹ Party discipline is probably the best example of a mechanism that is capable of significantly altering the measurement of ideal points in a given legislative assembly. In Westminster style parliamentary systems for example, it is very difficult to determine whether lawmakers are voting sincerely or if they are pressured to vote with their party. Consequently, any standard parametric ideal point estimations—like Poole and Rosenthal NOMINATE scores—will be biased because the data cannot support the model's assumption that voting errors are independent and identically distributed (Rosenthal and Voeten, 2004).

In order to address this problem, Poole (2005) has developed an alternative approach to analyze legislative votes that is non-parametric and makes no assumptions about the errors associated with voting decisions. Briefly, the OC method is designed to rank legislators in a low-

¹ The absence of political parties allows for the greatest amount of liberty (see Sircar and Høyland, 2010 and Jenkins, 1999).

dimensional space such that the number of correctly classified votes is maximized. However, Spirling and McLean (2007, 2006) have shown that Poole's Optimal Classification procedure is still affected by strategic behaviour and produces misleading estimates when applied to the modern British House of Commons. The authors argue that party discipline and strategic voting influence the nature of the conflict in the legislature and misclassifies the ranking of rebels Members of Parliament (MPs) within their own party. Since the OC procedure fails to distinguish between a lawmaker's policy preference and the overall preference of the party, the scaling of legislative votes reveals that individual ideal points are more or less equal for all members of the same party.

Despite their criticisms, Spirling and McLean also argue that the OC approach is a very accurate predictor of legislative behaviour even if there is strict party discipline. Indeed, the variation in voting coalitions *across* different parties can always be used to identify the location of all MPs—and by extension their party—in a multidimensional space. In this context, parties who often vote together will also be clustered together in the spatial mapping of the legislature. In fact, as long as we observe some level of variance across the voting records of members of different parties, the scaling of legislative votes should provide us with a meaningful ranking of parties in a multidimensional space.

But what can we conclude about the meaning of such a multidimensional space? Can we expect lawmakers to align along an ideological continuum like in the United States Congress when there is a strong level of party discipline? Hix and Noury (2007) suggest that we cannot. These authors demonstrated that the dominant feature of voting in fourteen parliamentary systems corresponds to a division between government and opposition members, not the traditional left/right dimension.

Hix and Noury explain that opposition parties usually vote against the government, regardless of whether they prefer a government's legislation to the existing status quo. In other words, opposition members vote to signal their disagreement rather than their discontent with a particular government proposal. This pattern occurs because the cabinet needs to sustain the confidence of a majority of members of the elected assembly in a parliamentary system, and because opposition parties usually attempt to weaken the executive by voting against government motions.

Hix and Noury also argue that the ideological opposition between the left and the right found in the United States actually falls on a second dimension of conflict in parliamentary systems. The authors explain that this dimension captures the ideological dissension that may occur within the governing or opposition parties (as opposed to the first dimension where conflict is across the government and the opposition). However, unlike Hix and Noury, we believe that in certain legislative settings, the second dimension might not necessarily be related to a left/right opposition between representatives and their party; rather this dimension could be associated with ethnic, linguistic or regional conflicts.

The Canadian legislature presents us with the perfect scenario to test this claim. As in other parliamentary systems, we should find that the first dimension of any spatial model of legislative voting will represent a legislator's level of support or opposition toward the government.

However, since party discipline is strong in the House of Commons (Kam, 2009; Docherty, 1997), we also believe that these individual positions will serve as a proxy for party locations on this same dimension.

In addition, the presence of two new opposition parties in the 35th Parliament—the Bloc Québécois and the Reform Party—virtually guarantees at least some level of regional opposition in the legislature since both parties vowed to prioritize regional interests. If, for example, the Reform (or the Bloc) systematically votes against the rest of the House on specific issues, a simple classification of parties according to their level of legislative support toward the government will fail to explain the outcome of these votes.

To help illustrate this logic, Figure 1 presents a legislative geographic map in which a single vertical line divides the supporters and opponents of three hypothetical votes. Four Canadian federal parties are represented (Liberal, New Democratic, Bloc Québécois, Reform) and we assume perfect party discipline; thus parties are treated as unitary actors.

Much like the OC approach, we have ordered the parties along a horizontal axis according to their level of support toward the government. In this example, the closer a party is to the Liberals on the horizontal axis, the more often it is expected to vote with the government.

In the first vote of Figure 1, we see a clear division separating the Liberal government from the remaining three opposition parties. We can imagine other scenarios in which the Liberals and the New Democratic Party (NDP) vote against the Bloc and Reform parties, or where the Reform Party votes against the Bloc, the NDP and the Liberals. In each of these cases, a single dimension is sufficient to correctly classify parties according to their level of support for the government.

<Figure 1 here>

However, this ranking breaks down once we look at votes 2 and 3. In vote 2, the Bloc Québécois votes against a coalition of Liberal-NDP-Reform and in vote 3, the Reform Party votes against a coalition of Liberal-NDP-Bloc. Even if we change the ordering on the horizontal axis (as in the

example of vote 3), we are still presented with the same classification problem; we cannot explain the outcomes of votes 2 *and* 3.

<Figure 2 here>

The introduction of a second dimension in Figure 2 allows us to circumvent this problem. In a two dimensional spatial mapping, it becomes possible to correctly classify parties according to their level of support for the government (as in vote 1), but also according to the different ordering implied by votes 2 and 3 of the previous example. Indeed, by lowering the position of the Reform Party and raising the position of the Bloc Québécois on the vertical axis, we can isolate each of these parties and explain the outcome of all three votes.

This example illustrates that a single legislative dimension can perfectly explain voting only if parties follow a precise ordinal ranking. Indeed, such a classification breaks down whenever two or more parties interchange their support toward the government. However, we showed that by introducing a different party classification on a vertical axis, we could successfully explain the outcome of voting in two different legislative conflicts. In the remaining sections of this study, we will demonstrate that a similar two dimensional classification is necessary to analyze parliamentary voting in the House of Commons.

The Canadian Party System

The following section will summarize the recent transformations in the Canadian party system and explain how a geometric analysis of legislative voting can help us understand these developments. The most important transformation is related to the emergence of two new parties prior to the 1993 election (a nationalist party from Québec, the Bloc Québécois, and a western based regional party, the Reform Party), which severely weakened one of the oldest political

parties in Canada (the Progressive Conservative Party). These new political formations have not only changed the partisan distribution of seats in Parliament, they have also highlighted a salient dimension of political conflict at the federal level, pitting Québec nationalists (represented by the Bloc Québécois) against western regionalists (represented by the Reform Party which was later renamed the Canadian Alliance in 2000) (Carty, Cross and Young, 2000; Flanagan, 1998).

Until the 1990s, the Progressive Conservative (PC) and the Liberal parties were the dominant governing political formations in the House of Commons. This dominance ended after the 1993 election when the Tories lost 167 of their 169 incumbent seats. This defeat can partially be attributed to the heterogeneity of the coalition of interests constructed by the PC government during the 1980s. By focusing part of its successful campaigns in 1984 and 1988 on the issue of constitutional reform, the PCs emphasized the importance of the rights of the province of Québec in the minds of the Canadian electorate (Johnston et al., 1992).

However, the strong contingent of PC MPs from Québec was at odds with the traditional western Canadian right wing ideology found in the party. Consequently, dissension grew among the ranks of the Tories, and many western Canadians opted to support a new political formation in the 1988 election, the Reform Party. As a result, the PCs gradually lost ground in western Canada. Following the rejection of a second round of constitutional negotiations in 1992, several members of the PC caucus from Québec resigned and formed a new political party, the Bloc Québécois, which was to be devoted to the defence of the French speaking population of Québec in the federal Parliament.

In the 1993 election, the Bloc won 54 of the 75 seats from Québec and became the official opposition, while the Reform Party won 52 of the 86 western seats. The subsequent 1997 and

2000 elections consolidated the support for both of these regional parties. In an attempt to broaden the Reformers' electoral appeal and to replace the PCs as the new ideologically conservative party of Canada, the Reform Party was renamed the Canadian Alliance before the 2000 election. However, this new party only made modest electoral gains outside of the west because it was perceived as too extreme (especially on issues related to Québec) by a majority of the population (Blais et al., 2002). It took a merger with the remaining members of the PC Party in 2003 for the Canadian Alliance to shake off its reputation of being a regional party from western Canada (Bélanger and Godbout, 2010).

This new entrant in the party system forced the Liberals into a minority government after the 2004 election. The situation did not improve in the subsequent 2006 and 2008 elections. However, this time the newly created Conservative Party of Canada formed two successive minority governments.

The preceding narrative of the recent changes in the Canadian party system serves to highlight an important characteristic of its legislative organization. Because of the Westminster style parliamentary system, any spatial analysis of legislative voting in the House of Commons should theoretically identify a clear separation between the governing MPs and the members of the opposition. In addition, we should also find a second regional dimension of conflict, first pitting the Reform Party against the Bloc Québécois, and later opposing the Bloc against the Conservative or Liberal governments.

By positioning MPs in the 35th, 38th, and 39th Parliaments, it will be possible to determine whether the Canadian House is organized along a two dimensional issue space. We will also be able to identify the content of these dimensions by analyzing specific legislative votes. Finally,

we will seek to establish whether there has been any change on those two dimensions by comparing the rankings and the locations of parties in each parliament.² However, before proceeding with the actual empirical analysis, we discuss in the next section the voting model, data and estimation methodology employed in this study.

Voting Model, Data, and Estimations

The primary hypothesis of this study is developed within the framework of the spatial theory of voting, where both actors and alternatives are located in a low-dimensional space. In order to obtain the revealed location for each Member of Parliament, it is necessary to calculate their position in the spatial model by using a binary discrete choice model. We use the Optimal Classification algorithm to estimate these positions (Poole et al., 2009). A detailed account of the OC method can be found in Poole (2005, 46–87).³ As Rosenthal and Voeten (2004) explain, the Optimal Classification method seeks to find the ideal rank location of all legislators in a multidimensional space to minimize the number of incorrectly classified voting decisions.

We analyze all recorded divisions from the 35th, 38th and 39th Parliaments. Divisions in parliament can be over specific bills and motions arising from government or private members. Individual voting decisions are not recorded for all votes. However, the threshold for requesting a vote to be recorded is only 5 MPs. Hence, there is little reason to suspect a major selection bias (Hug, 2010).

²Note that OC only provides a ranking of MPs. Hence, we cannot make any claim about the ideological distance between adjacent MPs. Note further that our analysis is centered on the ranking of parties, not the ranking of individual MPs within parties.

³ The OC procedure requires a pair of legislators who have positive ideal points in each dimension. We situate the leaders of the government at the extremes on the first dimension, and the leaders of the Bloc Québécois at the extremes on the second dimension.

Unlike in the U.S. Congress, abstention votes are not recorded in the House of Commons. Nevertheless, we do not expect this to be a problem in our analysis—even if a large proportion of MPs abstain from voting when they disagree with their own party—since we are primarily interested in measuring party positions (as opposed to individual preferences). Table 1 reports the composition of the three parliaments.

<Table 1 here>

The data of the 35th Parliament was taken from Kam (2001), while the data for the 38th and 39th Parliament were taken directly from the Hansards online records.⁴ The three legislative terms we analyze represent distinct stages in the recent reorganization of the Canadian party system. Indeed, the 35th Parliament saw the first Liberal majority government under the fourth party system (Carty, Cross and Young, 2000), while the 38th and 39th Parliaments were successively controlled by Liberal and Conservative minority governments.⁵

Overall, the 35th Parliament contains 735 divisions while the shorter 38th and 39th minority government Parliaments recorded 190 and 380 divisions respectively. Legislators who participated in fewer than 20 votes were dropped from the analysis. The model computes the positions of 298 legislators on 722 divisions in the 35th Parliament, 309 legislators on 181 divisions in the 38th Parliament, and 324 legislators on 380 divisions in the 39th Parliament.⁶

In this study, we are primarily interested in estimating party positions by relying on legislators’

Optimal Classification coordinates; however, as the next section will show, we are also

4 All the recorded votes can be found on the author's website <http://www.pol.umontreal.ca/personnel/GodboutJean-Francois.html>.

5 We expect the party organization of the House to be similar in the Liberal majority governments of the 36th, and 37th Parliaments.

6 There are more than 308 legislators because of party switchers whose voting records needed to be re-estimated.

interested in estimating the cutting lines of certain bills. These estimates allow us to evaluate the dimensionality of the Canadian legislature, and whether a single or two dimensional space suffices to account for most of the variance in legislative voting.

Analysis

We begin our analysis in table 2 by reporting a measure of dissention which calculates the overall level of voting loyalty for each party in the 35th, 38th and 39th Parliaments. This loyalty score is obtained by averaging the percentage of times each member votes against a majority of their party.

<Table 2 here>

Unsurprisingly, the results demonstrate that the level of intra-party unity is extremely high in the three parliaments. Members tend to vote with their own party virtually all the time. For example, 98 per cent of the Liberal MPs voted with the majority of their party in the 35th Parliament. In addition, this trend seems to be confirmed in the two other legislative sessions implying that voting against one's own party rarely occurs.⁷ This also implies that any individual estimation of ideal point cannot be assumed to represent a member's ideology. As was indicated earlier, opposition members in the Canadian Parliament tend to vote against the governing party to signal their disagreement, regardless of whether they support a particular bill or not. As table 2 indicates, party loyalty seems to supersede any other preference in almost all recorded votes.

⁷ The exceptions are the PC Party in the 35th Parliament (where this level is at 90 per cent) and the Liberals in the 38th-39th Parliaments (where this level is at 95 and 97 per cent respectively). The lower unity score for the Liberals in the 38th-39th Parliament is explained by the three line whipping system implemented by leader Paul Martin, while there was only two PC MPs in the 35th Parliament.

Of course, this characteristic of the Westminster parliamentary system will affect the scaling of individual ideal point estimates. Since party discipline is so strong in Canada, we should find little variation in the actual spatial location of members from the same party over the course of a legislative term. If we assume that there is perfect party discipline (and there is no abstention or missed votes), the scaling of legislative votes should reveal that each individual ideal point will be equal for all members of the same party group. In this context, we should be talking about a legislator's *revealed* locations as opposed to specific ideal points (Hix, 2008).

Nevertheless, even if there is no intra-party voting variance, we may still find significant cross-party voting variance, especially if some opposition parties collaborate more with the government than others. As long as we find some variation in voting across different parties, the geometric analysis of recorded votes will identify the ranking of all MPs—and by extension their party—in a multidimensional policy space. We report this level of cross-party voting in table 3.

<Table 3 here>

To obtain these scores, we calculated the proportion of times a majority of legislators in one party voted with a majority of legislators from another party. For example, in the top portion of the table, we see that a majority of the members of the Bloc Québécois voted 56 per cent of the times with a majority of the PC party; 54 per cent with the Reform; 26 per cent with the Liberal; and 71 per cent with the New Democratic Party in the 35th Parliament.

If we simply order parties according to their level of support toward the government, we obtain three distinct rankings: Liberal>NDP>Reform>Bloc in the 35th Parliament;

Liberal>NDP>Bloc>Conservative in the 38th Parliament; and Conservative>Liberal>Bloc>NDP

in the 39th Parliament.⁸ Based on this ordering, it would appear that the government support thesis has some validity in explaining legislative voting in Canada. We see that the NDP is more likely to support the Liberal government in the 35th and 38th Parliament. We can also see that the subsequent Conservative minority government could almost equally rely on the support of the Bloc and the Liberal parties. In this last parliament, the ordering (Conservative>Liberal>Bloc>NDP) basically corresponds to the traditional left/right continuum found in the Canadian party system (Flanagan, 1998).

When we consider the previous rankings, we are still incapable of explaining why the Bloc's level of support toward the Liberal governments increased between the 35th and the 38th Parliaments, or why the newly formed Conservative Party collaborated less with the government than the Reform Party. In order to answer these questions, it is necessary to put the previous findings in perspective since these scores do not discriminate between the composition of cross-party voting coalitions. As we saw in Figures 1 and 2, it might be necessary to introduce a second dimension to explain some of the shifts in the ranking of parties. We may still find that the Reform and the Bloc Québécois collaborate with the NDP to signal their opposition toward the government, but remain in clear conflict when it comes down to specific regional votes.

Similarly, the lower level of cross-party voting between the new Conservative Party and the Bloc Québécois in the 38th Parliament, or between the Bloc and the Liberal parties in the 39th Parliament, does not necessarily imply greater polarization. The fact that both parties formed minority governments probably explain why we find a higher level of collaboration in each of these parliaments, since the Cabinet had to form coalitions in order to pass any legislation. In short, the only way to clearly disentangle between what Hix and Noury (2007) label the

⁸ We removed the PC Party from this ranking since they had only two sitting MPs in the 35th Parliament.

government/opposition dimension of conflict in the legislature, and any other division that might exist between the parties, is through a geometric analysis of legislative voting.

We begin this spatial analysis by comparing the overall performance of the OC algorithm in different dimensional settings. Table 4 reports the average of the percentage of correctly predicted votes for each individual MP in a given party. This percentage is obtained by averaging the number of correctly predicted votes over the total number of votes cast by each legislator.

<Table 4 here>

Overall, the one dimensional model correctly predicts the individual voting decisions of 96, 93, and 96 per cent of all legislators in the 35th, 38th, and 39th Parliaments respectively. If we consider the individual predictions for each party, we find that the one dimensional model works particularly well for the Liberal Party when they are in the government. More than 99 per cent of the Liberal voting decisions are correctly predicted in the 35th Parliament (97 per cent in the 38th Parliament) with just one dimension. Not surprisingly, this same dimension predicts far fewer correct votes for the Bloc Québécois; the one dimensional model accounts for 90 per cent of the voting decisions in the 35th Parliament, 79 per cent in the 38th Parliament, and 92 per cent in the 39th Parliament.

A more interesting trend is found when we consider the Reform and the new Conservative Parties. In the 35th Parliament, the one dimensional model correctly predicts 90 per cent of the Reform votes. However, in the 38th Parliament—which immediately follows the merger of the PC and the Reform—the first dimension accounts for more than 98 per cent of the Conservative votes. The predictive power of the model is even stronger when the Conservative are in government, with a 100 per cent level of accuracy with just one dimension.

The general predictions of the model slightly improve when we add a second dimension. A two dimensional mapping increases the percentage of correctly classified votes by 3 percentage points in the 35th Parliament (from 96 per cent to 99 per cent), 6 percentage points in the 38th Parliament (from 93 per cent to 99 per cent), and 5 percentage points in the 39th Parliament (from 94 per cent to 99 per cent).

When focusing specifically on the 35th Parliament, adding a second dimension increases the number of correctly predicted votes by 9 percentage points for the Reform Party (from 90 to 99 per cent) and by 10 percentage points for the Bloc Québécois (from 90 to 100 per cent). On the other hand, the contribution of the second dimension is much smaller for the new Conservative Party in the 38th Parliament. Adding a new dimension hardly makes a difference in this case. It only increases the percentage of correctly predicted votes from 98 to 99 per cent. For the Bloc, this second dimension remains very salient in the 38th Parliament. The two dimensional model increases the percentage of correctly predicted votes by 21 points, from 79 to 100 per cent. As for the Liberals, the addition of this new dimension has virtually no effect on the accuracy of the model (it remains at 99 per cent in the 35th Parliament and slightly increases from 97 per cent to 99 per cent in the 38th Parliament).

The contribution of the second dimension in the 39th Parliament is also interesting. First, the second dimension increases the number of correctly predicted votes by 8 percentage points for both the Liberals (91 to 99 per cent) and the Bloc Québécois (92 to 100 per cent). On the other hand, the addition of a second dimension has hardly any effect on the accuracy of the model for the Conservative Party (one dimension predicts 100 per cent of the voting decisions). It would appear that being in government reduces the salience of the second dimension for the governing party. We return to this finding in the discussion section below.

We also find that adding a second dimension to the model greatly affects the prediction success rate for the NDP. Estimating the model with a second dimension increases the number of correctly predicted votes by more than 10 percentage points in each parliament. As the spatial representation of the parties will show, this results is explained by the fact that the NDP is situated around the middle of the two dimensional model in each parliaments. The OC algorithm tends to make more mistakes with centrist legislators because they are more likely to be near the vote cutting lines.

This overview of the voting prediction results indicate that a two dimensional models fits the data extremely well in all three parliaments. This is especially true for the Bloc Québécois and the NDP— but less so for the Liberal and the Conservative parties when they are in the government. We now turn our attention to interpreting the spatial locations of legislators as shown in each plots of Figure 3.

<Figure 3 here>

The plots confirms that the geometric representation of legislative voting in the Canadian House of Commons is structured along a two dimensional geometric space. In all parliaments, we identify a distinct separation between the voting records of the government and the remaining opposition parties. In fact, a closer visual inspection of the location of each party in the first dimension shows that this ordering matches perfectly with the cross-party voting ranking observed in table 3.

The first two plots in Figure 3 demonstrate that the NDP occupies the center on the primary dimension of conflict, followed by the Bloc Québécois and the Reform Party in the 35th Parliament, and by the Bloc and the Conservative Party in the 38th Parliament.

In the 38th parliament, it was necessary for the government to collaborate with one of the three opposition parties to pass any legislation. We believe that this sudden surge in inter-party cooperation partially explains why the Bloc Québécois is much closer to the government on the first dimension issue space of the 38th Parliament. One thing is clear, the NDP is the closest party to the governing Liberals in both the 35th and 38th Parliaments. This proximity implies that the NDP is voting with the Liberals more often than the other parties since the basic distance between two legislators in an OC plot is a function of the proportion of time they voted together in a legislative term.

On the other hand, when the Conservatives are in power in the 39th Parliament, we find that the left end side of the spatial map is occupied by the NDP, while the Bloc and the Liberals are located somewhat in the middle of this first dimension (with the Bloc slightly to the left of the Liberal Party).

Moving to the second dimension, we find a definite split between the Reformists and the Bloc Québécois in the 35th Parliament; whereas the Liberals and the NDP occupy the middle ground.⁹ Clearly, the opposition between the Bloc and the Reform Party is very strong in the 35th Parliament. This should come as no surprise if we consider that both parties focused their 1993 election campaigns on the failure of the previous constitutional negotiations, and because Québec held a second referendum on secession in the middle of the 35th Parliament.

We also find that the Bloc is situated at the extreme end of the second dimension in the 38th Parliament. However, the new Conservative Party appears to be ranked closer to the center on this same dimension. And in the 39th Parliament, we see that the Liberal Party now occupies a

⁹ The lone NDP member situated near the Bloc on the second dimension is Svend Robinson who rarely voted.

more polarizing position with the Bloc Québécois, whereas the Conservative and the NDP are located near the middle.

In the remainder of this section, we identify the actual substantive content of these two legislative dimensions by analyzing the spatial positions of the parties on specific legislative votes. This explains why Figure 3 includes two typical examples of recorded divisions in each parliament that fit clearly on the first or second dimensions of the spatial model.

In the 35th Parliament, the first of these votes is related to the 1995 budget. The vote on this motion was supported by all the Liberals and opposed by the remaining parties. The plot of this vote (division 167) is represented by a cutting line which separates the Yea and the Nay sides in the same two dimensional model.¹⁰ The cutting line clearly demonstrates the separation between the governing party on the right and all of the opposition parties on the left.

The second vote is related to the adoption of the budget in the 38th Parliament. We report the cutting line of this division in Figure 3 (division 91) which narrowly passed by a 153-152 margin. This outcome would not have been possible without the defection of Conservative MP Belinda Stronach to the Liberal Party. In this last vote, the cutting line shows the separation between the governing party on the right (with the support of the NDP) and the remaining opposition parties on the left.

In the 39th Parliament, we report the vote over a Conservative motion to extend the deployment of Canadian troops in Afghanistan (division 9). The motion passed (149-145), but discipline within the Liberal Party broke down. The cutting line separates the party into two factions: some 24 Liberals voted against their leadership and supported the Conservative government.

¹⁰ The Janice (Poole, 2005) algorithm calculates the cutting lines to minimize the number of classification errors.

The three plots of Figure 3 also contain a series of votes which are best explained by the second dimension of voting. An example of such a vote in the 35th Parliament relates to a private members motion (M-112), which aimed to authorize the construction of a high-speed train linking the cities of Windsor to Québec (division 41). This legislation was supported by all the MPs from the Bloc (plus 3 Liberals and 2 New Democrats) but opposed by almost everyone else in the Commons. Another example of a vote that separates on the second dimension in the 38th Parliament is private Bill C-260 introduced by the Bloc. If adopted, this legislation would have required the government of Canada to consult all the provinces before negotiating treaties with other foreign nations (division 158). The bill was supported by the Bloc and opposed by all the remaining parties.

Finally in the 39th Parliament, we report a Conservative motion which aimed to recognize that the population of Québec form a nation within a united Canada (division 72). This motion was supported by virtually everyone in the House, but opposed by 15 Liberals (and one independent). The cutting line shows some of these dissenting Liberals who are located near the bottom of the y axis in the plot.

Discussion

This study presented the first attempt to systematically organize and analyze legislative voting in more than one Canadian Parliament. Using the Optimal Classification implementation of the spatial model of legislative voting, we estimated the location of MPs in the 35th, 38th, and 39th Parliaments. These estimates were calculated with all individual recorded divisions. This model provided us with a geometric representation of parliamentary voting to analyze the legislative consequences of the recent transformations in the Canadian party system.

Our intention was to evaluate the hypothesis that legislative voting is best organized along a two dimensional geometrical model (Flanagan 1998). We began by demonstrating the existence of a clear division between the government party and the opposition that accounts for most of the voting decisions in the legislature. By focusing specifically on the content of some proposed legislations, we showed that the location of MPs along this first dimension is explained by how frequently they vote with the government. Thus members (and by extension their party) who collaborate more with the cabinet were ranked closer to the governing MPs in the spatial map.

We have also shown that the outcome of an important number of legislative votes is explained by a second dimension of voting related to Québec's regional interests. In this specific dimension, MPs who were more likely to vote with the members of the Bloc Québécois were clustered closer to this party on the vertical axis. After reviewing the content of several divisions that appeared to divide parties along the vertical axis, we demonstrated that voting on this dimension is best explained by a regional conflict characterized by an opposition to Québec nationalists.

Our analysis has yet to explain the shifts in the ranking of both Liberal and Conservative MPs on the regional dimension in the 38th and 39th Parliaments. Indeed, why did the Liberals ranked closer to the center on the second dimension when they controlled the government in the 35th and 38th Parliaments, and why did this party become more polarized in the subsequent legislative term? Similarly, how can we explain that the Conservative Party suddenly found itself ranked near the center of this second dimension in the 39th Parliament? We believe that these movements are related to the government's capacity to control the agenda and the role of the opposition parties in the legislature.

A governing party generally exercises strict control over the legislative agenda in a parliamentary system (Laver and Shepsle, 1996). Governing parties have a strong incentive to introduce legislations that will not compromise cohesion within their own rank (Hix, Noury, and Roland, 2007). Thus, if party loyalty is likely to break down on a specific vote, the leadership will aim to keep this issue off the agenda. Alternatively, the governing party can also try to introduce motions and bills to weaken and divide the opposition in order to gain an advantage in the next election (Hix and Jun, 2009).¹¹

Our analysis showed that the Liberals were definitely employing this strategy in the 35th and 38th Parliaments, by pitting Reform members (or Conservatives) against Bloc Québécois members on an important proportion of government votes. However, in the 39th Parliament, when the Conservative gained control of the legislative agenda, they too began pitting the interests of the Liberal Party against those of the Bloc.

In addition, because both the 38th and 39th Parliaments were minority governments, some of the shifts in the ranking of MPs that were observed in the spatial models could also be explained by the passive support needed from the government to adopt its legislative agenda. If a minority government changes coalition partners on a vote-by-vote basis—as is the case in Canada—any alternating coalitions must be located on the opposite side of a second dimension of legislative voting (see Figures 1-2 for a visual demonstration).

The position of the Liberal Party on the second dimension in the 39th Parliament may be explained by these two trends. On the one hand, the changing composition of voting coalitions under minority governments requires parties to be separated in the two dimensional space to

¹¹ The same strategy is also available for opposition parties because they can introduce private member motions and bills.

account for Conservative-Liberal or Conservative-Bloc alliances. On the other hand, by exercising strict control over most of the legislative agenda, the Conservative party was also able to introduce motions and bills to divide the Liberals on issues related to Québec's interest (such as the Québec as a nation motion).

Ultimately, this perceived moderation of the Conservative Party on issues related to Québec in the 39th Parliament should not come as a surprise. As Johnston (2008) explains, the Conservative Party has been manoeuvring for decades on this dimension because the Liberal Party traditionally occupies the center on both the left/right ideological axis and the Québec question. This explains why Johnston argues that in order to obtain more support in this province, the only available option for the Conservative Party is to pander to nationalist voters.

Of course, the fact that the Bloc remains polarized from the other parties in parliament suggests that regional conflict and minority governments will remain salient until Québec secedes or ratifies the constitution (or if it disappears by merging with another party or after a series of electoral defeats). A merger of the new Conservative Party and the Bloc Québécois appears highly unlikely in the short term since the Bloc has consistently won a majority of Québec federal ridings and the electoral support for this party remains stable in the province. This last point leads us to conclude by saying that much more work needs to be done in studying the Canadian House of Commons, especially on issues related to the dynamic of legislative voting under minority governments.

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Figure 1: Classification Model with One Dimension

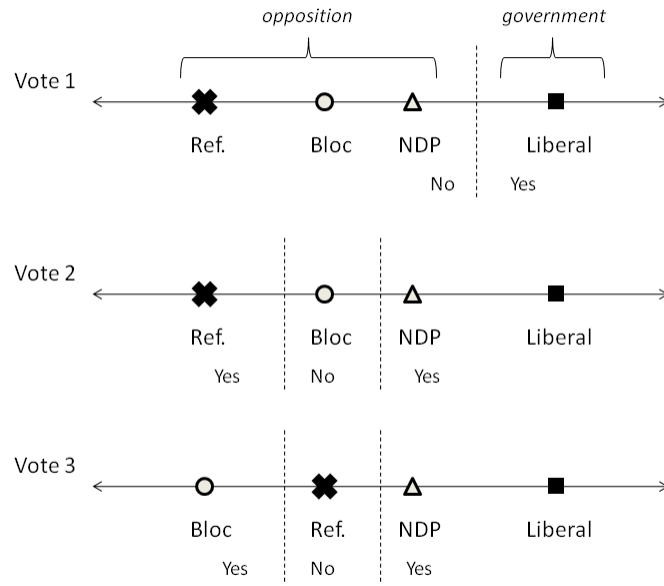


Figure 2: Classification Model with Two Dimensions

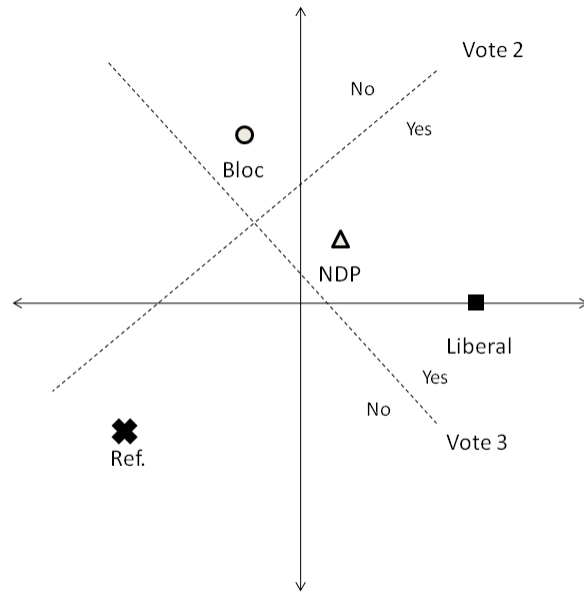


Figure 3: Optimal Classification Plots in Two Dimensions for the 35th, 38th, and 39th Parliaments

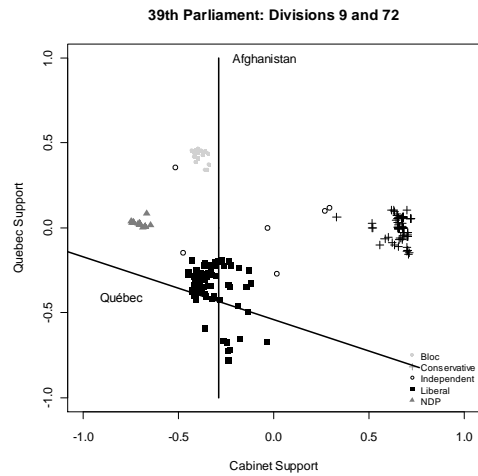
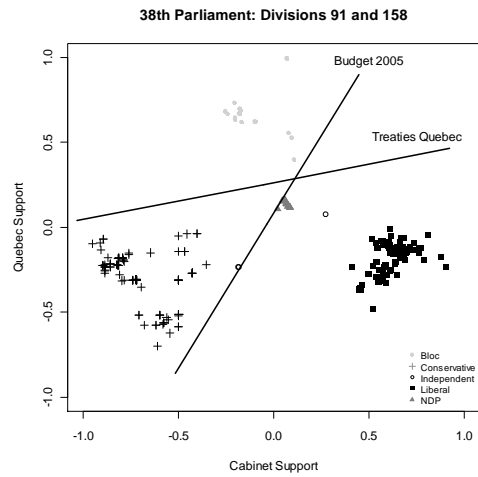
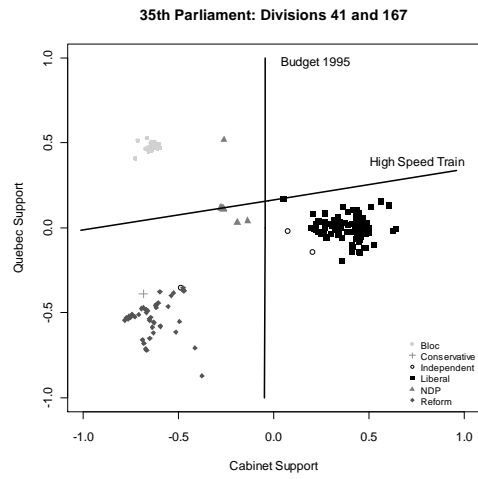


Table 1: Seat Distribution in the 35th, 38th, and 39th Parliaments.

Party	35th (1994-1997)	38th (2004-2005)	39th (2006-2008)
Liberal Party	177	135	103
Conservatives	2	99	124
Reform	52	--	--
NDP	9	19	29
Bloc	54	54	51
Independents	1	1	1

Note: Numbers show the party standings at the beginning of each parliament.

Table 2: Party Loyalty Score 35th, 38th, 39th Parliaments

Party	35th Parliament	38th Parliament	39th Parliament
Liberal	.98	.95	.97
Conservative	--	.99	1
NDP	.99	.99	1
Bloc	1	.99	1
Reform	.99	--	--

Note: The table shows party loyalty scores for the 35th, 38th and 39th Parliaments. Each row represents the average party loyalty score, which is the average of the percentage of times each member voted against a majority of their own party. The Conservative loyalty score is not reported in the 35th Parliament because there was only two elected members.

Table 3: Cross-Party Voting Scores 38th Parliament in the 35th, 38th, 39th Parliaments.

	Party	Liberal	Conservative	NDP	Bloc	Reform
35th Parliament	Liberal	.1				
	NDP	.43	.57	1		
	Bloc	.26	.56	.71	1	
	Reform	.28	.63	.53	.54	1
38th Parliament	Liberal	1				
	Conservative	.33	1			
	NDP	.64	.43	1	.	
	Bloc	.44	.42	.64	1	
39th Parliament	Liberal	1				
	Conservative	.42	1			
	NDP	.64	.26	1		
	Bloc	.68	.40	.61	1	

Note: The table shows cross-party voting scores. Each row represents the proportion of times the majority of one party voted with the majority of another party.

Table 4: Percentage of Correctly Predicted Voting Decisions in Optimal Classification Model

Party	35th parliament		38th parliament		39th parliament	
	1st Dim	2nd Dim	1st Dim	2nd Dim	1st Dim	2nd Dim
Overall	.96	.99	.93	.99	.96	.99
Liberal	.99	.99	.97	.99	.91	.99
Conservative	--	--	.98	.99	1.00	1.00
NDP	.81	.97	.84	.95	.83	.97
Bloc	.90	1.00	.79	.99	.92	1.00
Reform	.90	.99	--	--	--	--

Note: The table shows the per centage correctly predicted voting decisions.