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Article

By-Elections in Québec: Signs of Discord, Dissatisfaction, or Simple Dialogue?

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Abstract

By-elections are a regular aspect of Canadian politics but have been subject to a relatively scarce amount of study. In Québec, Massicotte (1981) demonstrated that the governing party largely won every contested by-election throughout the twentieth century. Since this time period, however, we find that opposition parties won a clear majority of by-elections in almost every single parliamentary sitting from 1976 onward. Based on previous theories, our analysis finds that by-elections in Québec are significant events and serve as a barometer for the next general election. Therefore, by-election outcomes are not simply idiosyncratic or exclusive to a particular riding.

Résumé

Les élections partielles sont un aspect régulier, mais sous-étudié de la politique canadienne. Au Québec, Massicotte (1981) a démontré que le parti au pouvoir avait gagné presque toutes les élections partielles contestées au cours du 20^{ème} siècle. Cependant, depuis cette période de temps, nous observons que les partis d'opposition ont remporté la majorité des élections partielles dans presque chaque législature depuis 1976. Basée sur des théories précédentes, notre analyse trouve que les élections partielles au Québec sont des événements significatifs et servent de baromètre pour l'élection générale qui suit. Les résultats des élections partielles ne sont donc pas si particuliers, ni liés à un seul comté.

Keywords: Elections, voting behaviour, by-elections, Canadian politics, Québec politics

Mots-clés: Élections, comportement de vote, élections partielles, politique canadienne, politique québécoise

Introduction

By-elections, or the process of filling a legislative seat between general elections, are a regular aspect of many parliamentary systems throughout the world. Despite this regularity, by-elections are significantly understudied compared to other electoral processes (Mughan 1986; Feigert and Norris 1990; Loewen and Bastien 2010; Blais-Lacombe and Bodet 2017). By-elections in Canada are particularly an understudied phenomenon (Kay 1981; Massicotte 1981; Feigert and Norris 1990; Loewen and Bastien 2010; Blais-Lacombe and Bodet 2017). Despite this lack of study, Loewen and Bastien (2010) undertook a comprehensive test of federal by-elections, providing

some important insights into the role of by-elections in the current political climate. More recently, Blais-Lacombe and Bodet (2017) directly applied Loewen and Bastien's federal model to Québec provincial by-elections.

In regards to individual provinces, Québec stands out. Québec by-elections have been the subject of study by Massicotte (1981, 1987), who demonstrated that the governing party in Québec largely won most by-elections from 1867-1976. Massicotte's (1981) study appears incompatible with the current political climate in Québec. That is, opposition parties have won a clear majority of by-elections in almost every single parliamentary sitting from 1976 onward. Massicotte updated his study in 1987 to include by-elections between 1981 and 1985 which allowed him to argue that by-elections were now an indicator of public opinion¹, but because 11 consecutive by-election defeats did not stop the PQ from being re-elected in 1981, by-elections are not valid barometers regarding the next election. The question, then, is does this hold in the contemporary era? Do by-elections still represent public opinion and are they still not valid barometers? Furthermore, what factors most impact by-elections in Québec today? Finally, are by-elections in Québec significant political occasions or simply idiosyncratic events?

In turning to the literature on by-elections, existing theories postulate that by-elections can serve as a referendum on the current government (Kay 1981; Massicotte 1981; Feigert and Norris 1990), as a barometer for future elections (Scarrow 1961; Kay 1981), or simply a reflection of idiosyncratic constituency or candidate qualities (Kay 1981; Feigert and Norris 1990). However, it is possible that neither of these theories hold in Québec post-1976. Therefore, these theories, as well as other variables, need to be tested in order to better understand Québec by-election results post-1976. As noted by Loewen and Bastien (2010), by-elections in Canadian politics are considered significant events, as their outcomes are not simply idiosyncratic or exclusive to a particular riding. Based on this argument, as well as the recent work by Blais-Lacombe and Bodet (2017), it appears that by-elections in Québec may also be significant events in Québec politics, and that parties may have lessons to learn from previous elections. Consequently, there are important theoretical and practical implications to this study. More specifically, the findings of this study contribute to the existing literature by providing some much needed empirical evidence for existing theories of by-elections. Furthermore, by using different combinations of variables and measurements from other studies in the same or similar contexts (particularly Loewen and Bastien (2010) and Blais-Lacombe and Bodet (2017)) we are contributing to the discussion on the best methods for testing the impacts of by-elections. From a practical perspective, this study can provide explanations for modern by-elections in Québec, thus providing a political tool kit for parties in Québec to consider when participating in such events.

Similar to Loewen and Bastien (2010) and Blais-Lacombe and Bodet (2017), this study has constructed a data set utilizing electoral data on factors like voter turnout, vote totals, public opinion, and reason for by-election, among others in order to test various theories. The study employs an analysis of all provincial by-elections in Québec from 1976-2018. The time series was chosen because it is subsequent to Massicotte's first major analysis and is also a stable two-party system with PLQ and PQ repeatedly trading terms in government. This article will proceed with a review

of the literature on by-elections in general, and then Canada in particular, with a focus on the work of Loewen and Bastien (2010), Massicotte (1981), and Blais-Lacombe and Bodet (2017).

By-election literature

Where national elections are generally considered salient by a state's electorate, Reiff and Schmitt (1980) argue that the eminence given to these elections positions them as 'first-order' elections (Marsh 1998, 592). In contrast, elections which exist below the national level (e.g. municipal elections) are, generally, less salient to the public and are elections of a second-order. By-elections, per Reiff and Schmitt (1980, 8), are second-order elections and are a process of filling a legislative seat that has been vacated prior to the next regular election (Massicotte 1981; Feigert and Norris 1990). Dozens of countries across the world use by-elections to fill such parliamentary vacancies at varying levels, regardless of the reason for vacancy (Feigert and Norris 1990). Such legislative seats can be vacated between regular elections for a variety of reasons such as death, to take another office, an assortment of private reasons like illness or family matters, scandal, or to provide easy access to a legislative seat for a star candidate, among others (Loewen and Bastien 2010).

Although the literature on by-elections is not that extensive (particularly in Canada) (Feigert and Norris 1990; Loewen and Bastien 2010; Blais-Lacombe and Bodet 2017), there are multiple competing theories that seek to explain by-election results. The first theory is that by-elections are idiosyncratic contests that are unique to the characteristics of a constituency and the individuals campaigning in them (Kay 1981; Feigert and Norris 1990). This is understandable, particularly in the Canadian context, where by-elections have been noted to have little effect on the government's status (such as shifting from a majority to a minority), minimal campaigning (as compared to a nation-wide campaign), the limited number of elections occurring at one time, reduced regional representation (thus limiting national inferences), and the level of skill and organization of local associations (Kay 1981). This implies that there are no broader lessons or themes to extrapolate from these unique events (Kay 1981; Feigert and Norris 1990). These identified characteristics echo Reiff and Schmitt's (1980, 9) classification of by-elections as ones of a second-order. Because second-order elections are perceived by voters to have less at stake, these elections generally see lower levels of participation, a greater number of spoiled ballots, a greater opportunity for advancement for minor parties, and governments faring worse than their general election results (Reiff and Schmitt 1980).

Based on the results of by-elections, minor parties have seen increased success compared to their general election results (Kay 1981; Loewen and Bastien 2010; Blais-Lacombe and Bodet 2017). Why this occurs is open to debate, with several justifications. For instance, it has been argued that by-elections can be viewed as a testing ground for social movements and can therefore garner a lot of attention from minor parties such as the CCF (Scarrow 1961). Similarly, it has been argued that the structure of local organizations can lead to success in by-elections. In this case, the New Democratic Party (NDP), which tends to have more developed and skilled local organizations, are better able to mobilize for success in by-elections without this

translating into general election success (Kay 1981). Another reason for the success of minor parties is that they are more likely to contest ridings in by-elections than in general elections (Mughan 1986; Loewen and Bastien 2010). Finally, the success of minor parties is also due to the aforementioned phenomenon of anti-government voting (Leonard 1968; Stray and Silver 1980; Kay 1981; Mughan 1986). Reif and Schmitt (1980) and Marsh (1998) both confirm the tendency for minor parties to receive higher vote shares in second- compared to first-order elections. This thus leads to the first hypothesis to be tested:

H₁: Minor party by-election vote share will increase compared to general election vote share

Another observable trend in by-election studies is that the party in power is often punished by citizens in order to protest their dissatisfactions (Leonard 1968; Stray and Silver 1980; Kay 1981; Mughan 1986; see also Reif and Schmitt 1980, 16). Reif and Schmitt (1980, 16), Marsh (1998, 599), and Schmitt (2005) find that national governing parties do worse in second-order European elections. Indeed, by-elections do seem to follow the trend of European second-order elections given that the governing party seems to be hit by sharp decline in support after a honeymoon phase (Norris and Feigert 1989; Feigert and Norris 1990). Marsh (1998, 600) and Schmitt (2005) note that national governing parties do worse over time, indicating the effects of electoral cycles. According to some, this anti-government swing in by-elections needs to be interpreted cautiously, as it may not indicate any real shift in voting preferences from the previous general election to the next (Stray and Silver 1980). That is, voters may be willing to punish the governing party in a by-election to demonstrate some dissatisfaction but do so knowing that the governing party will not change due to the size of their majority. Voters then continue to vote for the same party in the next general election as they did in the previous resulting in a phenomenon some have labeled voter “swing back” (Stray and Silver 1980). It is therefore hypothesized that:

H₂: Governing party vote percentage will be lower in by-elections than in general elections

Other theories argue that broader themes can be extrapolated from individual by-elections. Specifically, the referendum theory argues that the results of by-elections are a test of public opinion on how well the party in power is performing in office. A by-election win for the governing party is a sign of good performance, whereas a loss for the governing party is a public demonstration of dissatisfaction with government performance (Kay 1981; Mughan 1986; Feigert and Norris 1990). In fact, some by-elections have been argued to be better tests of public opinion than merely using polls (Stray and Silver 1983; Feigert and Norris 1990). For instance, public opinion polls look at vote intentions, not actual action; can include non-voters; and generally require an instant decision; whereas voting in a by-election measures actual votes, only includes those who do vote, and generally includes more thought and decision-

making than simply answering a poll (Stray and Silver 1983). Therefore, by-election results can be argued to be a valid test of public opinion at the time.

Support for the referendum theory is found in Québec by Massicotte (1987) and Blais-Lacombe and Bodet (2017). Blais-Lacombe and Bodet (2017) find that by-elections do serve as referenda on the government in power. They find a positive and statistically significant relationship between vote intention and government by-election vote share. Massicotte (1987, 68) looks at the ‘swing’ from PQ to PLQ and argues that these vote swings reflect public opinion at the time. Thus, both studies find that by-elections are indeed referenda which present voters the opportunity to reward or penalize the government of the day. The model we present in this paper is similar to the one put forth by Blais-Lacombe and Bodet (2017) but with significant differences. These differences are discussed in greater detail below. Based on the above findings, we offer H₃ to further test the referendum theory with a more robust model:

H₃: By-election results will reflect public opinion polls at the time of the by-election.

Turnout is another explanatory variable noted in the literature that can explain by-election results. By-elections are often noted to have lower turnouts than general elections, and this can then impact the results (Scarrow 1961; Kernell 1977; Reif and Schmitt 1980; Kay 1981; Blais-Lacombe and Bodet 2017). It is possible that more dissatisfied voters will turnout, thus resulting in a shift away from the governing party (Kernell 1977). It has thus been hypothesized that the aforementioned referendum and (as will be discussed below) barometer theories can be mediated by turnout in the sense that the closer turnout in a by-election is to the turnout in the previous or next general election, the better by-election results can predict the next election (Scarrow 1961) or the more congruency can be observed between by-elections and general elections (Kay 1981). Alternatively, the more distant the turnout levels between the by-election and general elections, the larger the difference in votes for parties (Kay 1981).

H₄: As turnout in the by-election increases, the government party’s by-election vote share increases.

The timing of elections has also been noted to possibly have some impact on by-election results. That is, the closer the by-election date is to the next general election, the better the results will be for the governing party (Mughan 1986). This variable does appear to have limited explanatory power, in that results have been minor (Mughan 1986) or insignificant (Scarrow 1961).

H₅: The closer the by-election date is to the next general election, the better the governing party will perform

The referendum theory also has support from Canadian media. This is largely due to the fact that federal by-elections are conducted and overseen by Elections Canada (a

federal body), rather than local or regional authorities. This then often leads to multiple, simultaneous by-elections across the country, frequently prompting the media to discuss such events as a measurement of popularity of the governing party (Feigert and Norris 1990). This argument can be extrapolated to provincial by-elections as well, which are similarly overseen by provincial electoral bodies and see multiple by-elections happening on the same day.

Despite evidence for the referendum theory (see Mughan 1988; Feigert and Norris 1990; Blais-Lacombe and Bodet 2017), it is largely acknowledged that this theory cannot explain all by-elections. For instance, according to Mughan (1988), governing party performance only explains 22 percent of variance in the vote for the governing party in by-elections, and therefore other factors impact the results. In essence, proponents of this model suggest that, even when support for the referendum theory exists, constituency specific features should not be entirely ignored. Indeed, this exact finding and recommendations were made in the Canadian context by Feigert and Norris (1990) in a comparative study of by-elections in Canada, Britain, Australia, and the United States.

In contrast, instead of looking at the previous general election as with the referendum theory, the barometer theory looks at the future general election and argues that by-elections can be a predictor of the next general election results (Kay 1981; Massicotte 1981). This theory is also debated, with Kay (1981) finding some support for it in Canada at the federal level (as well as the referendum theory at the same time), while Massicotte (1981; 1987) found limited evidence that by-elections are significant predictors of future elections. As mentioned above, Massicotte's (1987) argument that by-elections are not barometers is based on the result of the 1981 provincial election. In contrast, in studying European second-order elections, Marsh (1998, 606) finds that European Parliament elections are, in fact, "pointers to subsequent general elections". Thanks to both advanced methodologies as well as the occurrence of more elections over time, we further test the barometer theory. Given the extant literature, we hypothesize that:

H₆: By-election results do not predict the results of the next general election
in the riding

Outside of these broader themes across the literature in by-elections around the world, three Canadian studies deserve particular attention. The first are Massicotte's (1981, 1987) studies on by-elections in Québec from 1867-1981 and 1981-1985. Massicotte's studies combined with that of Blais-Lacombe and Bodet (2017) are the only studies on provincial by-elections in Québec. They highlight important features and shifts in Québec politics that are relevant to this study, notably that small and independent candidates do better in by-elections than in the general election?, the MNAs elected via by-elections have a higher rate of re-election than those elected in the general, and that by-elections are referenda on the government of the day (Blais-Lacombe and Bodet 2017).

In looking first to Massicotte (1981), he notes that even though there were over 300 by-elections in Québec from Confederation to 1981, very little work exists within Canadian or Québec politics which studies this phenomenon. In his examination, he

discovered shifts in by-election processes and argued that by-elections are impacted by major political events. Massicotte (1981) then divided by-elections into four distinct periods of Québec's political history. The first, 1867-1897, was dominated by the Conservatives and contained over one hundred by-elections due to common reasons like death or leaving for other posts, although many by-elections occurred because rules dictated that Cabinet ministers had to run a second time in order to secure their Cabinet seat. The second period, from 1897-1936, saw the Parti Libéral du Québec (PLQ) dominate a strong economy until the Great Depression, and also saw over one hundred by-elections—of which at least one third were uncontested. The third period, from 1936-1960 again saw one party dominance, but this time by the Union Nationale (UN). This period saw a significant decrease in the number of by-elections, dropping to 35. Finally, Massicotte's (1981) last period, 1960-1976, marked major shifts in Québec's political system during and after the Quiet Revolution. In terms of by-elections, the trend of decreasing frequency continued—down to 1.4 by-elections per year. Further, there was also a trend during this period of the Official Opposition abstaining from by-elections. This in turn led to an increased number of minor party and independent candidates running in by-elections as compared to general elections.

Massicotte (1981) then notes that 1976-1981 was possibly a new political era, one marked by more by-elections than before (an average of 2.2 per year), a continued decrease in by-election turnout as compared to the general election (especially for Anglophones), no uncontested by-elections, the disappearance or severe weakening of parties such as the Union Nationale and the Parti national populaire (PNP), governments spending a longer time in office, and a major political event with the 1980 referendum on sovereignty-association. Massicotte updated his study in 1987 to account for the 11 successive by-election losses incurred by the governing Parti Québécois (PQ). Accounting for these losses, he argued that by-elections adequately reflected public opinion, but by-elections were not adequate barometers. Because of these findings as well as the results of the most recent by-elections in Québec, this study uses 1976 as a starting point as there is little extant work which explains the current trends in Québec by-elections with the noted exception of Blais-Lacombe and Bodet (2017).

In testing Massicotte's (1981) and others' theories of by-elections, this study is also informed by the most recent work by Loewen and Bastien (2010), which provides a useful examination of the current climate. Loewen and Bastien (2010) examine all by-elections at the federal level between 1963 and 2008 for a total of 121 by-elections. Like Massicotte (1981), Loewen and Bastien (2010) highlight similar patterns of by-elections such as a continued decrease in the preponderance of by-elections over time. Given these changes as well as changes to Canada's party system, from more of a two-party system to a multi-party system with strong regional parties (see Johnston 2017), Loewen and Bastien (2010) argue that the modern era in Canadian politics is different from the past, and therefore a newer study of by-elections is needed. In terms of results, Loewen and Bastien (2010) find that the referendum theory does have support in Canada but has had less predicting power. They also note how by-election patterns have followed general election patterns, such as a decrease in turnout over time. In terms of performance, minor parties and

independent candidates do better in by-elections than in general elections. Finally, Loewen and Bastien (2010) also highlight a useful breakdown in how to examine the reason for by-election: patronage (where the sitting member resigned to take a government appointment), death, seeking another electoral office, stepping aside for a leader or prominent candidate, personal reasons, and others such as voided elections and scandals.

Methodology

To test the effects of the extant theories and to build on Loewen and Bastien's (2010) suggestions for future research, we have constructed a database of all by-elections held in Québec from 1976-2018. Information was obtained from *Élections Québec*, as well as publicly available information from government websites. To account for public opinion, we have compiled polls from Léger Marketing, CROP, and Forum. We take the poll closest to the by-election that measures (i) vote intention for the PLQ, PQ, and minor parties; and (ii) government approval. Where applicable, we use the total sample of the poll prior to distribution of non-voters to maintain a large sample size given that we are using province-wide data to infer about a particular riding. Regardless, American literature has demonstrated the benefits of aggregate public opinion and its efficacy at gauging overall public sentiment (Page and Shapiro 1992). Due to difficulty obtaining historical polling data in Québec, we are missing polling data measuring vote intention for 30 cases, the preponderance of which stem from 1979-1986. We have polls measuring vote intention for 72 cases. Due to the nature of modern polling in Quebec and the availability of data, we further have government approval numbers taken just prior to 66 different by-elections.

The dependent variable employed in the eventual hypothesis testing is the governing party's by-election vote share. Similar to Blais-Lacombe and Bodet (2017), we employ this variable as it is the most direct measure of capturing the success of the governing party. Thus, looking at the effects of the covariates allows us to isolate government performance in by-elections.

To adequately compare by-election results with both the general election prior to it (GE_{t-1}) and the ensuing general election (GE_{t+1}), we have included the riding-level results from both GE_{t-1} and GE_{t+1} . Here, the core data includes the vote percentage received for each party in the riding at the three individual elections, the cumulative vote percentage received by all minor parties, and voter turnout.

We also include the number of months since the general election from which the by-election was held. By-elections which occurred before the median date of the month were rounded down and vice-versa. This measure allows us to capture the distance of the election to the by-election and how this might factor into a voter's calculation. We include the variable two ways. First, similar to the work of Blais-Lacombe and Bodet (2017), we include the variable as a strict linear interpretation. Second, and unlike previous studies mentioned, we enter the variable as a quadratic variable in order to determine if government by-election vote shares are non-linear². The quadratic term could demonstrate that governments initially increase their by-election vote share immediately after the general election and then lose support as the next general election approaches or vice-versa, in effect demonstrating a

'honeymoon phase' where governments do better early in their mandate than they do later on³.

We have further included whether the riding ought to be considered a 'safe' seat. We take a safe seat to mean that the seat was held by the same party for four or more consecutive elections prior to the by-election. When discussing parties, we have separated the PLQ and PQ and combined all other parties into a "minor party" label. This measurement differs from Blais-Lacombe and Bodet (2017) who instead look at small, independent parties (parties that are not the PQ, PLQ, Coalition Avenir du Québec (CAQ), Action Démocratique du Québec (ADQ), or Québec Solidaire (QS)). We include these parties as minor parties because the ADQ's rise to prominence was short-lived and it remains too early to determine whether the CAQ's ascension to government will lead to a new party system in Québec. Moreover, due to the recency of the latest general election in Québec, no by-elections are studied here with the CAQ in power, thus it remains a minor party in terms of our analysis.

A further difference from our model and Blais-Lacombe and Bodet's concerns public opinion. Blais-Lacombe and Bodet take the government party's vote share in the riding during the general election less the percentage of support from the public opinion poll. We simply use the poll closest to the by-election. Furthermore, the inclusion of measures such as turnout, months since the previous election, and safe seats allows us to test the influence of public opinion in a more encompassing model. We do not negate the importance of Blais-Lacombe and Bodet's work—instead we take inspiration from it in order to further test by-elections and the determinants of government performance.

This paper's empirical findings rely on descriptive statistics and multiple regression. We include the Parliamentary sittings to control for exogenous shocks that affect all units in a given sitting. This allows us to look only at how over-time dynamics affect the dependent variable. Exogenous shocks, here, are unexpected or unpredictable events that affect all observations within a single Parliamentary sitting. This method is slightly different from Loewen and Bastien (2010) and Blais-Lacombe and Bodet (2017) who both include decades fixed effects to account for exogenous shocks.

We estimate a series of OLS regressions. The covariates used effectively remain unchanged across all regressions. The notable difference in regression models concerns two measures of turnout. The first of our turnout measures is one employed by Loewen and Bastien (2010, 96) and is the percentage turnout in the by-election. The second turnout measure we employ is the absolute value change between the turnout from the general election and the by-election.

We specify these differences because by-election turnout has been, on average, decreasing over time in Québec (Blais-Lacombe and Bodet 2017) (and indeed in Canada (Loewen and Bastien 2010)). Only including the percentage of by-election turnout does not take into account the difference in turnout from the by-election and the turnout specific to that riding in the general election. Thus, the inclusion of by-election turnout by percent allows for an examination of the impact of turnout itself on government vote share. But the inclusion of the absolute difference between the riding-specific general election turnout and the by-election turnout allows us to

determine if an increase in the difference between the two elections favours (or negatively affects) the governing party.

Overall, our dataset spans 1976-2018, consists of 102 observations from the general election prior to the by-election, 102 by-elections, and 101 observations in the subsequent general election, as we are able to account for the 2018 Québec general election which saw the CAQ form government.

Findings and analysis

Table 1 demonstrates the overall number of by-elections over time. Table 2 demonstrates the primary reasons why a by-election occurred. The preponderance of by-elections is a result of undisclosed resignation (retiring or health reasons are marked as ‘other’), while we see two by-elections as a result of scandal. The 1997 by-election in Bertrand was a result of the riding’s 1994 general election results being declared void given that the Liberal candidate had been found guilty of voting illegally and inciting those who lived outside the riding to vote in Bertrand in favour of the PLQ—something of significance given that the PLQ won by only 146 votes (CBC 2008a). The PLQ would win the subsequent by-election. The 2002 by-election in Anjou was a result of a vote-buying scandal during the 1998 general election where Liberal campaign organizers were “convicted of getting supporters to vote more than once” (CBC 2008b). Regardless, the PLQ won the riding in both the by-election and subsequent general election.

Table 1. By-Elections Over Time

Sitting, years	Number of By-Elections
31, 1976-1981	11
32, 1981-1985	15
33, 1985-1989	6
34, 1989-1994	6
35, 1994-1998	12
36, 1998-2003	12
37, 2003-2007	9
38, 2007-2008	5
39, 2008-2012	9
40, 2012-2014	2
41, 2014-2018	15
Mean number of by-elections per sitting	10.78
TOTAL	102

While the majority of by-elections have been a result of unspecified resignations, the second most common reason has been the result of candidates seeking other office. Of these elections, the incumbent party (in this case all the by-elections have been a result of PLQ candidates seeking other office) won the by-election. Of the seven by-elections that resulted from a death, the incumbent party won five with the PLQ

holding three, the PQ one, and the CAQ one. The incumbent party won all six by-elections where the candidate stepped aside for the leader. In fact, the only contested by-election that was a result of a leader seeking a seat was the 1979 Argenteuil by-election. The PQ opted not to contest the 1986 and 2013 by-elections in Saint-Laurent and Outremont respectively, while the PLQ returned the favour in Jonquière, Pointe-Aux-Trembles, and Charlevoix in 1996, 2006, and 2007 respectively. Of the three patronage by-elections, the incumbent party held two of them with the PLQ winning a seat from the PQ in Jonquière in 1985.

Table 2. Reason for By-Election

Reason	Frequency	Percentage
Sought other office	11	10.78%
Death	7	6.86%
Resigned for leader	5	4.90%
Patronage	3	2.94%
Scandal	2	1.96%
Other	74	72.55%

Table 3 demonstrates the by-election results. Since 1976, the governing party has only ever gained in five by-elections. Moreover, the PLQ managed to switch three seats from a PQ opposition to a PLQ government, while the PQ has never flipped a seat from PLQ opposition to PQ government instead taking two gains from minor party incumbents. Clearly, the governing party is not picking up seats from by-elections. Instead we see that the governing party has held seats 26 times.

Table 3. By-Election Results by Incumbency

General Election _{t-1}	→	By-Election _t	Frequency
Opposition	→	Government	5
Government	→	Government	26
Government	→	Opposition	30
Opposition	→	Opposition	41
TOTAL			102

Governments have lost by-elections to opposition parties 30 times with the PLQ being the biggest winner. The PQ has only pulled eight seats away from the PLQ when the PLQ is in government—an interesting finding given that minor parties have been able to gain six seats from governing parties and pull more seats away from PQ governments than they do PLQ governments. Of the 102 observed by-elections, the

opposition has held 41 seats with, again, the PLQ outperforming the PQ both in terms of maintaining their own seats and by winning seats from minor parties. In sum, of the 102 by-elections studied, opposition parties have won 71 of them.

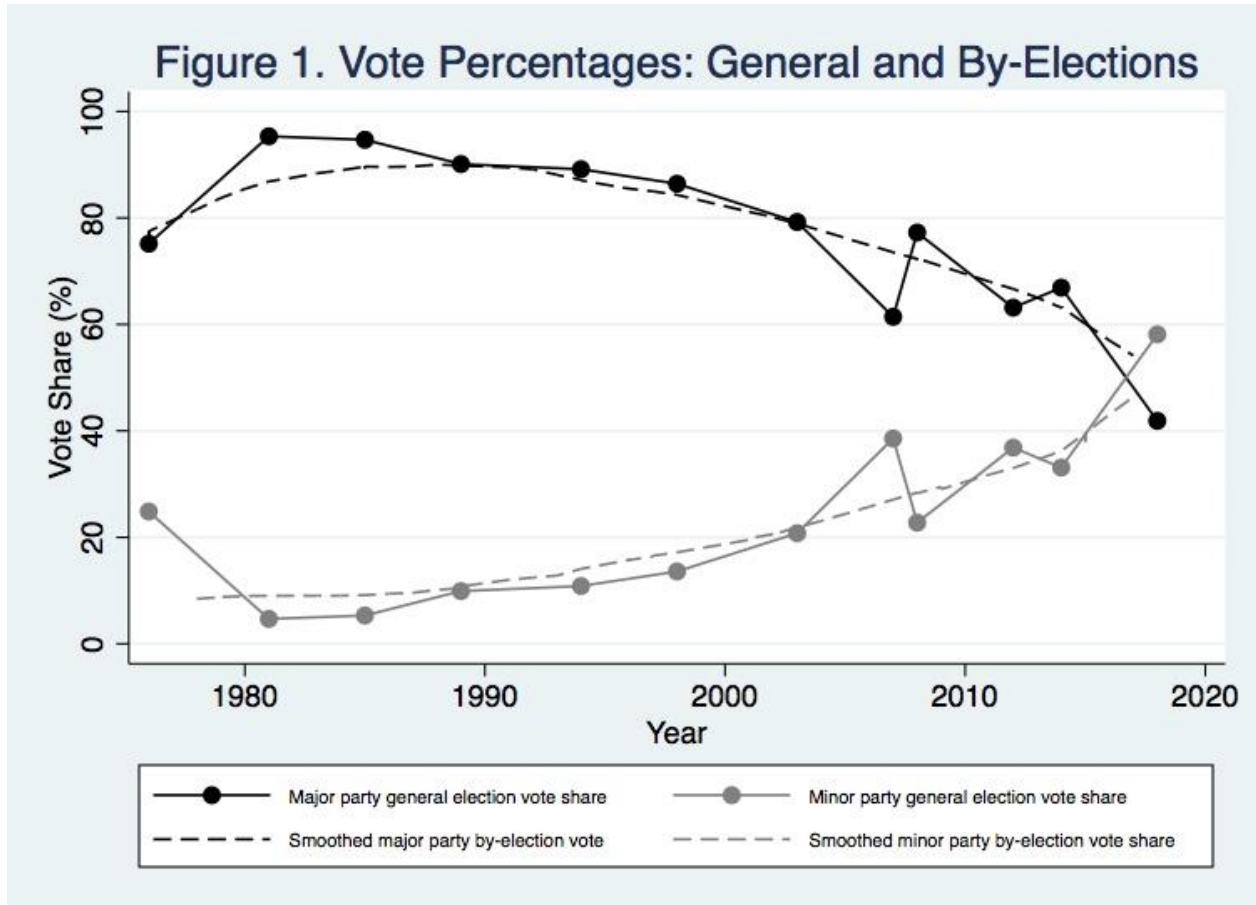
From the by-elections studied, we find that minor parties have won nine by-elections with the ADQ winning five, the CAQ winning three, and Québec Solidaire winning a single by-election. In contrast, we find that minor parties have failed to hold seats six times. We can discount the losses accrued by the Union National and PNP particularly because both parties were well on their way to being defunct. Thus, removing the PNP and UN results demonstrates that minor parties have won nine by-elections and failed to hold their seats in by-elections only twice.

The mean minor party riding vote share in the general election is 19.13 percent which slightly increases to 20.02 percent during by-elections. This difference of 0.88 is insignificant ($t = 0.383$). Although the difference is statistically insignificant, we find that, like Blais-Lacombe and Bodet (2017), minor parties do, in fact, perform better in the riding in by-elections than in the previous general election. If we restrict the study of minor party by-election performance to those elections which took place with the entrance of the Equality Party (the 1989 election, thus all by-elections which occurred during or after the 34th Parliament), minor parties averaged 22.45 percent in the riding during the general election but increased their vote percentage by 4.33 percent to 26.79 percent during by-elections. This increase in minor party by-election vote share is the result of the slow de-polarization of the Québec party system—a system which was previously highly polarized between the PLQ and PQ (Pinard and Hamilton 1977). We therefore accept H_1 .

Where minor parties see gains in by-elections, we observe a different pattern for government parties. In general elections where the PLQ would form government, they averaged 44.66 percent (sd 17.12) of the vote in the ridings that preceded the by-election. The PLQ then saw their vote share decrease to an average of 40.26 (sd 16.25) percent during by-elections in these ridings. The PLQ did 4.4 percent worse in by-elections when in government. This difference of means is, however, statistically insignificant ($t = -1.4026$). In contrast, the PQ averaged 42.76 percent (sd 14.98) of the vote in the ridings that preceded the by-election during elections in which they formed government. They averaged, however, only 33.75 (sd 14.62) percent of the vote in by-elections when in government. This difference of 9 percent is statistically significant ($t = -3.07$). Concerning H_2 , then, we draw three conclusions. First, although the difference of means is insignificant, the PLQ does worse in by-elections when in government as compared to the percent of the average vote share in the same riding at the preceding general election. Second, when in government, the PQ loses on average nine percent of the popular vote in by-elections from their previous vote share in the riding during the preceding general election. Third, government vote percentage in general elections is roughly 7 percentage points higher than in by-elections and this difference is statistically significant. We therefore accept H_2 .

Figure 1 plots the vote percentage received by major parties (PLQ and PQ) and minor parties in general and by-elections. The connected solid lines represent the popular vote received by the major and minor parties at each general election beginning in 1976. The dashed lines are the lowess-smoothed⁴ vote percentage for

the major and minor parties in by-elections by year. The upper-most connected line indicates that the major party vote share has largely been on a decline since the 1985 election. The combined vote total of the major parties was 95.33 percent in 1981, 94.68 in 1985, and 90.11 percent in 1989 (demonstrating the polarization of the two-party system (Pinard and Hamilton (1977))). Their vote shares decreased steadily and rebounded from 61.43 percent in 2007 to 77.25 percent in 2008 largely as a result of the decline of the ADQ in 2008. Yet this rebound for the major parties would quickly



dissipate—the 2018 election would see the PLQ and PQ combine for only 41.88 percent of the vote, marking the first time in our time series that the parties combined for less than the majority of the vote share. Similarly, the major parties' by-election vote shares have followed the same pattern—one of consistent decline.

In contrast, the minor parties' general and by-election vote shares have increased since 1980. Québec, much like other Canadian provinces, has been subject to minor party insurgence within the political arena (Johnston 2017). A considerable minor party impact in Québec resulted from the 1935 election in which the Action Libérale Nationale (ALN) won 25 seats. Their success led to then Conservative leader, Maurice Duplessis, to seek a merger between the ALN and the Conservatives—ultimately forming the Union Nationale (Fraser 1984, 4). While minor parties would see some success in terms of vote and seat percentage (notably the 1944 election where Laurendeau's Bloc Populaire, the CCF, and other parties combined for 22 percent of

the vote), the PQ would become the most successful insurgent party since the UN, winning seven seats in 1970, six in 1973, and 71 in 1976.

Following the 1976 election, minor parties would effectively go dormant—with the brief success of the four seats won by the Equality Party in 1989. And yet, with the ADQ’s emergence in 1994, minor parties began to increase their seat and vote share. Indeed, Figure 1 demonstrates that trend. After the ADQ’s watershed moment in 2007, the CAQ would win 19 seats in 2012, 22 in 2014, and 74 seats in 2018. Discussing the Québec party system as a two-party system, where government transitioned between the PLQ and PQ, risks overlooking momentum that minor parties had over the duration of this party system. Minor party success is seen both in general elections and in the by-elections that precede them. Thus, the increase in minor party vote share in by-elections was not a sign of disgruntled voters using by-elections as the ability to cast a protest vote—instead it signalled a genuine trend in the electorate to turn away from the province’s two major parties.

Table 4. Patterns over Three Elections

Party Changes					
General Election _(t-1)	→	By-Election _(t)	→	General Election _(t+1)	
Winner party X wins		Loss party Y wins		→GE_{t-1} winner wins party X wins	12
Winner party X wins		Loss party Y wins		→Hold party Y wins	24
Winner party X wins		Winner holds party X wins		→Party holds party X wins	55
Winner party X wins		Winner loses party Y wins		→Winner loses party Z wins	2
Winner party X wins		Winner Holds party X wins		→Party loses party Y wins	8
TOTAL					101

Table 4 demonstrates the patterns observed from the general election to the by-election to the next general election. 12 times has the party who won their seat in the general election lost the by-election but subsequently won their seat back in the next general election, a demonstration of the swing back phenomenon (Stray and Silver 1980). Of these 12 occurrences, the ADQ won 3 by-elections from the PQ but failed to retain the seat. The GE_{t-1} winner lost the by-election and that by-election winner held their seat in GE_{t+1} 24 times with the PLQ holding their by-election gains 16 times, the PQ 6, and both the ADQ and CAQ holding their gains once. A party has successfully held their by-election seat and the seat at GE_{t+1} 55 times with the PLQ outperforming the PQ 22 to 31. Only twice has the seat in GE_{t-1} switched in the by-election and then switched to another party at GE_{t+1}. Finally, only eight times has the general election winner held their seat in the by-election and then subsequently lost to an opposing party in the next general. Here, the PLQ lost their held seat to the PQ three times, to the Equality Party once, and the CAQ once. The PQ lost their held seat to the CAQ thrice.

Multivariate findings

Table 5⁵ presents four OLS regressions with sitting-level fixed effects. Models 1 and 2 include lagged government share in the riding, two measures of turnout, dummy variables measuring whether the incumbent party in the riding was a government party, whether the contested riding is a 'safe seat', the distance (in months) from the previous general election, and whether the government in power at the time of the by-election was Liberal or PQ with Liberal coded as 1.

Table 6, however, unlike table 5 includes the distance (in months) as a quadratic variable—that is, both the linear month term (from table 5) and the square of the months term are included. The inclusion of lower (months) and higher (months²) terms allows us to further test H₅ concerning the timing of by-elections.

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4
Gov%VoteShare _{t-1}	0.553*** (0.118)	0.566*** (0.118)	0.752*** (0.149)	0.778*** (0.162)
Turnout	-0.091 (0.102)	0.033 (0.097)	-0.023 (0.117)	0.283 (0.121)
Gov Incumbent	-1.171 (3.487)	-1.366 (3.494)	-4.580 (4.235)	-5.086 (4.613)
Safe Seat	-3.792* (2.196)	-3.859* (2.220)	-4.021 (2.598)	-2.676 (2.917)
Government Control	-4.280 (4.555)	-5.131 (5.120)	6.035 (9.642)	8.037 (10.852)
Months	-0.205** (0.095)	-0.210** (0.095)	-0.235* (0.124)	-0.254* (0.140)
Gov Vote Intention			0.243 (0.259)	
Gov Approval				0.283 (0.261)
Constant	25.620*** (5.672)	21.894** (8.840)	1.312 (14.141)	-3.208 (17.908)
Sitting-level FE	YES	YES	YES	YES
Turnout	Absolute value	By- election%	Absolute value	By- election%
N	96	96	68	62
R ²	0.636	0.633	0.739	0.732

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

In both tables 5 and 6, models 3 and 4 maintain these covariates but include two measures of public opinion: the percentage of government vote intention as recorded by the temporally closest public opinion poll before the by-election (Model 3) as well as the percentage of reported government approval (Model 4).

Lagged government vote share is significant in every election. The safe seat covariate is significant only in models 1 and 2. Note, crucially, that the months variable is significant in every model indicating that as by-elections move farther away from the date on which the government was elected, the government can expect to perform worse.

Models 3 and 4 demonstrate that both public opinion variables—vote intention and government approval—are statistically insignificant in both Tables 5 and 6. As a result, we find no support for H₃ (by-election results will reflect public opinion). In a similar vein, we find no support for H₄ (as turnout increases, the government party's by-election vote share will decrease). In fact, all measures of turnout are insignificant across all models.

Table 6 demonstrates that the difference between the lower order term (month) and the higher order term (months²) is crucial and demonstrates a finding different than what we expected regarding H₅. So, while Table 5 initially confirms H₅ (that governments do worse in by-elections closer to the general election date), Table 6 demonstrates, instead, that the import of by-election timing is, in fact, non-linear.

Given that governments see an estimated increase in by-election vote share after the 35th month of their mandate, we find that, in fact, the governing party will do better when the next election is approaching—thereby confirming H₅. Figure 2 demonstrates that governments see a continuous decrease from their initial election but benefit from initially high levels of support⁶. This initially high amount of government support quickly diminishes and bottoms out by mid-term before slightly increasing when the next election is a year away. Voters are responsive to the government—they are willing to punish them as their term increases but will then voice their support to the government as the next election approaches.

That governments do better in by-elections after 35 months in office is likely the result of third- and opposition-parties' performance. We count nine by-election wins over the period studied by minor parties (ADQ, QS, and the CAQ). Of these nine wins, six occurred after the 35th month of government tenure (another minor party win occurred 32 months after the election) and only two by-elections were won by a minor party early in a government's rule: the CAQ winning in Lévis six months into the Couillard government⁷, and the ADQ's 2004 win in Vanier which occurred 17 months into Charest's first term.

Instead, governments are able to somewhat overturn a consistent decline in support. The increased vote share that governments see after the 35th month, we believe, are likely due to government voters coming home to roost. Sensing an impending election and threat posed to the government by the opposition and minor parties, voters are willing to return to the government to ward off these threats. The increase in government vote share, however, is not strong enough to prevent non-government parties from seeing consolidated gains. The significance of the quadratic term and Figure 2 demonstrate that governments can expect to see marginally more vote share in by-elections closer to the end of their tenure—but this increased vote share does not guarantee by-election success. Indeed, the majority of government by-election successes occur early in their tenure.

Table 6. Determinants of Government By-Election Performance

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4
Gov%Vote Share _{t-1}	0.552*** (0.116)	0.569*** (0.116)	0.734*** (0.144)	0.753*** (0.158)
Turnout	-0.130 (0.102)	0.051 (0.096)	-0.031 (0.112)	-0.058 (0.117)
Gov Incumbent	-0.630 (3.420)	-0.939 (3.438)	-3.453 (4.106)	-3.869 (4.518)
Safe Seat	-3.429 (2.155)	-3.537 (2.187)	-3.900 (2.501)	-2.576 (2.830)
Government Control	-3.570 (4.467)	-4.663 (5.035)	5.119 (9.287)	5.953 (10.580)
Months	-1.076** (0.415)	-1.011** (0.415)	-1.245*** (0.464)	-1.221** (0.513)
Months ²	0.015** (0.007)	0.013* (0.007)	0.018** (0.008)	0.017* (0.009)
Gov Vote Intention			0.235 (0.249)	
Gov Approval				0.227 (0.255)
Constant	36.64*** (7.551)	30.21*** (9.644)	14.64 (14.839)	12.95 (19.238)
Sitting-level FE	YES	YES	YES	YES
Turnout	Absolute value	By- election %	Absolute value	By-election%
N	96	96	68	62
R ²	0.656	0.651	0.763	0.753

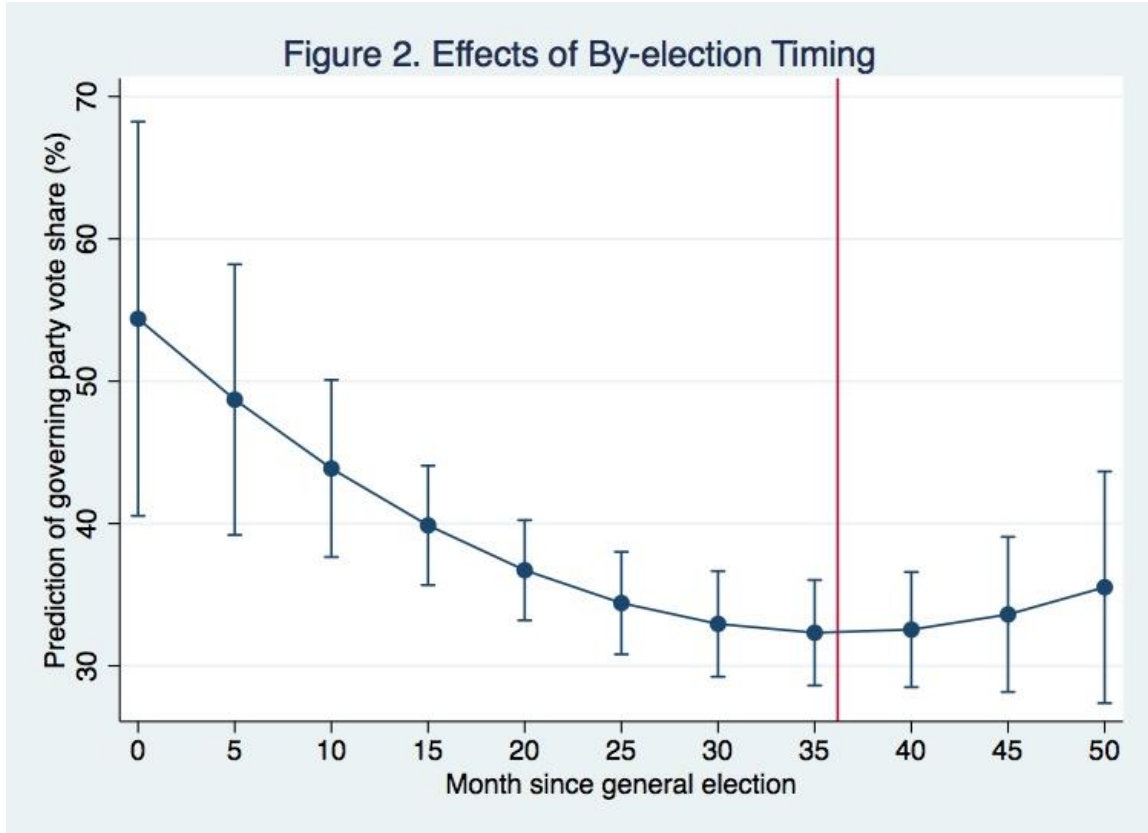
Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Of the 26 identified government by-election holds in our time series, 21 of them occurred before the 35th month. Of the five government by-election gains, four occurred before the 35th month with Rivière-du-Loup in 2009 occurring six months into the government's tenure, Chauveau in 2014 occurring 14 months in, and Anjou and Roberval occurring both 30 months in in 1988. In contrast, the PLQ government, elected in 1989, was able to win the 1994 Shefford by-election from the PQ 53 months into the PLQ's mandate.

Opposition success shows more variation concerning the timing of their wins. In this regard, of the 41 opposition holds, 23 of them occurred within the first 35 months. Excluding the 2017 Gouin by-election in which the PQ did not run a candidate against QS, opposition held by-elections which occurred after the 35th month saw the

opposition party average 58.7 percent of the vote compared to 48.65 percent for those by-elections before the 36th month ($t = 1.8351$).



Of the 30 opposition gains, 17 occurred after the 35th month but the difference of means between opposition gains before and after the 35th month is statistically insignificant—opposition parties averaged 47.42 percent of the vote in the first 35 months and 47.83 percent of the vote after the 35th month. This is not altogether surprising given that by-elections in Québec have been dominated by opposition parties.

Not only, then, can the government of the day see increased support towards the end of their mandate, but their performance in the riding before the by-election also predicts their by-election performance. The lagged government vote share from the general election maintains statistical significance across every model indicating that government performance at $time_{t-1}$ can predict government performance and $time_t$ indicating that by-elections are not merely one-off, isolated events. That government vote share from the general election has a predictive capability on by-election vote share demonstrates that, perhaps unsurprisingly, where the government did better in previous election, they can expect an increase in votes in the by-election.

In testing H_6 (by-election results do not predict the results of the next general election in the riding), we regressed governing party vote share on governing party by-election riding vote share. The results of the bivariate regression indicate that

government by-election vote share does have a statistically significant impact on the governing party's general election riding-specific vote share (Beta: 0.650; standard error: 0.06; t : 9.38). Albeit a simple model, this disconfirms H_6 . From this perspective, if the government by-election vote share can predict the government vote share in the next general election, then by-elections ought not to be considered elections that can be ignored or considered insignificant. Instead, they can be considered barometers.

We reject Massicotte's (1987) finding that by-elections are not barometers. We are, in fact, quite sanguine over the prospect of by-elections acting as barometers. If by-elections do have an effect on the riding's result in the next election, then this would behoove parties to take by-elections seriously and not to dismiss losses as a one-off event. Indeed, if a by-election radically shifts from governing party to opposition party (crucially, a minor party) this may indicate troubled waters for the government of the day. While the inability of the government to hold their seats in a by-election has been noted above, that increased government by-election share is associated with increased government vote share in the riding at the next general election indicates that the government *du jour* should take their by-election performance seriously. Not because the by-election is in some way a referendum on their performance (we find this is not the case), but because the by-election results may be a warning for their performance in that riding come the next general election.

Conclusion

By-elections are occurrences where voters get to decide the fate of their riding while simultaneously knowing which party controls government. The stakes in by-elections differ from general elections in that voters generally have no control over which party will form government. Despite this, we argue that by-elections in Québec are not merely idiosyncratic events but are rather significant political occurrences. In short, we find that the government's past performance in the general election has a statistically significant effect on their by-election performance, that the governing party can count on increased support early in their term and towards the end of their term—but that this increased support in the latter half of their mandate does not match their early success—and that government by-election performance is not a measure of underlying public opinion. However, where public opinion data is statistically insignificant, we note that the success of opposition and minor parties does indicate that the mechanics of public opinion are at play. Voters are willing to vote against the government of the day, but the reasons as to why are yet to be determined. We find that turnout, which government is in power, and whether the by-election seat is one that belongs to a government incumbent have no effect on government by-election performance.

This paper builds on Loewen and Bastien (2010) and, crucially, Blais-Lacombe and Bodet's (2017). Like Blais-Lacombe and Bodet, we find that minor parties see improved results in by-elections, but we find no relationship between public opinion and government by-election vote share. This is likely due to the fact that there are differences in operationalization and the number of variables across the two studies. For instance, we believe the inclusion of previously unstudied variables (e.g.

incumbency, safe seat, government control, a measure of general-election-to-by-election time (including a quadratic function), and the inclusion of sitting-level fixed effects) allows for a more holistic understanding of government by-election performance.

This paper also builds on the work of Massicotte (1981; 1987) who hypothesized that Québec politics may have moved into a fifth phase in 1976. Indeed, in studying by-elections since 1976, we see a period marked by key characteristics distinct from the previous periods which Massicotte identified. These characteristics include a continuing decrease in by-election turnout over time, a lack of uncontested by-elections, and a dominant two-party system governed by the PQ and PLQ. Additionally, there is a continued increase over time in the success of minor parties, both in general elections and in by-elections. This provides further evidence for Massicotte's findings concerning the different phases of Québec by-elections and the possible start of a new period come 1976.

The gradual increase in support for minor parties culminated in the 2018 election of the CAQ government. That the CAQ formed government in the 2018 election is no small feat. But the present state of research does not allow us to determine whether the rise of the CAQ—and QS who equalled the PQ seat and vote total—will see a new party system emerge. Or, in terms of by-elections, if we have entered into a sixth phase. From that perspective, we echo Bélanger and Nadeau's (2009) treatment of the 2007 election: we are unsure as to whether the election of the CAQ necessitates a realignment of the Québec party system until future research is done. It is unclear whether the CAQ's election fundamentally changed the electorate's heavy variables (*les variables lourdes*) (see Bélanger and Nadeau [2009, chapter 4] for a discussion on the importance of these variables in Québec). It is entirely possible, and indeed this is something demonstrated throughout Canadian provincial history, that the CAQ may have burst onto the scene as an insurgent party only to wither away in the future (Johnston 2017). The results of the next general elections (and by-elections) will prove to be vital for the study of the Québec party system.

In studying by-elections we believe that we can underscore important democratic mechanisms and better understand the choices voters make when voting in a unique election. By-elections, we argue, are important tools of democratic accountability and are not idiosyncratic events unworthy of study. Clearly, more studies like this are needed.

Notes

¹ As Massicotte (1987, 67) eloquently put it: “Dans tous les cas, les partielles reflètent la direction dans laquelle le vent souffle dans l’ensemble de la province”.

² The inclusion of quadratic variables allows for testing whether the relationship between the independent and dependent variables are ‘U-shaped’—thus allowing for a direct test of whether the effects of by-election timing initially sees an increase (or decrease) in government by-election support before levelling off and then declining (or increasing).

³ Quadratic variables are deemed to be significant if the linear and quadratic term jointly pass an F-test at the $p < 0.05$ level. Successfully passing the joint F-test demonstrates that the inclusion of quadratic variable effectively adds greater explanatory power than excluding it from the model. The quadratic term is significant in two of the four models, and only marginally misses significance in the remaining two ($p > F = 0.051$; $p > F = 0.056$). The significance of the quadratic variables demonstrates that government by-election vote shares initially decrease after the government’s election and then begin to increase after a period of time. It is possible to calculate at which month governments can expect their vote shares cease decreasing and begin to increase. The significance of the quadratic term, then, demonstrates that the relationship between by-election timing and government vote share is non-linear and, in fact, quadratic.

⁴ Lowess-smoothed lines allow for the graphical representation of a trend line within data which takes randomness into account. Unlike a linear line of best fit, a smoothed line allows for the observation of non-linear trends within the data. The default bandwidth of 0.8 has been applied.

⁵ There were five uncontested elections that have been excluded from the regression models because the mean vote percentage of the winning candidate in the by-election over the five by-elections was 72.55%. They were excluded due to possibility of acting as influential data.

⁶ Note, however, that the confidence intervals for the most immediate by-elections are large and tighten as the data approaches mid-term of the government’s mandate. This is the result of the fact that only seven percent of all cases occurred within a year of the previous general election, in which the governing party averaged 48.46 of the vote over these by-elections with a standard deviation of 23.94.

⁶ Which itself was a CAQ hold.

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