A Comparative Analysis of Multinomial Voting Irregularities: Canada 2000*

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Abstract

We apply a method of multinomial outlier detection we previously developed (Mebane, Sekhon, and Wand, 2001) to the 2000 Canadian Federal Election. The model is generalized to allow the choice set of voters to differ by election riding. We find substantially fewer outliers in the Canadian election, relative to the analyses of the 2000 U.S. Presidential election. (Mebane et al., 2001; Wand, Shotts, Sekhon, Mebane, Herron, and Brady, 2001). Moreover, the explanations for the outliers found in the Canadian election are not plausibly associated with electoral malfeasance.

1 Introduction

In November 2000, Canada held a federal election and five major parties competed for seats in Parliament. We apply our method of multinomial vote outlier detection to riding-level data from this Canadian election, and compare the results with our analysis of voting anomalies in the 2000 U.S. Presidential election. The nationally standardized administration of elections in Canada provides an institutional contrast to the heterogeneous local administration in the US. The uniform administration of the ballots in Canada, along with fewer reports of malfeasance or voting irregularities would suggest that there should be fewer cases of vote count outliers in an analysis of the 2000 Canadian federal election.

In a preliminary analysis of the Canadian data, we find a small number of outliers, and the explanations for the outliers are markedly different from cases in the 2000 U.S. Presidential election. In Canada, the outliers are plausibly explained by the unusual characteristics of the races or the candidates involved. In contrast to the allegations and evidence of electoral misconduct in the outlying districts in the 2000 U.S. election, it of interest to note the apparent role of strategic coordinating behavior which led to the two cases of unusually large support for the PC party in opposition to two more extreme candidates.[1] In the West, Joe Clark defeated a conservative Alliance candidate, and in Québec André Bachand defeated a separatist Bloc Québécois (BQ) candidate.

2 Model Specification and Data

We model the vote counts within regions of Canada, focusing on the four major parties contesting seats in each region. For details of the robust multinomial model and outlier detection, see Mebane et al. (2001). We generalized the model by allowing the choice set to vary across ridings within a region because there exist ridings in which one or more of the major parties did not have a candidate contesting the election.

The expected vote for each of the J candidates in riding i is based on a linear predictor defined by:

$$\mu_{ij} = x'_{ij}\beta_j + z'_{ij}\gamma, \quad (j = 1, \ldots, J)$$

Note that β_j varies by choice and $\beta_J \equiv 0$, while γ are constrained to be equal across choices.

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[1] There were allegations of poor administration in individual ridings in the Canadian election, but that there are no comparable claims or evidence that this affected the vote shares of particular parties in a significant way. See *National Post* 2000-11-28. "Millions left off official list; voters face 4-hour delays"

The expected number of votes received by party j in riding i is:

$$Ey_{ij} = m_i p_{ij},$$

with probability p_{ij} being a logistic function of the linear predictors

$$p_{ij} = \frac{\exp(\mu_{ij})}{\sum_{k=1}^{J} \exp(\mu_{ik})}.$$

The vector of observed variables in x_{ij} include,

- Past vote share of Progressive Conservative Party, except where the choice is for PC. For this exception BQ vote share is used in Québec, and CA is used elsewhere.
- Past vote share of the choice party.
- The first principle component of a matrix of demographics (percent French language, percent language, percentage by education levels, percent rural, and percent unemployed, and percentage rentals).

The vector of observed variables in z_{ij} include,

- A dummy variable for the choice who is the incumbent.
- The proportion of campaign contributions within the riding received by the choice party.

The dependent variable is based on the official vote count data from each riding in the 2000 Canadian federal election. To maintain sufficient degrees of freedom in our models, it is necessary to pool Manitoba and Saskatchewan together as the Prairie region, and the four Maritime provinces as another region. We exclude the territories, which each have a single riding. Our final dataset thus has six regions (B.C., Alberta, prairies, Ontario, Québec, and the maritimes) and 298 ridings.

3 Results

Table 3 shows the ridings which were outliers, in descending size. The total number of outliers is very small. Moreover, in detailed search of election coverage of these ridings before and after the election there were no allegations of electoral misconduct. Indeed, to the contrary, these outlying electoral results were in some cases not even unexpected in the days leading up the election. As we have argued elsewhere, our parsimonious vote model detects electoral outcomes which are unusual, but it does not explain the source of the unusualness. Further research, such as that undertaken in Wand et al. (2001) is necessary to provide a compelling explanation.

Table 1. Outlier Ridings in the 2000 Canadian Election

	Candidate			
Riding	CA-BQ	PC	Liberal	NDP
Richmond–Arthabaska, QC	-3.11	18.38	−5.51	−0.89
Calgary Centre, AB	-1.24	8.78	−4.83	−0.87
Windsor–St. Clair, ON	-1.54	−1.87	−1.94	5.85
Markham, ON	-0.28	−5.79	5.87	0.99
Madawaska–Restigouche, MR	0.76	−3.87	4.63	−0.83
Winnipeg South Centre, PR	-2.53	2.74	−0.29	0.52
York South–Weston, ON	-0.80	−0.88	2.14	−1.44

Note: Entries are non-orthogonalized studentized residuals. CA-BQ is Bloc Québécois residual in Québec, and Canadian Alliance elsewhere.

The main explanation for a number of the outliers is strategic action either by elites or by voters.[2] To highlight the role of strategic voting, we present to detailed analysis of ridings which were significant outliers.

Calgary-Centre

Joe Clark's decision to run in Calgary-Centre was initially seen by pundits and political scientists as a gamble likely to fail.[3] Clark would be running in a district with a recent history of weak support for the PC party, and face an incumbent Alliance-Reform Member of Parliament (MP). In his favor, Calgary had a long history of electing a PC MP (1945–1968, 1972–1993) and significant ethnic communities where the Alliance was weak.

During the campaign, however, the former Prime Minister and current party leader of the Progressive Conservative party, gained significant support both nationally and locally. Towards the end of the campaign he enjoyed momentum after being widely regarded as the winner of debates among the national party leaders. In Calgary, local Liberals and NDP supporters were reported to form a coalition to defeat the Alliance by voting for Clark, and poll numbers showed that Clark had narrowed a 30 point deficit, to a tie at 37 percent with

[2] For an analysis learning and strategic behavior during a campaign, see Wand and Walter R. Mebane (1997).

[3] *Canadian Business and Current Affairs.* 2000-10-29. "Joe Clark baffles pundits over decision to battle in shaky Calgary riding" SECTION O, page 29.

his Alliance opponent.[4]

On election day, Clark surged in support to win with 46 percent of the vote, while the Alliance received 38 percent thus remaining at the pre-election poll levels. The PC support apparently came primarily from the Liberal base, with the 32 percent the Liberal garnered in 1997 diminishing to 20 percent in pre-election polls, and falling still further to 10 percent on election day. The NDP support fell from 6 percent in 1997 to 3 percent in 2000.

Richmond-Arthabaska

The other outlying outcome for the Progressive Conservative party occurred in Richmond-Arthabaska, Québec. In contrast to the Clark, where a large deficit in support was overcome, the Québec case is remarkable for the candidate's ability to retain votes and achieve reelection. While the PC party was reduced from 22 percent to 6 percent of the popular vote in Québec, the incumbent MP and popular former mayor André Bachand managed to retain his seat–although by less than 400 votes. Bachand support slipped only from 41 percent, which was enough to elect him for the first time to Parliament, to 37 percent in 2000.

Prior to the election, the PC party suffered from actual and rumored defections in Québec.[5] He ended up being the last PC MP to run for re-election, with three of the four other PC MPs defecting to the Liberals.[6] As a first term MP, he was fighting to retain the seat he had taken from the BQ party. Although the former national PC party leader and current leader of the provincial Liberal party in Québec remained neutral, the Liberal provincial representative of Richmond, Yvon Vallieres, endorsed Bachand over the federal Liberal candidate. Bachan remained competitive in his riding and was believed likely to return to Parliament in the days prior to election day.[7]

4 Conclusions

Although our model is not sufficiently rich to capture strategic voting calculations, few ridings in the 2000 Canadian Federal election are found to be outliers. We conclude that the uniform administration of the ballots in Canada, along with fewer reports of malfeasance or voting irregularities provide a compelling explanation for the rare occurrence of vote count outliers in an analysis of the 2000 Canadian federal election.

[4] *Calgary Herald.* 2000-11-23. "Calgary Centre a battleground: Poll shows Liberals shifting support to Clark". Page A1

[5] *The Gazette (Montreal).* 2000-09-17. "Two out of 3 ain't bad: Clark's Tories press Québec MPs to show up for meeting". Page A14. *Toronto Star*. 2000-09-11. "Tory MPs in Québec face scrutiny".

[6] *The Gazette (Montreal).* 2000-11-06. "Lone Québec Tory runs into Bloc" page A1

[7] *The Toronto Star*. 2000-11-24. "Québec's Lone Tory".

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