Liberal Party losing votes due to COVID-19

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Executive Summary

In this experiment we conduct a simulation based survey study to investigate the impact of the second wave of the COVID-19 pandemic on the political views of Canadian's. The study follows the premise of random selection of participants from a pool of candidates corresponding to the different Canadian provinces. The number of participants from each province was determined by following the *stratified simple random sampling* method (Wu and Thompson 2020). The survey was designed using the Typeform platform. The plan of administration is by email, coupled with a small monetary incentive ($5 coupon) upon completion.

Research has long suspected on the correlation between the length of a survey and response rate. One exampleis from a recent experiment which showed a sizable negative effect of length on completion in web surveys (Marcus et al. 2007). As a result, we decided to limit the survey to four questions:

1. For whom did you vote in the 2019 Canadian federal elections?
2. How do you feel about the general direction of our country at the moment?
3. How much did the COVID-19 pandemic influence your response to the last question?
4. If there was a general election tomorrow, which party would you vote for?

Responses where simulated based on data collected from a list news videos covering the address of Prime Minister Trudeau on the COVID-19 pandemic. The videos used where from September and first week of October. Overall we collected: *number of views*, *number of likes*, *number of dislikes* and *number of comments*. This was achieved by calling the official YouTube API provided by Google. Data was then processed and used to generate responses. Figure 1 displays important results from this study.

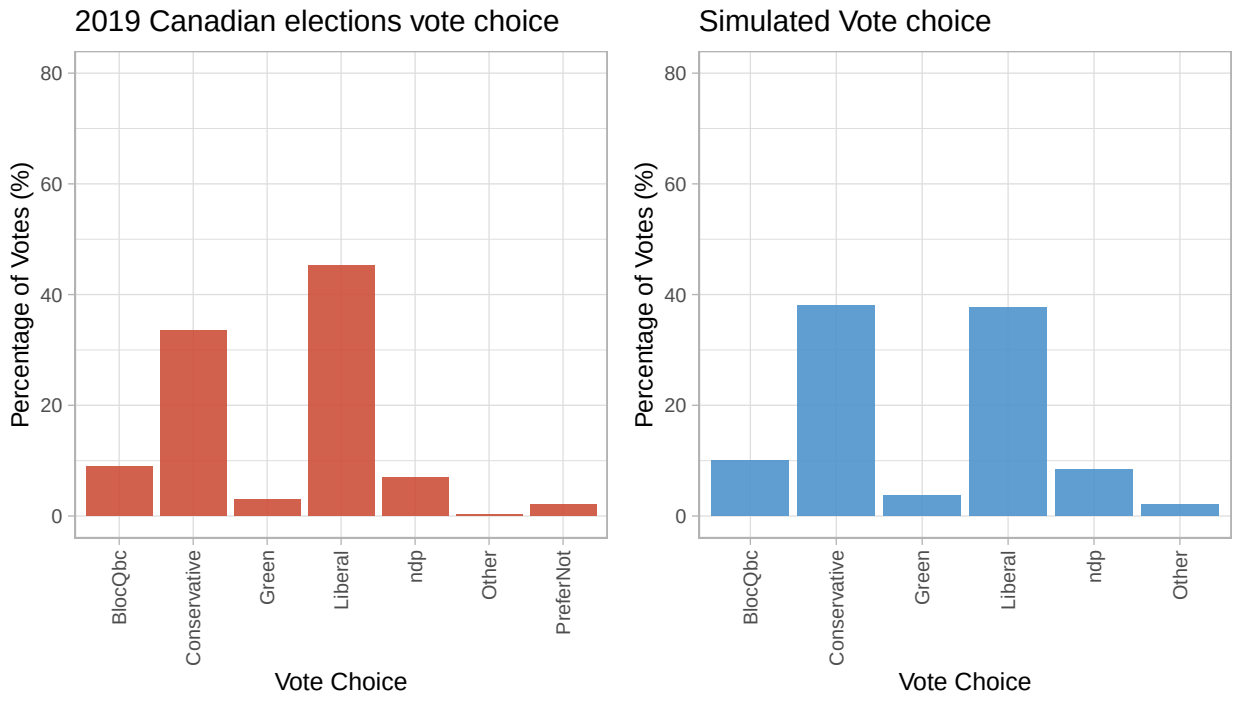

Figure 1: Results for question 'For whom did you vote in the 2019 Canadian federal elections?'

As seen there is a loss of approximately 4% in the number of Liberal voters. The conclusion reached in this investigation, is that there is some correlation with the COVID-19 pandemic. Further investigation is required to achieve a stronger conclusion and we advise the Liberal political team to take these results with a grain of salt.

Introduction

The COVID-19 pandemic has nearly created a state of economic collapse in Canada, and this second wave promises to be more severe than the first one encountered in April and May of this year. Strict measures where taken by the Canadian leadership as a countermeasure to the pandemic. These measures produced an overwhelming amount of lost jobs and businesses to go bankrupt. We believe this has shifted the mentality and overall perspective of the Canadian population which as a result may impact the overall acceptance of the Canadian Liberal party. This experiment attempts to quantify such claims and evaluates the implications of the validity of such claims.

Survey Methodology

In this section we thoroughly discuss the all aspects of the design of the experiment. First we talk about logistics, content of the survey and budgeting, followed by the statistical basis, frame, sampling methodology and non-response/missing fields plan.

Logistics, Content and Cost

We conduct the experiment as a web survey created using Typeform as a survey design framework. The distribution of the survey is via email, to the selected candidates. We discuss more on the selection of these candidates in the statistical basis section. Upon competition, the survey contains logic to redirect respondents to the $5 CAD reward.

For the same reason we selected a small set of questions. This is because research has long showed some correlation between the length of a survey and response rate, for example, an experiment evaluating redesigns of the U.S. Census found that shortening the questionnaire increased response rate (Dillman, Sinclair, and Clark 1993), a more recent experiment showed a sizable negative effect of length on completion in web surveys (Marcus et al. 2007).

In constructing the survey, we followed (Fan and Yan 2010) very closely. In particular Fan and Yan (2010) suggests that the optimal survey should take less than thirteen minutes to complete. Our survey takes approximately two to four minutes. The questions are:

1. Are you eligible to vote?
2. Which Canadian province do you live in?
3. For whom did you vote in the 2019 Canadian federal elections?
4. How do you feel about the economic direction of our country at the moment?
5. How much did the COVID-19 pandemic influence your response to the last question?
6. If there was a general election tomorrow, which party would you vote for?

Questions are presented in this order and not randomized since there are no empirical results that either prove or disprove the efficiency of this method. The actual wording of the questions is different than what is presented above, however the language used is significantly less formal, done with the intention to yield higher response rates. The third question has the option to not provide an answer since we understand this might be a sensitive topic and could negatively impact our response rate.

It is important to mention the drawbacks of providing this option. Avoiding the question gives respondents an alternative to the cognitive burden of the question and they are more likely to take this mental shortcut referred in the literature as satisficing (Krosnick 1991). Consequently, question two is the only question where this is allowed.

Logic is implemented to the survey in question 1, if the respondent is not an eligible voter then we only display questions two, three and four, Typeform fills all other values with *NA* and will not be included in the analysis, since we are purposefully targeting Canadian adults. All other questions are mandatory and we will discard any surveys that are left half answered. This Typeform feature is only available under the professional plan. We obtained this plan for free because, Typeform is offering 3 months free for anyone working on COVID-19 related projects that are strictly not-for-profit.

The expected cost for this project is broken down as follows. First the $5 CAD monetary reward delivered upon completion of the survey, with a total of approximately $50,000 CAD, for 10,000 respondents. **Therefore, the expected cost of this experiment is of approximately $53,112 CAD**. This number can vary depending on exchange rates

between USD and CAD.

Statistical Basis, Frame and Methods

As explained, this the experiment is a web survey that consists of a monetary reward as incentive. This method employs an opt-in panel method, which is a type of non-probability sampling.

Results and Discussion

In this section we begin by displaying the obtained data in the form of plots and summary statistics. We then follow it by a discussion of the data and finish with a weaknesses and future work paragraph. Observe below a plot of obtained

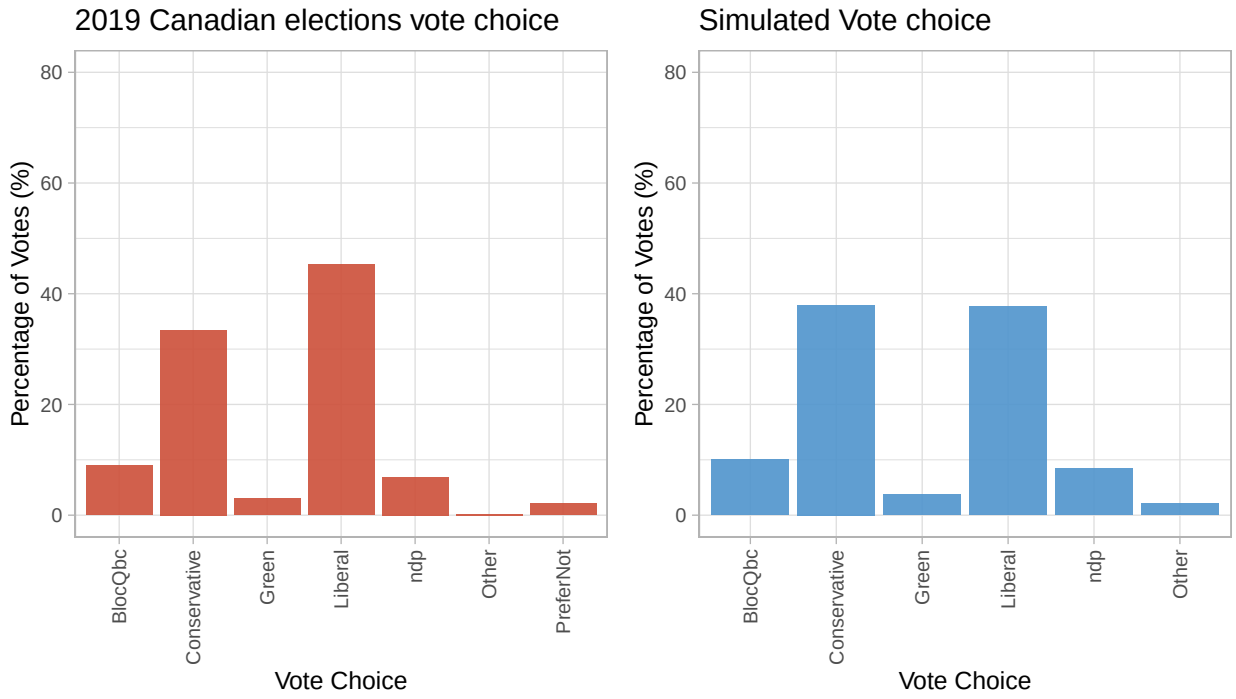

Figure 2: Results for question 'For whom did you vote in the 2019 Canadian federal elections?'

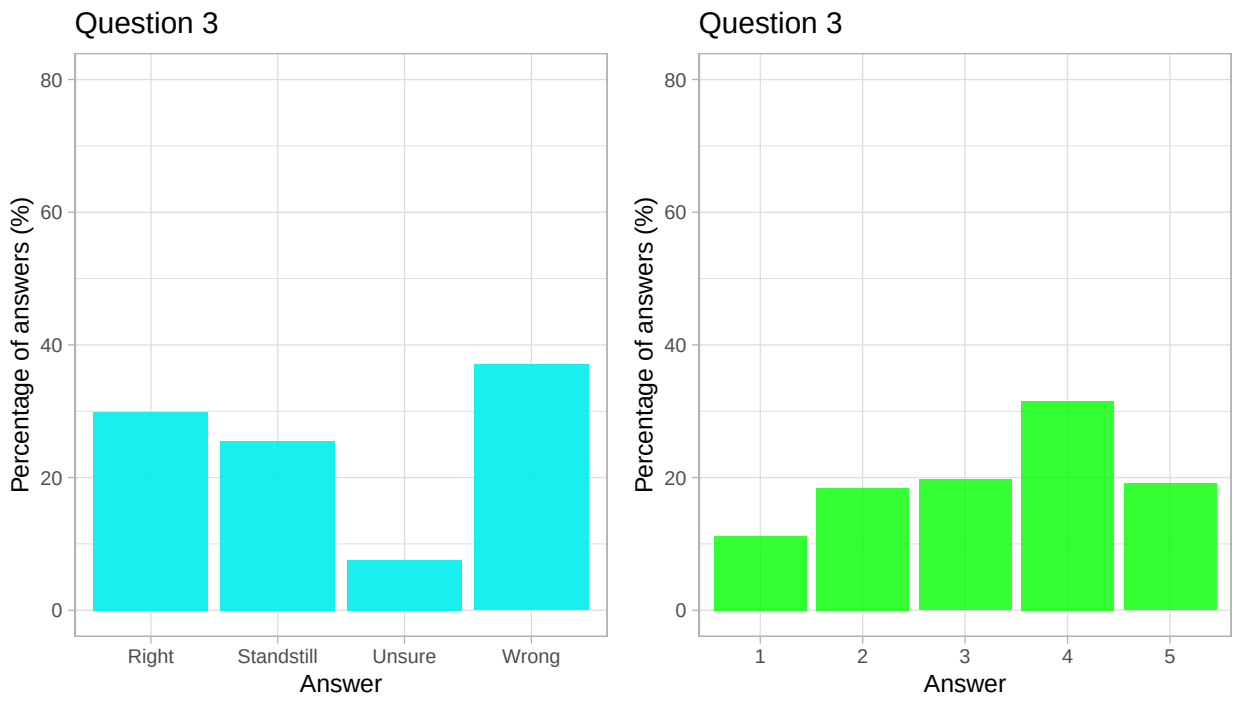

Figure 3: Results for question 'For whom did you vote in the 2019 Canadian federal elections?'

Appendix

Table 1: Stratum Sizes and Weights

Province	Stratum Weight	Stratum Sample Size
Newfoundland and Labrador	0.014	138
Prince Edward Island	0.004	43
Nova Scotia	0.026	258
New Brunswick	0.021	206
Quebec	0.226	2255
Ontario	0.388	3874
Manitoba	0.036	363
Saskatchewan	0.031	311
Alberta	0.116	1162
British Columbia	0.135	1355
Yukon	0.001	12
Northwest Territories	0.001	12
Nunavut	0.001	11

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