# Do Voters Discriminate Against Working-Class Candidates? Evidence from Fifty Years of Self-Reported Candidate Occupations

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## Abstract

Do voters discriminate against working-class candidates? Past work has largely assessed voters' class biases through observational and experimental surveys, rather than using actual voting behaviour in real-world elections. Indeed, it is difficult to study voter behaviour using actual electoral results because parties so rarely nominate working-class candidates. This paper draws on an original dataset of candidate occupation self-reports and electoral results from the Canadian province of New Brunswick from 1967 to 2018 ($N$ = 2,682). New Brunswick provides a rare combination of a long time-series of candidate self-reported occupations and a substantial number of working-class candidates. I analyze the results using a combination of comparisons of candidates of the same party in the same district when the province used multi-member plurality elections (pre-1974) and differences-in-differences analyses when the province used single-member plurality (post-1974). Preliminary results suggest that (1) there is a substantively small bias (under one percentage point) under multi-member districts from 1967-1970, (2) this bias in multi-member districts becomes insignificant when taking into account incumbency, and (3) there is no evidence of a bias against working-class candidates from 1974-2018.

Scholars are increasingly concerned with explaining the systematic under-representation of the working class. The under-representation of the working-class is particularly important given evidence candidates' class backgrounds shape actions when they win elections (Carnes, 2012, 2013; Carnes and Lupu, 2014; O'Grady, 2019) and voters' perceptions of the quality of their representation (Barnes and Saxton, 2019). Party insiders often see working-class candidates as less likely to win elections (Carnes, 2018). However, past work has found little evidence that voters are biased against working-class candidates (Carnes, 2018; Carnes and Lupu, 2016). If anything, survey data suggest voters dislike very affluent candidates (Griffin, Newman, and Buhr, 2019; Wüest and Pontusson, 2017). To date, studies of working-class representation have typically relied on experimental evidence of attitudes rather than actual voter behaviour. It is often difficult to study actual voting behaviour since political parties rarely nominate working-class candidates and since data on candidates' occupational backgrounds are usually not readily available. To what extent are actual voters biased against working-class candidates?

This paper fills this gap in work on the representation of the working class through a study of voter biases against working-class candidates in the Canadian province of New Brunswick, which offers three rare but important advantages for studying working-class representation using actual electoral results. First, the Chief Electoral Officer of New Brunswick collected and published the self-reported occupations of political candidates from 1967 to 2018. These self-reported occupations provide a long time-series of candidate occupational data, which are relatively rare worldwide. Second, a qualitative reading of candidate occupations suggests that New Brunswick has had a non-trivial number of working-class candidates. Candidates have self-reported occupations such as Miner, Hairdresser, Truck Driver and so forth. In many contexts, it is difficult to study how voters evaluate working-class candidates because they are so rarely on the ballot. New Brunswick helps address this issue. Finally, New Brunswick offers the opportunity to compare candidates for the same party in the same district under its pre-1974 multi-member plurality electoral system – a research design that helps address concerns about making comparisons across candidates who run in different electoral districts.

The preliminary results suggest that there is little evidence of voter bias against working-class candidates. Matching and regression analyses from multi-member districts (1967-1970) suggest that any bias is substantively small (around 0.5 percentage points) and insignificant when controlling for incumbency. Differences-in-differences estimates from single-member districts (1974-2018) are all insignificant and show no consistent pattern in point estimates from year-to-year. There is little evidence of increases or decreases in voter bias over time, though the evidence of voter bias against working-class candidates is strongest before the change from multi-member plurality (also called block voting or at-large voting) to single-member plurality.

# Theory and Hypotheses

Party insiders often think that working-class candidates will perform worse in the polls than professional-class candidates (Carnes, 2018). Indeed, surveys of county party officials in the United States indicate biases against the working class (Carnes, 2016). My own interviews with New Brunswick federal and provincial party insiders suggest similar results (Albaugh, 2020). This widespread belief suggests a relatively straightforward (but context devoid) hypothesis:

> **Hypothesis 1** Working-class candidates will receive fewer votes than non-working-class candidates.

At the same time, party insiders may have distorted impressions of electorate. Party insiders and activists often think that men are more likely to win elections than women, even though many political science studies have found little evidence that men out-perform women at the ballot box in recent years (Schwarz and Coppock, 2019; Sevi, Arel-Bundock, and Blais, 2019).[1] Bateson (2019) refers to this possibility as "strategic discrimination," though this idea has long roots in the study of discrimination more broadly. A growing body of work on class and representation, suggests that voter bias against working-class candidates may not exist, just as voter bias against women apparently does not exist. Carnes (2018) suggests that voters actually like working-class candidates, but party insiders have biases against working-class candidates in candidate recruitment, and the electoral process puts up barriers in terms of time and personal financial opportunity costs that make it difficult for working-class candidates to run in the first place. Carnes (2018) supports the claim that voters do not have biases against working-class candidates by asking voters what characteristics they wish to see in political candidates and finding that these characteristics exist in substantial numbers among candidates from the working-class. Carnes and Lupu (2016) report results from a series of conjoint experiments fielded Argentina, the United Kingdom and the United States that suggest there is no evidence for bias against working-class candidates, although recent work on conjoint experiments casts doubt on their ability to extrapolate majority voter biases from conjoint experiments Abramson, Kocak, and Magazinnik (2019). If the arguments in work on class and representation are correct, then we should examine precisely the alternative blanket hypothesis:

> **Hypothesis 2** Working-class candidates perform equally well as non-working-class candidates.

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[1]Of course, one possibility is that voters are, in fact, biased against women, but the women who run are better candidates than the men who run, and these two effects are similar in size (Fulton, 2011). This limits the net difference between men and women. This possibility still suggests that party insiders have a distorted view – but of candidates, rather than of voters.

Of course, in practice, it is quite likely that political, economic and social contexts shape voter biases. The processes of class marginalization are not the same across countries. They may overlap with other lines of marginalization. In New Brunswick, it may be easier for working-class candidates to win than in other provinces. First, class was not a salient line of conflict between the two major parties. As a result, the class backgrounds of candidates may actually say something not captured in party affiliations. Second, the professional class has traditionally been smaller within the general population than in other provinces. While these hypotheses are not directly testable within a single-case study, they lend weight to the argument that voter bias against working-class candidates may not be substantial – or even that working-class candidates may out-perform managerial- or professional-class candidates. Ultimately, it will be necessary to study this question across a variety of cases to develop theories of voter bias.

Finally, there are many reasons to expect that the relationship between candidate class and voting behaviour will change over time. First, the erosion of unions makes it less likely that unions will be able to mobilize workers and foster class consciousness. Transformations within social democratic parties and party systems have weakened their relationships between social democratic parties and working-class voters, which may allow opportunities for other parties to court those voters by nominating working-class candidates. Second, voters' perceptions of working-class candidates may have shifted in the wake of the expansion of university education. When university education is purportedly broadly accessible, as it is today, many individuals are likely treat it more like a qualification for public office than a sign of class stratification (Albaugh, 2020; Bovens and Wille, 2017). Third, it is possible to imagine that, if parties nominate fewer working-class candidates over time, then voters may expect that politicians usually are from managerial- and professional-class backgrounds. This process would cause a vicious circle that decreases the number of working-class candidates. These trends suggest a hypothesis:

>   **Hypothesis 3** The bias against working-class candidates has increased over time.

## Approaches to Identifying Voter Bias

Scholars of race/ethnicity, gender and class interested in estimating the magnitude of the bias against candidates from various backgrounds have used three main approaches to identifying voter biases. These three approaches are (1) observational studies using aggregate electoral results (for example, Burrell (1994); Darcy and Schramm (1977); Darcy, Welch, and Clark (1994); Sevi, Arel-Bundock, and Blais (2019)), (2) non-experimental studies using large-sample surveys (for example, Sanbonmatsu (2002); Visalvanich (2017)), (3) experimental studies using small- or large-sample surveys (for example, Carnes (2018)).

Each of these research designs has strengths and weaknesses, and it may be useful to use some combination of each approach to study voter biases.

Observational studies using aggregate electoral results offer the possibility of actually observing *behaviour*, rather than simply *attitudes*. In that respect, they have a major advantage over survey-based approaches. Of course, researchers who use aggregate electoral results to infer individual-level behaviour risk committing an ecological fallacy. However, if observational data consistently show that candidates from a particular group receive substantially fewer votes despite differences across parties and electoral districts, the simplest explanation is that voters have a bias. The greater threat to drawing theoretical inferences from observational data is that elections are messy events. It is nearly impossible to identify mechanisms for under-representation on the voter side using aggregate electoral results alone. It is also difficult to rule out the possibility that unobserved variables confound the result. Observational studies using aggregate electoral results can mitigate the problem of confounding through careful modelling of contextually relevant variables or research designs that can (under certain assumptions) help identify causal effects, such as differences-in-differences, instrumental variables, matching and so forth.

Non-experimental surveys offer the possibility of identifying attitudes that may be important mechanisms for explaining biases. These attitudes can include racial resentment, ethnocentrism, gender role stereotypes and so forth. It is possible to take different theoretical concepts for explaining bias and pit them against one another in an observational survey. However, survey responses can be finicky. Many studies have found that aspects of survey design can have impacts on the way individuals respond and can even shape responses to fundamental attitudes about politics. Even in the most well-designed surveys, the context of answering a survey is different from actually walking into a polling booth, especially outside of election campaigns. Likewise, they offer researchers much less control over differences between respondents than experimental designs do, and it requires very careful modelling to have confidence in the estimates.

Finally, survey experiments provide researchers with the opportunity of controlling which survey respondents receive a "treatment" condition. These can include vignette experiments, conjoint experiments. As a result of this control over assignment to treatment, researchers can easily identify average differences and rule out the possibility that unmeasured variables explain the differences between the average response to the treatment in each group. However, average differences between treatment and control groups do not necessarily tell us *how many* individuals have a bias, and they tell us particularly little about *why* – or *with whom* – some members of marginalized groups may perform better than others. More importantly, survey experiments are highly artificial. If surveys in general have a problem of measuring attitudes more than behaviours, survey experiments tend to measure attitudes to artificial rather than actual politics. Furthermore, the time it takes for survey respondents to take surveys means that it is difficult for researchers

to include many conceptual variables that would help explain differences in reactions to treatments.

Past work on class and representation has typically relied on observational surveys and survey experiments. Since these approaches have known limitations, particularly in focusing on attitudes over behaviour, it is worth conducting observational studies using aggregate electoral results, as well. New Brunswick is a particularly good case for observational studies of voters' reactions to working-class candidates because it provides many years of self-reported occupational data and the opportunity for using multiple research designs that can help identify differences among working-class candidates.

## Case Selection

The Canadian province of New Brunswick offers several advantages for addressing this question. First, New Brunswick offers a case in which class is not itself a salient cleavage within democratic politics. Instead, it was a deeply divided in which language and religion played a major role in structuring support for the two major parties, the Liberals and the Progressive-Conservatives. The Liberals typically received disproportionate support among francophone and anglophone Catholics, while the Progressive-Conservatives traditionally receive disproportionate support from anglophone Protestants.[2] Language and religion "crowded out" class politics in Canada as a whole (Johnston, 2017) and in New Brunswick in particular (Albaugh, 2020).

Second, New Brunswick offers a rare opportunity to examine candidate social class over time. Elections New Brunswick, the provincial electoral agency, has collected self-reported occupations from candidates and published them in the Report of the Chief Electoral Officer since the establishment of the agency in 1967. It is often much easier to obtain information on the occupational backgrounds of elected members than candidates for political parties who did not win, which makes it difficult to examine the effects of occupation on elections. Self-reported occupations represent the ways in which candidates portray themselves at the time of the election. As a result, they are likely to be more proximate to campaigns and voting behaviour. However, they may be ambiguous for the purposes of categorizing candidates into class backgrounds.

Third, New Brunswick has substantial numbers of working-class candidates who ran. Although to date no one has examined the class backgrounds of New Brunswick provincial candidates quantitatively, a qualitative reading of the Reports of the Chief Electoral Officer suggest that there are enough instances in which working-class candidates ran to have variation between parties, places and time periods in working-class representation.

Fourth, New Brunswick offers the possibility of using an identification strategy that

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[2]Francophone Protestants are exceedingly rare in New Brunswick, as elsewhere in Canada.

avoids some of the common problems making comparisons among real-world candidates using aggregate electoral results. Until 1974, New Brunswick used a multi-member plurality electoral system. In 1974, the province began to use single-member districts. The multi-member plurality electoral system allows for a small-scale comparison of candidates running in the same party in the same district. In these multi-member districts, the Liberal and Conservative parties maintained an informal quota system along language, religion and geography, despite their polarization on language and religion (Albaugh, 2019b). Although these factors correlate with class, the focus of candidate selection was on these lines of differences – and possibly also gender – far more than class itself.

## Data

I constructed an original dataset of candidate occupations and electoral results from the Reports of the Chief Electoral Officer of New Brunswick from 1967 to 2018 ($N$ = 2,682 candidate-years). I exclude the four candidates who withdrew or died between their nomination and the election, since there are no electoral results to examine for these candidates (leaving $N$ = 2,678). I also exclude candidates from parties that had no chance of winning seats in the Legislative Assembly and independents (leaving $N$ = 2,547).

I have converted scanned versions of these results to spreadsheets through Optical Character Recognition and then manually checked for errors. The data include candidate names and parties, votes received, turnout, candidate occupation, party. From 1995 to 2018, they also include self-reported gender. I coded the binary gender of candidates based on lists of women elected, names and newspaper coverage (particularly obituaries) from 1967 to 2018. I coded a binary variable for francophone candidates based on the language used on their nomination papers (1974-2003), newspaper coverage, and ascriptively with names.[3] Finally, I coded a binary variable indicating Irish Catholic candidates from 1967 to 1970 based on the Canadian Parliamentary Guide and newspaper coverage of elections. New Brunswick used an informal party quota within its multi-member districts that assigned spots on party tickets to "English," "French" and "Irish" candidate in some districts from the 1890 to 1974 (Albaugh, 2019b). Since the 1960s, language has displaced religion as the major dividing line between Canadian political parties (Johnston, 2017). As a result, I do not identify Irish Catholic candidates after the abolition of multi-member districts.

The time series begins in 1967 because it is the first general election since the creation of the office of the Chief Electoral Officer. Since 1967, the Report of the Chief Electoral

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[3]Unfortunately, due to the closure of libraries during the COVID-19 pandemic, I have been unable to obtain copies of Canadian Parliamentary Guide from 1970 onward. This data unavailability has meant leaving out a control variable indicating whether the candidate served in the last cabinet before the general election. It also would assist in filling in missing occupations.

Officer records the self-reported occupations from each candidate for provincial elections, as taken from the candidate's nomination paper. This practice reflects a longstanding tradition in Canadian electoral administration.[4] Although candidates had to write their occupations on nomination papers on New Brunswick before 1967, county governments administered the elections. The records of county governments are spotty at best due to poor-record keeping, fires, and deliberate destruction by county officials.

The main explanatory variable in this study is a binary variable indicating whether a candidate is working-class or not working-class. I identify working-class candidates through self-reported occupations from the Reports of the Chief Electoral Officer. I take working-class candidates to be those employed in manual labour, clerical, service industry or union jobs, following Carnes (2015). Only 40 out of 2,682 candidates (1.5 percent) did not fill out the occupation field on their nomination papers. I treat these candidates who did not provide an occupation as not working-class for the purposes of the analysis.[5] For a full list of occupations coded as working-class and not working-class, see the supporting information.

One of the major constraints in studying voter bias against working-class candidates in real-world elections is that, in many jurisdictions, so few working-class candidates are on the ballot in the first place (Carnes, 2018). New Brunswick does have substantial numbers of working-class candidates, however. Figure 3 shows the percentage of working-class candidates by party from 1967 to 2018. I include not only the two major parties – the Liberals (LP, 1967-Present) and the Progressive-Conservatives (PC, 1967-Present) – but also the five other parties over this period that have had a reasonable chance of winning at least one seat – the social democratic New Democratic Party (NDP, 1967-Present), the left-wing nationalist Parti acadien (PA, 1972-1982), the right-wing anti-francophone populist Confederation of Regions (COR, 1989-2001), the new left Green Party (GP, 2010-Present), and the right-wing anti-francophone populist People's Alliance of New Brunswick (PANB, 2010-Present). The two major parties systematically do not nominate a large number of working-class candidates. Only rarely are their slates over ten percent working-class. However, the other five parties have traditionally nominated much larger shares of working-class candidates.

In particular, the New Brunswick NDP has vastly outpaced the other parties in the number of working-class candidates as a share of its slate. Since its founding in 1967, it has usually nominated at least 30 percent working-class candidates. The exception is 2014, when party leader Dominic Cardy sought to remake the party along the lines of "New Labour" in the United Kingdom.[6] This time period includes one election in which the

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[4]Indeed, from 1921 to 1968, candidate occupations, rather than party labels, appeared on federal election ballots. Only the federal level in Canada provides a publicly available time series of candidate occupations similar to the one in New Brunswick.

[5]I plan to examine whether this decision drives the findings in subsequent analyses.

[6]On January 1, 2017, after recurring squabbles with more left-wing members of the party executive, he

Figure 1: Percentage of Working-Class Members of the Legislative Assembly, 1967-2018

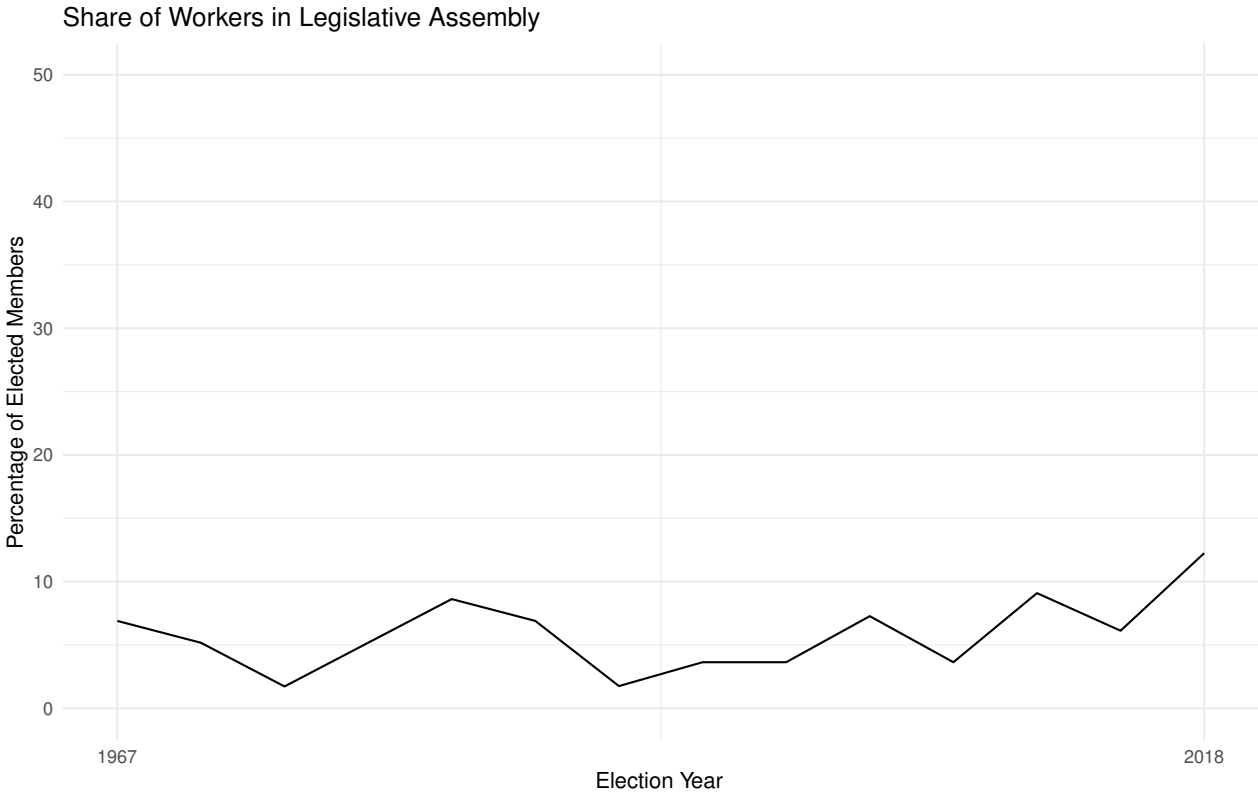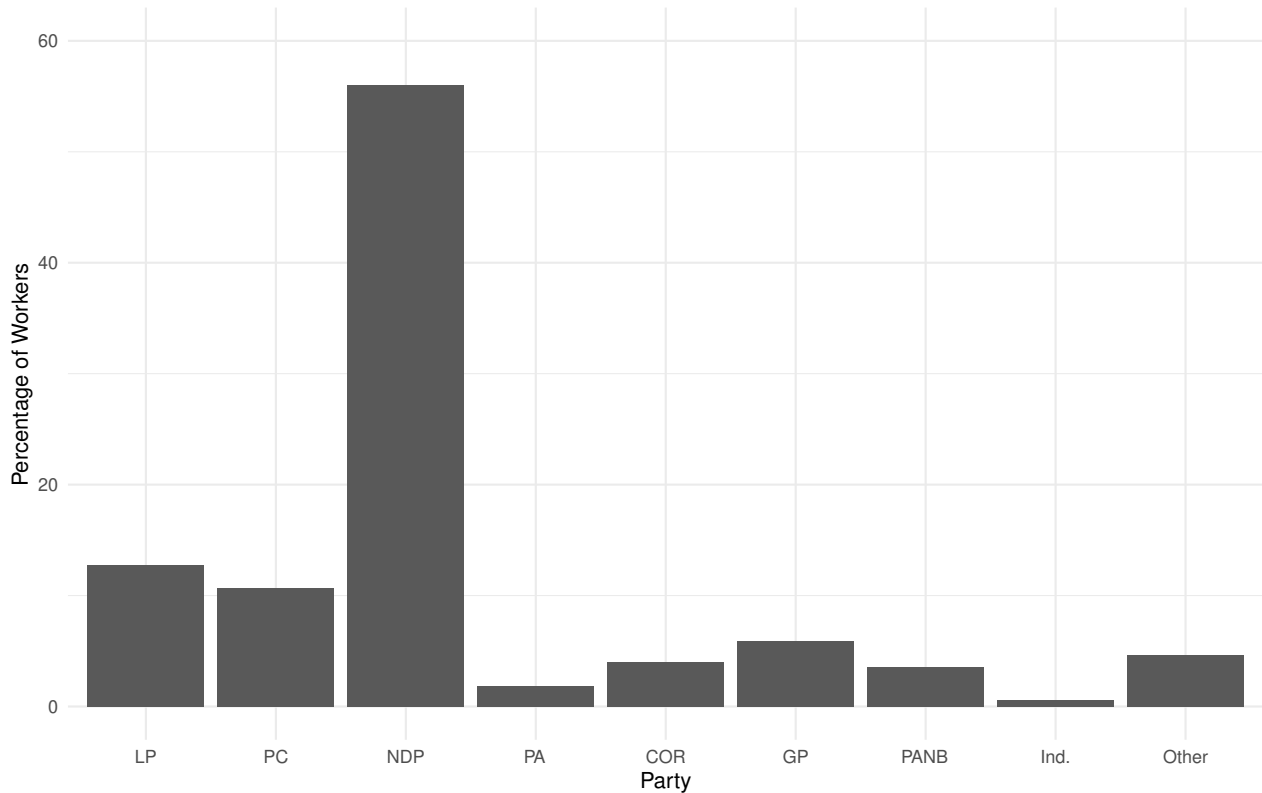Share of Workers in Legislative Assembly

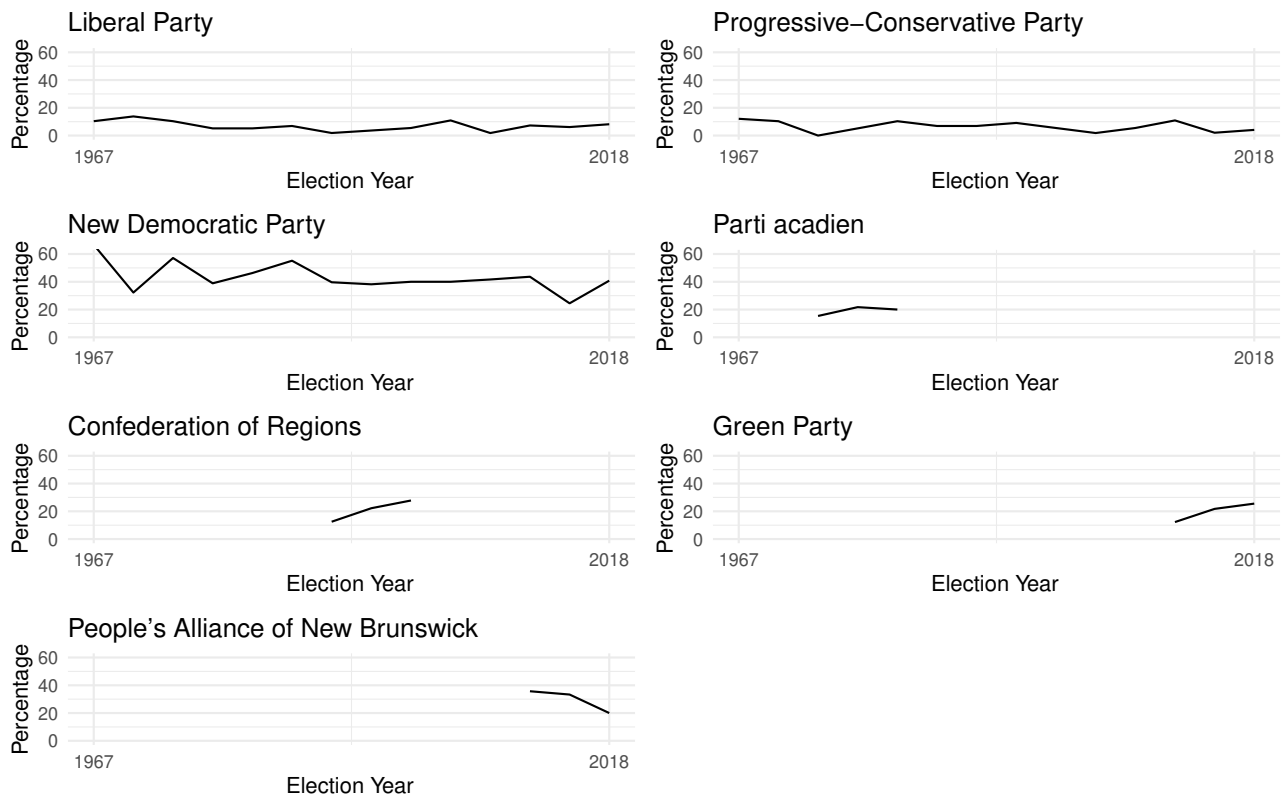Figure 2: Share of Working-Class Candidates from Each Party, 1967-2018



NDP only nominated three candidates (1967), of which two were workers. However, low numbers of nominated candidates do not generally drive these high shares of working-class candidates. From 1970 to 1987, the NDP has nominated candidates in a majority of districts, and from 1987 to 2018, the NDP nominated candidates in every district.

Given the New Brunswick NDP's consistently large shares of working-class candidates, it is worth noting for the analysis that follows that the NDP provides the lion's share of working-class candidates in the data. Figure 2 displays the share of the total number of working-class candidates in the dataset from each political party. Not only does the NDP account for over 50 percent of the working-class candidates in the data but also it vastly outpaces every other party.

Since the Liberals and PCs have historically dominated the party system, their tendency not to nominate working-class candidates has left the working class massively

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left the party to become the chief of staff to PC leader Blaine Higgs. He ran in the 2018 provincial election for the PCs, won and became Minister of Education (2018-2020).

# Figure 3: Percentage of Working-Class Candidates, by Party, 1967-2018

### Liberal Party



### Progressive–Conservative Party



### New Democratic Party



### Parti acadien



### Confederation of Regions



### Green Party



### People's Alliance of New Brunswick

under-represented in elected office. Figure 1 shows the percentage of workers in the New Brunswick Legislative Assembly from 1967 to 2018. Over this period, the share of working-class members of the Legislative Assembly (MLAs) has generally fluctuated between two and ten percent. These shares depend on a relatively small number of candidates, since the number of seats in the Legislative Assembly has been 58 (1967-1995), 55 (1995-2010), and 48 (2010-present).

The main outcome variable in this study depends on the time period, given the shift from multi-member plurality to single-member plurality in 1974. See Table 1. Before the 1974 reforms, I use three outcome variables of interest. The first is the candidate's absolute vote share in the riding. Since each voter has two or more votes, I construct this variable by taking the number of votes cast for the candidate, then dividing by the total number of votes, then dividing it by the district magnitude. The second is is the candidate's relative vote share – that is, the candidate's performance relative to the party ticket. I construct this relative vote share by subtracting the mean party vote share from the candidate's vote share. This variable purges the party – and ticket – variables that shape voting behaviour, allowing for an estimate of the candidate-specific effects. In order to avoid cases in which one candidate wins substantially more votes than the rest of the ticket, I also use an alternative formulation of the relative vote share that relies on medians rather than means. After the 1974 reforms, I simply use the candidate's vote share in the single-member districts, since there are no other party candidates in the same district to serve as a comparison. Instead, candidates from previous elections serve as the comparison of interest.

Table 1: Outcome Variables and Coding

| Variable | Time Period | Coding |
|---|---|---|
| Relative Vote Share (mean) | 1967-1970 | A numeric variable defined as Candidate Vote Share - Mean Party Vote Share. |
| Relative Vote Share (median) | 1967-1970 | A numeric variable define as Candidate Vote Share - Median Party Vote Share. |
| Candidate Vote Share | 1974-2018 | A numeric variable indicating the number of votes received by the candidate as a share of the total number of ballots cast (Votes / Total Voters). |

In order to make it easier to see how the outcome measures work in multi-member districts, let us imagine a hypothetical two-member district in which two political parties each nominate two candidates. I present an overview of this hypothetical district in Table 2. The Liberals nominate Candidates A and B, while the Conservatives nominate Candidates C and D. Candidate A receives 4 votes. Candidate B receives 1 votes. Candidate

Table 2: Outcome Variables in a Hypothetical Two-Member District

| Candidate | Party | Votes | Absolute Vote Share | Relative Vote Share |
|---|---|---|---|---|
| A | Liberal | 4 | 80% | 30% |
| B | Liberal | 1 | 20% | -30% |
| C | Conservative | 3 | 60% | 10% |
| D | Conservative | 2 | 40% | -10% |

C receives 3 votes. Candidate D receives 2 vote. (Liberal Candidate A and Conservative Candidate C win the election, since they are the top two candidates.) The total number of votes cast is 10. Since each voter casts two votes, the total number of voters is 5. As a result, Candidate A receive a vote from 80 percent of the voters, which is the absolute vote share. The median vote on the party ticket is 50 percent for the Liberals and 50 percent for the Conservatives. When I construct the second outcome variable – performance relative to the party ticket – I subtract the mean vote share for the party ticket from the absolute vote share received by each candidate. This measure captures the degree to which each candidate over- or under-performs relative to their party. In case there are situations in which one candidate has such a large personal vote in districts that elect three or more members, I also construct similar measures that subtract the median party vote.

# Matching and Regression in Multi-Member Districts

Until 1974, New Brunswick used a multi-member plurality electoral system for provincial elections. These multi-member districts allow for comparisons of candidates from the same political party running in the same electoral district in the same election. Since differences in party performance in particular elections and in electoral district characteristics are major threats to inferring voter bias from aggregate electoral results, the ability to make these comparisons is a major advantage over single-member district elections. The 1967 and 1970 New Brunswick elections supply a rare combination of readily available data on candidate occupations and a series of cases in which the same political party ran candidates of the same ethnic backgrounds but different occupations within the same electoral district.

As a baseline for interpretation, I examined the simple difference in means in relative vote shares (using mean party vote shares) between working-class and non-working class candidates during this time period. This difference is -0.61 percentage points when pooling data from 1967 and 1970. It is -0.82 percentage points using only data from 1967 and -0.48 percentage points using only data from 1970. During this period, working-class

Figure 4: Estimated Bias Against Working-Class Candidates, Matching Analysis in Multi-Member District, 1967-1970, with Substantive Reference Lines for Equivalence Testing
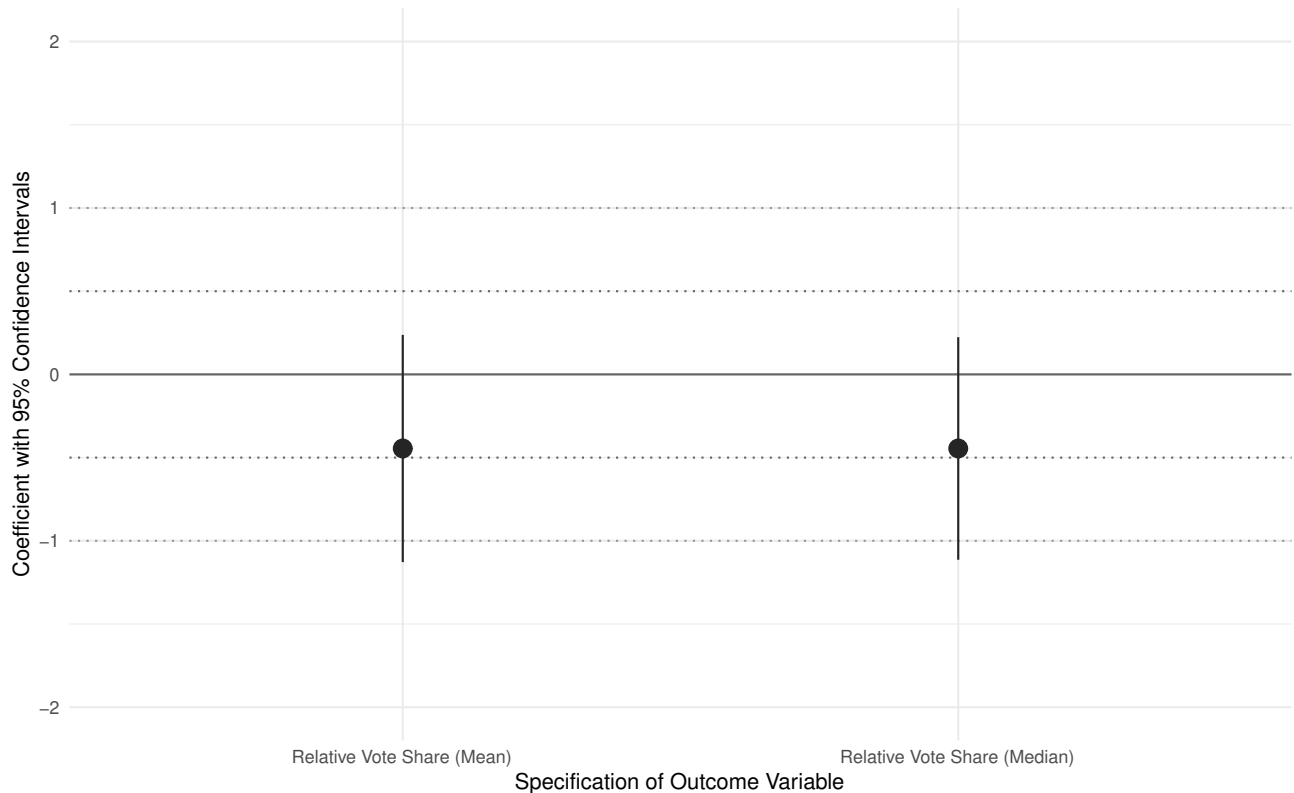


candidate typically received fewer votes than non-working class candidates from the same party in the same district.

In order to demonstrate that these differences are not simply an artifact of other candidate demographics, I conducted a matching analysis. If we assume that candidates are interchangeable save for their occupation and the matched variables, then it is possible to identify the effect of class on candidate vote shares. I constructed a matched dataset using all possible exact matches on party, district, year, gender, and ethnicity using MatchIt (). In order to obtain the estimated effects from all possible pairs, I use weighted regression.[7]

Figure 4 displays the estimated voter bias against working-class candidates from these weighted regressions on the matched dataset. I have added dotted reference lines at +/-1 percentage point and +/-0.5 percentage points to indicate substantively important effect

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[7]In the pre-analysis plan, I specified that it was possible to use a simple *t*-test. Weighted regression is more suitable for taking into account information from all matched pairs.

sizes for equivalence testing. The point estimates are roughly -0.5 percentage points.

It is clear that there is no substantively meaningful bonus for working-class candidates under these models. However, it is not possible to reject the idea that there is a substantively meaningful penalty for working-class candidates, either.

Next, I turn to a regression approach, rather than matching. The model takes the following form:

$$y_{pdt} = \beta_0 + \beta_1 Worker_{pdt} + \beta_2 Woman_{pdt} + \beta_3 Francophone_{pdt} + \beta_4 IrishCatholic_{pdt} + \epsilon_{pdt} \quad (1)$$

where $y_{pdt}$ is the difference between the candidate's vote share and the mean (or median) party vote share for the entire ticket. This outcome variable implicitly "controls for" political party by building it into the outcome variable. The explanatory variables are a series of dummy variables indicating whether the individual is a worker, a woman, francophone, and Irish Catholic. The reference category for ethnicity – those who are neither francophone nor Irish Catholic – are overwhelmingly British Protestants.

I run each model eight times. First, I estimate the model using only data from the 1967 election. Second, I estimate the model using only data from the 1970 election. Third, I pool the two elections together. Fourth, I pool the two elections together and include a year dummy variable. Finally, I reach each of these models separately for the two ways of constructing the relative vote share – one using the mean party vote share and the other using the median party vote share.[8] Throughout, I cluster standard errors at the party-district-year level, since each candidate is not an independent observation.

Figure 5 shows the coefficients for candidate class from each of these models, along with 95 percent confidence intervals. In all eight models, the point estimate is negative – -0.75 percentage points in 1967, -0.40 percentage points in 1970, and -0.53 percentage points when combining both years (regardless of the inclusion of a dummy variable indicating the election year). The results are only statistically significant in the models that use data from both elections. A penalty of roughly 0.5 percentage points is meaningful in the context of close elections, though the confidence intervals range from near zero to just past one percentage point.

Figure 6 displays similar coefficients from a model that includes a dummy variable identifying incumbents. The point estimates are generally similar to or slightly smaller than the models that did not include an incumbency dummy. However, none of the models that include an incumbency dummy are statistically significant. Indeed, in the pooled data from 1967 and 1970, the confidence intervals no longer include a penalty of one percentage point. These results suggest two important points. First, when taking into account incumbency and other aspects of candidates' backgrounds, it is clear that the bias

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[8]In the pre-analysis plan I specified running district fixed effects models, as well. These models are not feasible in practice due to the small number of candidates per district.

Figure 5: Estimated Bias Against Working-Class Candidates, Regression Analysis in Multi-Member Districts, 1967-1970

Relative Vote Share (Mean)
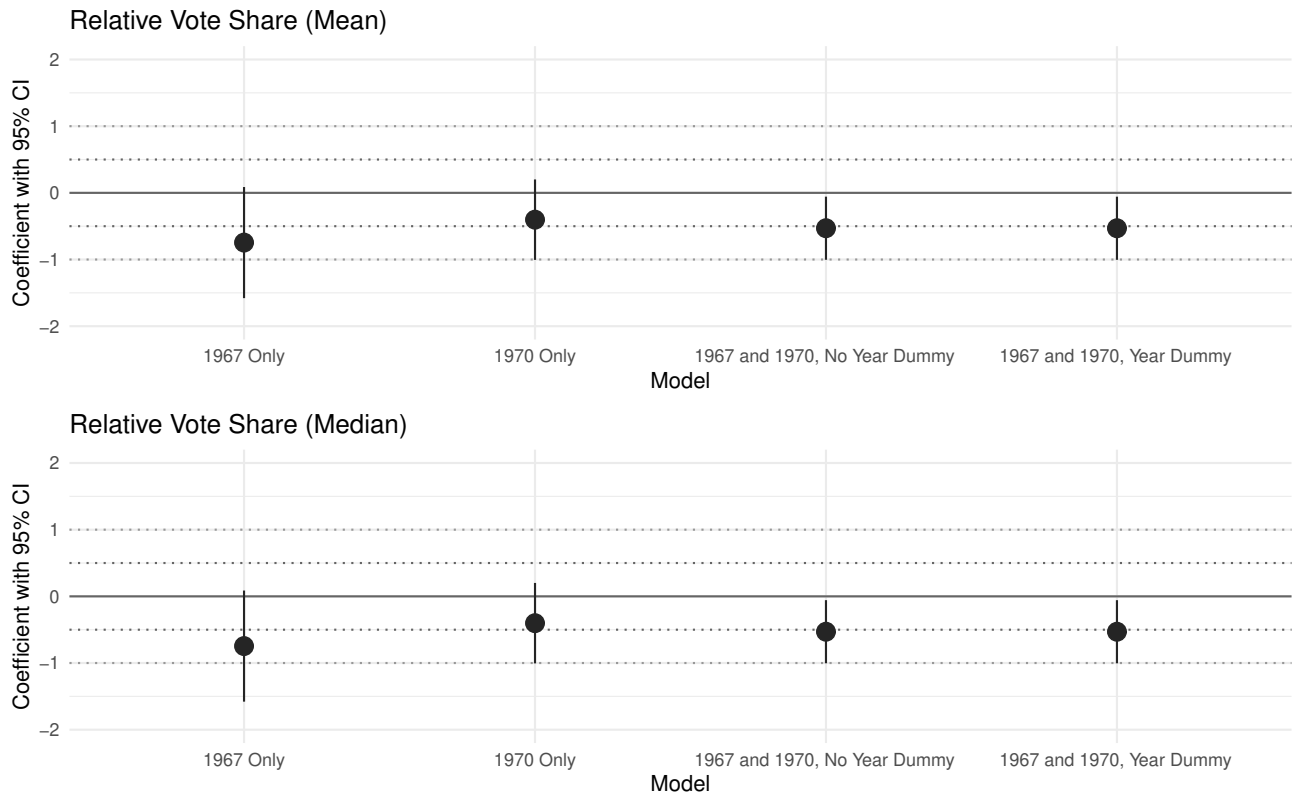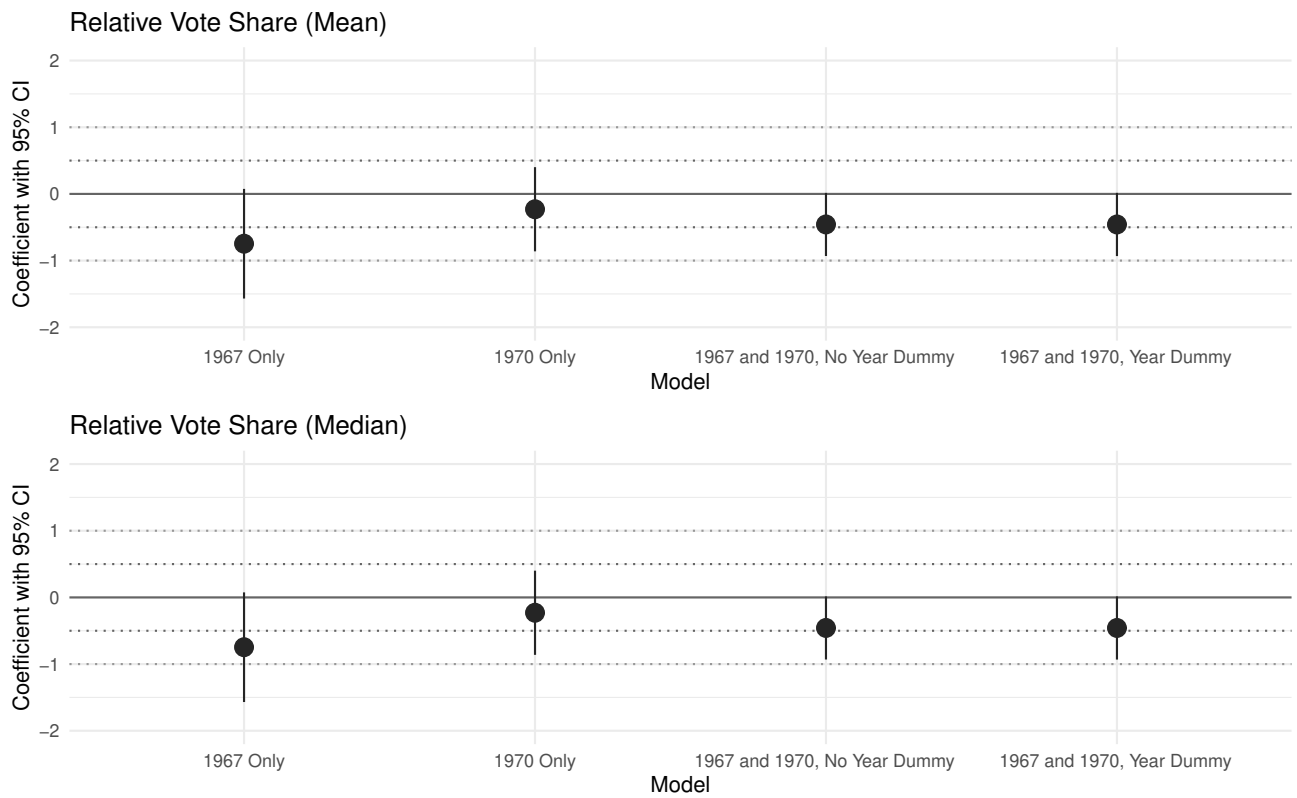


Relative Vote Share (Median)

Figure 6: Estimated Bias Against Working-Class Candidates, Regression Analysis in Multi-Member Districts, 1967-1970, with Incumbency Controls

against working-class candidates within the entire time period is smaller than one percentage point. Second, incumbency is likely to explain some of the bias against working-class candidates in this case.

The models from the matching and regression analyses in multi-member districts together suggest that there likely was a bias of about 0.5 percentage points in vote share against working-class candidates in the 1967 and 1970 New Brunswick elections. The estimates from matching and regression are very consistent in the point estimates, but the regression analyses generate tighter bounds on the estimates. This bias is not a product of other demographic differences between workers and non-workers, but it is in part a product of workers being less likely to be incumbents. Ultimately, these two multi-member district elections provide a relatively small amount of data to examine voter bias against working-class candidates. It would be useful to have additional data.[9] However, this approach of using multi-member district elections to identify voter biases against marginalized groups shows promise (for a similar argument, see Broockman and Soltas (2020)).

## Differences-in-Differences in Single-Member Districts

Starting in 1974, New Brunswick used single-member districts for provincial elections. As a result, it is no longer possible to compare the candidates from the same party in the same electoral district directly. Instead, I turn to another approach for estimating voter biases against candidates from particular groups – differences-in-differences (Albaugh, 2019*a*). Differences-in-differences provides another way of "purging" party, electoral district, and time period variation from estimates of voter bias. They examine compare changes in the party's vote share in districts where the class backgrounds of candidates for a party change from one time period to the next to changes in the party's vote share in districts where the class backgrounds of the party's candidates do not change.

Differences-in-differences models make a number of important assumptions. First, the party's decision to nominate working-class candidates must be unrelated to the party's performance in that district in the last election. This assumption is difficult to test directly without examining the process of each candidate nomination.[10] Second, the nomination of working-class candidates must not affect the party's electoral results in adjacent districts. Again, this assumption is difficult to test directly, but it seems unrealistic to expect

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[9]I am considering adding in additional data back in time using newspaper coverage of candidate nominations – which usually contain to candidate hometowns and occupations. I am planning on gathering these data for a book project.

[10]My interviews with party insiders provide suggest that party insiders tend to think that working-class candidates would do better in more rural districts or in urban districts with a working-class character, which suggest that it would be useful to control for district-level factors.

large spillovers from one district to another when parties advertise their candidates within districts and voters necessarily pick among candidates who are actually on the ballot in their districts. Third, the composition of electoral districts and candidates within each class grouping must be stable across time periods. This assumption is partially testable using available data.[11]

The most important of these assumptions is the "parallel trends" assumption. Under the parallel trends assumption, in the absence of changes in the party's candidate's class over time, the trends in vote shares for parties across districts should be similar. This assumption is often – but not always – reasonable in electoral differences-in-differences designs. Across many elections, it is typical to find a "uniform swing" from one election to the next, in which changes in the party's national vote share are generally similar to changes in the party's vote share in each electoral district. This idea of a uniform swing dates back to British electoral studies from the mid-20th Century (Butler, 1952, p. 272). If electoral results generally follow a uniform swing across electoral districts over time, then the parallel trends assumption is reasonable. This assumption is often reasonable but does not hold for every election during this time period in New Brunswick. Albaugh (2019*a*) found that the 2018 New Brunswick election followed a uniform swing model for the two major parties in majority anglophone districts, but in there was a disproportionate swing to the Liberals and against the Progressive-Conservatives in overwhelmingly francophone districts. That is, in overwhelmingly francophone area where the Liberals performed the worst in 2014, they had the largest gains in vote share in 2018. A handful of electoral districts had their own dynamics that differed from the rest of the province, as well. I plan to examine and develop ways of correcting for these violations of the parallel trends assumption in future iterations of this paper.

Figure 7 displays the differences-in-differences estimates for each election within each set of electoral boundaries. I include the relative vote share (median) estimates from the regression analysis of the pooled 1967 and 1970 data as a baseline. I omit the first election after each electoral boundary change (1974, 1995, 2006, 2014), since there is no prior time period to construct differences-in-differences estimates. None of these coefficients are statistically significant, and there is no consistent pattern. If anything, in 1978, the differences-in-differences estimate comes closest to statistical significance, and it points to a working-class bonus.[12]

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[11]I am running additional models to take into account these differences.

[12]All these results are substantively similar in models that include a dummy variable for incumbency and/or district fixed effects. I have also made figures separately for each party that plot that party's vote share in a district in one election on the x-axis and its vote share in that district in the next election on the y-axis, with a simple linear fit, that highlight districts where the party nominated no workers in either election, workers in the first election only, workers in the second election only, and workers in both elections. So far, I have completed these figures for 1974-1991. I am continuing to make these plots to increase my confidence, then I will run separate differences-in-differences models by party and election.

Figure 7: Differences-in-Differences Estimates for Voter Bias Against Working-Class Candidates, 1974-2018 Electoral Boundaries, by Election Year
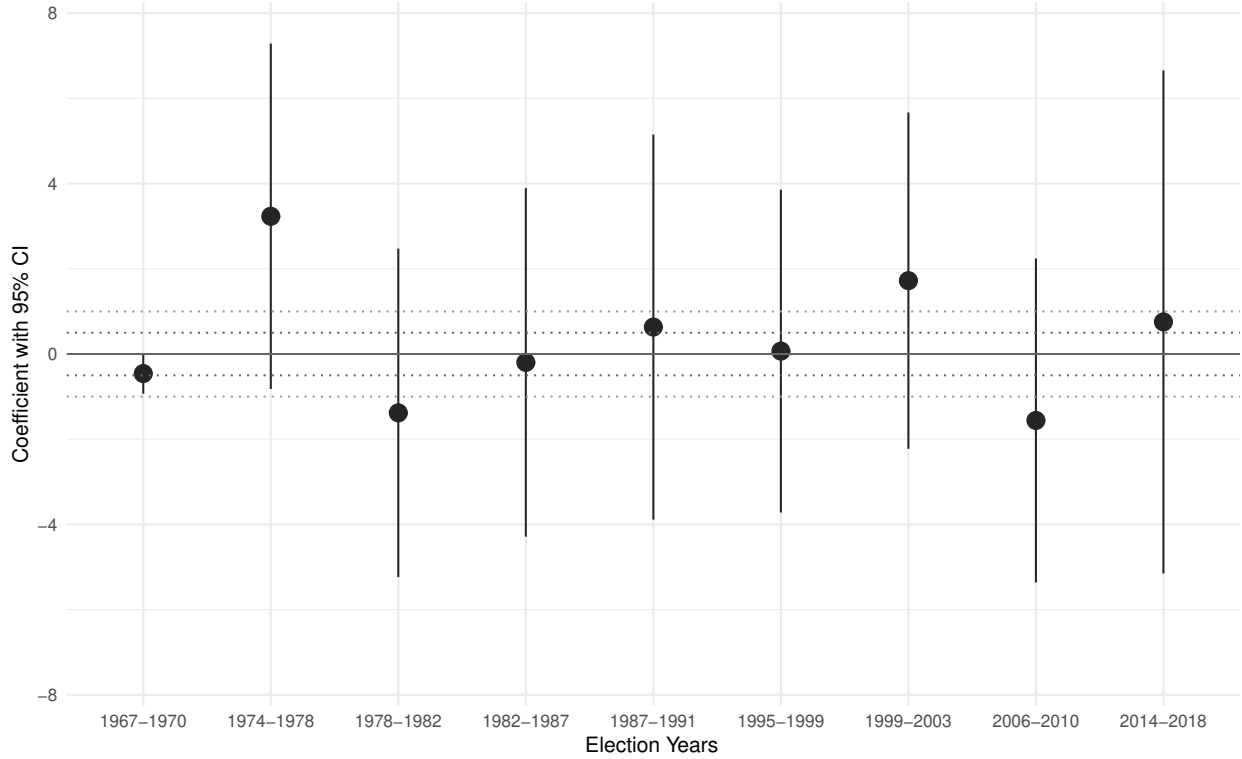
The most striking difference between the differences-in-differences estimates within single-member districts and the regression estimates within multi-member districts is that the differences-in-differences estimates are much noisier. This observation highlights the usefulness of using multi-member districts to examine the voter biases against marginalized groups.

# Discussion

This preliminary analysis provides fairly consistent evidence that there is either no bias or a substantively small bias against working-class candidates when using research designs aimed to address variation in political parties and electoral districts. In the multi-member district results from 1967 and 1970, the estimated bias against working-class candidates is substantively small (0.5 percentage points) and becomes insignificant when controlling for incumbency. In the single-member districts, the estimated biases vary considerably from one pair of elections to another and are never statistically significant. These null findings provide evidence from real-world elections that there is no voter bias against working-class candidates, which fits with some previous evidence from conjoint experiments (Carnes and Lupu, 2016; Carnes, 2018).

There is relatively little evidence from the analysis so far that there is much change in the bias against working-class candidates over time. To the extent that there is any such evidence, it is consistent with the idea that multi-member plurality is worse for working-class candidates than single-member plurality elections, which is similar to claims about race in at-large elections in (Trounstine and Valdini, 2008).

The research design used in the multi-member district analysis – examining whether candidates from certain groups in multi-member districts over- or under-perform relative to their party in that district – offers substantial advantages over similar research designs from single-member districts. It can also travel to other contexts that use multi-member plurality electoral systems (also called block voting or at-large voting systems), including American state and local governments.

One of the major remaining challenges lies in finding ways to combine estimates across time periods. An analysis that made full use of all the data over this time period, rather than pairs of elections, would help increase possibility of identifying relatively small biases, if they exist. It is, of course, possible to generate pooled estimates of bias against working-class candidates within each set of electoral boundaries. However, changes in electoral boundaries and electoral systems make it difficult to pool all the data into one regression model. I am considering conducting a random-effects aggregate meta-analysis of the models, which would provide a pooled estimate across the models.

Ultimately, the explanation for the systematic under-representation of the working class lies with political parties, not with voters. This result fits with similar findings that

"party gatekeepers" explain the under-representation of women (Ashe and Stewart, 2011; Cheng and Tavits, 2011; Crowder-Meyer, 2013; Sanbonmatsu, 2010), racial and ethnic minority groups (Dancygier et al., 2015), and the working class (Carnes, 2018). As with the representation of women (Murray, 2010) and ethnic minority groups (Dancygier, 2017) in European democracies, left parties, particularly the social democratic NDP, were more likely to nominate working-class candidates. However, it failed consistently at winning more than one seat in any given election. This case suggests that the electoral viability of social democratic parties and their willingness to nominate working-class candidates in seats they are likely to win are likely to play a major role in explaining the representation of the working class across countries.

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