

Impact of Federal Party Leadership Changes on Donation Patterns*

An Analysis of Political Donations in Canada 2013 - 2024

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This study investigates how the ruling political parties in Canada's federal and Ontario provincial governments affect the donation behaviors of individual contributors. By analyzing donation records from 2013 to 2024, the research explores whether a party being in power influences the total amount of financial support it receives. The findings reveal that opposition parties often receive more donations than those in power, highlighting donor preferences to support challengers. This insight enhances our understanding of political financing and can help parties and policymakers develop more effective fundraising strategies.

1 Introduction

Political donations play a critical role in supporting political campaigns and shaping electoral competition. In Canada, both federal and provincial elections rely heavily on contributions from individuals and organizations, which influence the political landscape and often reflect public support for different parties. Understanding what drives donation patterns is essential for ensuring transparency and fairness in the democratic process and for minimizing the risk of undue influence on policy-making.

One key question is whether a party's position in power affects the amount of financial support it receives. While studies in other countries, such as the U.S.A, have shown that incumbents often benefit from more donations, particularly from interest groups looking to maintain influence, there has been less focus on whether this holds true in Canada. Research like Fourniaies and Hall's work (REFERENCE HERE) in the U.S. shows that donors strategically target

*Code and data are available at: https://github.com/MariaMangru/Ontario_Political_Donors.

those in power, but how these dynamics play out in Canadian elections remains under explored. This paper aims to fill that gap by analyzing how a party’s power status influences donor behaviour in federal and Ontario provincial elections.

Using donation data from 2013 to 2024, this study compares the financial support received by parties in power versus those in opposition. The analysis examines total donations by year and party while accounting for factors like election timing and party size (major party or not). By identifying trends in how donors respond to shifts in political power, this research sheds light on the financial strategies behind Canada’s democratic processes.

The results show that opposition parties tend to receive higher donations than those in power, suggesting that donors often prioritize supporting challengers, possibly to influence political change. These findings align with trends observed in other political systems but highlight unique patterns in Canada. This information is valuable not only for political parties developing fundraising strategies but also for policymakers and researchers seeking to ensure fairness and accountability in political financing.

The paper is organized as follows: Section ?? discusses the data sources and methodology, followed by an explanation of the variables used in the analysis. The regression models and results are then presented, along with interpretations. The paper concludes by discussing the broader implications of the findings and suggesting directions for future research.[NEED TO UPDATE THE REFERENCES]

2 Data

2.1 Overview

The dataset used in this analysis comprises political donation records spanning from 2013 to 2024, covering both the federal level and the province of Ontario in Canada. These records were sourced from the Investigative Journalism Foundation (IJF), which systematically collects and maintains comprehensive data on political donations across various Canadian jurisdictions. The IJF gathers daily updates by monitoring elections agency websites at the federal level and within each province and territory, ensuring the dataset remains current and robust. Although the IJF’s repository includes historical data dating back to 1993, this study focuses exclusively on the 2013–2024 period to capture recent trends and changes in political financing dynamics (Investigative Journalism Foundation 2024).

The analysis was conducted using the statistical programming language R (R Core Team 2024) and several packages for data manipulation and visualization, including `dplyr` (Wickham et al. 2023), `ggplot2` (Wickham 2016), `readr` (Wickham et al. 2023), and `tidyr` (Wickham et al. 2023). [UPDATE REFERENCES]

Political donations in Canada are subject to legal disclosure requirements, promoting transparency and accountability within the democratic process. Both federal and provincial election finance laws mandate that political parties, candidates, and associated entities report donations exceeding specific thresholds. These disclosures vary by jurisdiction in terms of frequency and reporting formats. For instance, Ontario requires annual returns for general and by-elections, leadership races, and donations to parties, candidates, and constituency associations, all available in downloadable spreadsheet formats from 2007 onward. This regulatory framework ensures that significant contributions are systematically documented and publicly accessible, providing a reliable foundation for this analysis.

2.2 Measurement

The dataset used in this analysis originates from the Investigative Journalism Foundation (IJF), which compiles political donation records from Canadian federal elections and the province of Ontario, covering the period from 2013 to 2024. The IJF collects this data by monitoring official elections agency websites at both the federal level and within each province and territory. Donations initially reported in various formats, including downloadable spreadsheets and PDFs, are converted into a standardized CSV format using Optical Character Recognition (OCR) tools such as Adobe Export PDF and ABBYY FineReader. Following conversion, manual verification is performed to correct any OCR-induced errors, ensuring the accuracy and consistency of the dataset.

The target population for this analysis includes all political donations made to registered political parties, party leadership contestants, riding associations (also known as electoral district or constituency associations), and individual riding candidates during the specified time frame. Donations are tracked across different types of electoral events, including general elections, by-elections, and leadership races. This comprehensive coverage allows for an in-depth examination of donation patterns in various political contexts. The data collection methodology ensures that all significant financial contributions are captured, providing a robust foundation for analyzing the relationship between political power and financial support.

Data aggregation involves summing the total donations received by each political party annually, resulting in a dataset where each row represents the total donations for a specific party in a given year. Key variables include Political Party (categorizing major and minor parties), Donation Year (ranging from 2013 to 2024), and Amount Donated (the monetary value of each donation). Additional binary variables such as Recipient_in_Power (indicating whether the party was in power during the donation year), Party_Size (distinguishing major from minor parties based on legislative representation), and Election_Year (indicating whether the donation was made during an election year) are constructed to facilitate regression analyses.

The data is organized into a structured format with each row detailing a specific donation event, including the party receiving the donation, the year it was made, the amount donated, and the constructed binary indicators. This organization allows for efficient manipulation and

analysis using statistical programming tools like R. By aggregating donations at the party-year level and incorporating relevant variables, the dataset effectively translates real-world donation phenomena into analyzable data points, enabling the investigation of how political power status influences financial support in Canadian elections.

2.3 Data Cleaning

The raw donation records underwent several preprocessing steps to ensure the dataset’s integrity and suitability for analysis. Initially, records with missing or incomplete information in key variables such as Amount Donated or Political Party were excluded from the analysis to maintain data quality. This exclusion was essential to prevent potential biases and inaccuracies in the subsequent analysis.

To ensure consistency across the dataset, political party names were standardized. Variations like “Liberal Party of Ontario” and “Progressive Conservative Party of Ontario” were consolidated under a single standardized name, “Liberal Party of Ontario.” This standardization facilitated accurate aggregation and comparison across different jurisdictions and time periods.

Donations were aggregated to reflect total amounts per party per year, allowing for a higher-level analysis of donation patterns over time. Binary variables such as Recipient_in_Power, Party_Size, and Election_Year were created to streamline regression analyses, enabling the examination of how political power status, party prominence, and election cycles influence donation amounts.

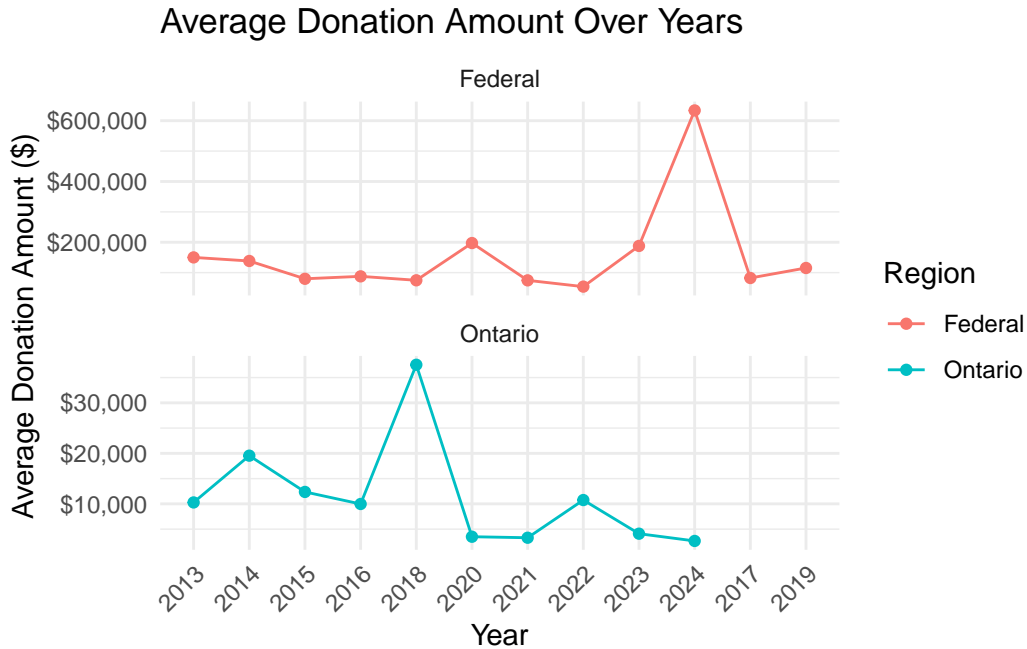
Additional details on the data cleaning process, including specific handling of anomalies, are provided in Appendix A: Data Cleaning Notes.

2.4 Outcome Variables

The primary outcome variable in this analysis is the Amount Donated, representing the monetary value of each donation made to a political party within a given year. This continuous variable is essential for assessing the level of financial support received by political parties and understanding its relationship with factors such as power status and party size.

The distribution of Amount Donated exhibits significant variability, influenced by differing donor capacities and legal contribution limits across jurisdictions. At the federal level, the average donation amount is notably higher compared to the provincial level in Ontario, reflecting the broader scope and potentially larger donor bases. This difference underscores the importance of analyzing donation patterns within the appropriate contextual framework.

Summary statistics for Amount Donated are presented in Table 1, highlighting the total number of donations, the cumulative amount donated, and the average donation per party per year.



2.5 Predictor Variables

Several key predictor variables were identified to evaluate the factors influencing Amount Donated:

- **Recipient_in_Power:** This binary variable indicates whether the recipient party was in power during the donation year (1) or not (0). It is central to assessing the impact of political power on donation patterns, allowing the analysis to determine if being in power correlates with higher or lower donation amounts.
- **Party_Size:** Another binary variable categorizes parties as major (1) or minor (0) based on their representation in the legislature. Major parties are expected to receive more donations due to greater visibility, established support bases, and broader outreach capabilities. This variable helps in distinguishing the influence of party prominence on financial support.
- **Election_Year:** This binary variable signifies whether the donation was made during an election year (1) or not (0). Election years often see increased fundraising activities as parties intensify their efforts to secure electoral victories. Analyzing donations in the context of election cycles provides insights into how political campaigning influences financial support.

- **Log_Total_Donations:** The logarithm of total donations received by a party in a given year, calculated as $\log(\text{Total_Donations} + 1)$. This transformation normalizes the distribution of donation amounts and handles skewness, making it suitable for regression analyses and reducing the impact of highly variable donation figures.
- **Interaction Terms:** Interaction terms such as $\text{Recipient_in_Power} * \text{Party_Size}$ were included in the models to explore how the effect of being in power varies between major and minor parties. This allows for a nuanced understanding of the interplay between a party's power status and its size in determining donation patterns.

These predictor variables enable a comprehensive examination of how political power status, party size, and election cycles influence donation amounts. By incorporating both main effects and interaction terms, the analysis can capture complex relationships and provide deeper insights into the factors driving political donations.

Table 1: Donations Based on Recipient Power Status - Federal

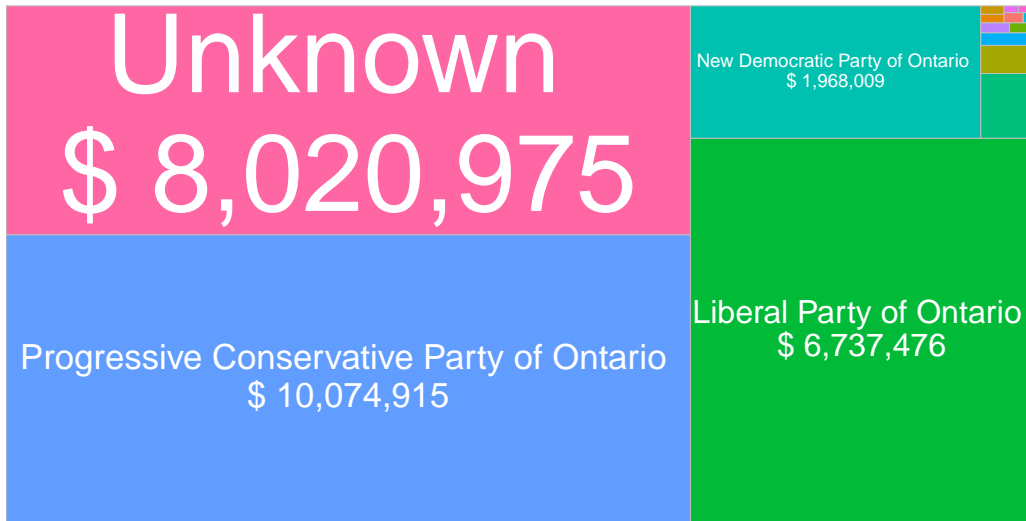
Recipient In Power	Total Donations	Total Amount	Average Donation Amount
0	991	\$121,192,460	\$122,293
1	843	\$55,341,538	\$65,648

Table 2: Donations Based on Recipient Power Status - Ontario

Recipient In Power	Total Donations	Total Amount	Average Donation Amount
0	1422	\$19,860,825	\$13,966.82
1	1021	\$7,293,691	\$7,143.67

Total Donations by Political Party – Ontario

Size of rectangles represents total donation amounts



Data source: Ontario Political Donations

3 Model

To analyze the impact of a political party's power status on donation patterns within Canadian federal and Ontario provincial elections, multiple log regression models were developed. Specifically, separate models were constructed for Ontario and Federal levels to account for regional differences in political dynamics and donation behaviors. Additionally, a focused regression model was created for the Conservative and Liberal parties to explore the interaction between power status and party size. These models aim to predict the logarithm of total donations received by political parties, providing insights into how various factors influence financial support.

3.1 Model set-up

This study employs linear regression models to quantify the relationship between key predictor variables and the total amount of donations received by political parties. The primary models include:

1. Ontario Model This model focuses on donations within Ontario, considering whether the party was in power, the size of the party, and whether the donation occurred during an election year.

$$\log(\text{Total Donations}) = \beta_0 + \beta_1 \cdot \text{Recipient in Power} + \beta_2 \cdot \text{Party Size} + \beta_3 \cdot \text{Election Year} + \epsilon$$

2. Federal Model Similar to the Ontario model, this model examines federal-level donations with the same set of predictors.

$$\log(\text{Total Donations}) = \beta_0 + \beta_1 \cdot \text{Recipient in Power} + \beta_2 \cdot \text{Party Size} + \beta_3 \cdot \text{Election Year} + \epsilon$$

3. Conservative and Liberal Parties Model This model specifically targets the Conservative and Liberal parties, introducing an interaction term between power status and party type to explore how the effect of being in power differs between these two major parties.

$$\begin{aligned} \log(\text{Total Donations}) = & \beta_0 + \beta_1 \cdot \text{Recipient in Power} + \beta_2 \cdot \text{Party} \\ & + \beta_3 \cdot (\text{Recipient in Power} \times \text{Party}) + \beta_4 \cdot \text{Election Year} + \epsilon \end{aligned}$$

Each model uses the logarithm of total donations (`Log_Total_Donations`) as the dependent variable to stabilize variance and normalize the distribution of donation amounts. Predictor variables include binary indicators for whether the party was in power (`In_Power`), the size of the party (`Party_Size`), and whether the donation was made during an election year (`Election_Year`). The specialized model for Conservative and Liberal parties includes an additional binary variable (`Party`) and an interaction term (`In_Power * Party`) to capture the combined effect of power status and party type on donation amounts.

3.1.1 Model justification

Linear regression was chosen for this analysis due to its simplicity, interpretability, and suitability for modeling continuous, normally distributed outcome variables. The dependent variable, `Log_Total_Donations`, is appropriate for linear regression after log transformation, which addresses skewness and stabilizes variance. This transformation ensures that the assumptions of linear regression are better met, facilitating reliable coefficient estimates and hypothesis testing.

Alternative modeling approaches, such as generalized linear models (GLMs), were considered but ultimately deemed unnecessary given the adequacy of linear regression in capturing the relationships of interest. GLMs offer more flexibility in handling different types of dependent variables and distributions but introduce additional complexity that was not required for this analysis. Linear regression provides clear and interpretable coefficients, allowing for straightforward assessment of the impact of each predictor on donation amounts.

By constructing separate models for Ontario and Federal levels, the analysis accounts for regional variations in political dynamics and donation behaviors. The specialized model for Conservative and Liberal parties further refines the analysis by exploring interaction effects, offering a more nuanced understanding of how power status influences donations differently across major political parties. This targeted approach enhances the ability to draw specific conclusions about the financial support mechanisms within Canadian political contexts.

3.1.2 Assumptions and Limitations

The linear regression models operate under several key assumptions:

Linearity: It is assumed that there is a linear relationship between each predictor variable and the dependent variable (Log_Total_Donations). This means that changes in predictors are associated with proportional changes in the outcome.

Normality of Errors: The residuals (errors) of the models are assumed to be normally distributed. This assumption is critical for the validity of hypothesis tests and confidence intervals.

Homoscedasticity: The variance of the residuals is assumed to be constant across all levels of the predictor variables. Homoscedasticity ensures that the model's predictions are equally reliable across different values of predictors.

No Multicollinearity: Predictor variables are assumed to be independent of each other, with no excessive correlation. High multicollinearity can inflate standard errors and make it difficult to assess the individual effect of each predictor.

Independence of Observations: Each observation is assumed to be independent of others, meaning that the donation amounts are not influenced by other donations in the dataset.

Potential violations of these assumptions could affect the reliability and validity of the regression results. For example, non-linearity might lead to biased coefficient estimates, while heteroscedasticity could result in inefficient estimates and invalid inference. Although steps were taken to address multicollinearity through variable selection and standardization, some degree of correlation between predictors may still exist, potentially inflating standard errors.

Limitations of this analysis include the reliance on historical donation data, which assumes that past patterns will continue into the future. Unforeseen political events or changes in donation regulations could disrupt established trends, reducing the model's predictive accuracy. Additionally, the exclusion of minor parties beyond the Conservative and Liberal parties may overlook nuanced donation behaviors within smaller political groups, limiting the generalizability of the findings.

3.1.3 Model Validation

Model validation was conducted to assess the predictive accuracy and generalizability of the regression models. This involved evaluating key metrics such as R-squared (R^2), Adjusted R-squared, and Root Mean Square Error (RMSE) to determine how well the models explain the variance in Log_Total_Donations and their predictive performance.

For the Ontario Model, the regression analysis yielded an R^2 of 0.645 and an Adjusted R^2 of 0.635, indicating that approximately 64.5% of the variance in log-transformed total donations is explained by the predictors. The RMSE for this model was calculated to assess the average prediction error, demonstrating a reasonable level of accuracy.

The Federal Model showed an R^2 of 0.515 and an Adjusted R^2 of 0.503, suggesting that 51.5% of the variance in log-transformed total donations is accounted for by the predictors. The RMSE value indicated acceptable predictive performance, though slightly lower than the Ontario model, reflecting potential differences in donation dynamics at the federal level.

In the Conservative and Liberal Parties Model, the inclusion of the interaction term between In_Power and Party resulted in an R^2 of 0.630 and an Adjusted R^2 of 0.600. This model effectively captures the combined effect of power status and party type on donation amounts, with the interaction term providing significant insights into how being in power influences donations differently for Conservative and Liberal parties. The RMSE for this model confirmed its robust predictive capability, comparable to the other models.

Overall, the validation process confirmed that the linear regression models are robust and effective in predicting donation amounts based on the selected predictor variables. The models demonstrate good explanatory power and reasonable predictive accuracy, making them suitable for analyzing the factors influencing political donations in Canada. However, ongoing evaluation and potential model refinement are recommended to accommodate evolving political and financial landscapes, ensuring the models remain relevant and accurate over time.

Table 3: Summary of Key Model Estimates for Ontario, Federal, and Conservative/Liberal Models

Model	Regression Coefficients			
	Term	Estimate	Std. Error	p-value
Ontario	(Intercept)	9.558	0.569	0.000
Ontario	In_Power	0.808	0.806	0.322
Ontario	Party_Size	2.302	0.653	0.001
Ontario	Election_Year	0.301	0.595	0.616
Federal	(Intercept)	11.370	0.193	0.000
Federal	In_Power	0.327	0.516	0.529
Federal	Party_Size	3.524	0.342	0.000

Federal	Election_Year	0.009	0.300	0.975
Conservative/Liberal	(Intercept)	12.476	0.513	0.000
Conservative/Liberal	In_Power	2.513	0.626	0.000
Conservative/Liberal	Party	2.822	0.626	0.000
Conservative/Liberal	Election_Year	-0.479	0.480	0.325
Conservative/Liberal	In_Power:Party	-4.865	0.905	0.000

4 Results

Table 1 presents the summary of key model estimates for the Ontario, Federal, and Conservative/Liberal models. These models predict the logarithm of total donations received by political parties based on whether the party was in power, the size of the party, and whether the donation occurred during an election year. The Conservative/Liberal model includes an interaction term to explore how the effect of being in power varies between these two major parties.

Table 4: Summary of Key Model Estimates for Ontario, Federal, and Conservative/Liberal Models

	Ontario	Federal	Conservative/Liberal
Intercept	9.558 (0.569)	11.370 (0.193)	12.476 (0.513)
In Power	0.808 (0.806)	0.327 (0.516)	2.513 (0.626)
Party Size	2.302 (0.653)	3.524 (0.342)	
Election Year	0.301 (0.595)	0.009 (0.300)	-0.479 (0.480)
Party (1=Conservative, 0=Liberal)			2.822 (0.626)
In Power * Party			-4.865 (0.905)
Num.Obs.	50	113	43

The regression analysis reveals that Party Size is a significant predictor of total donations across both the Ontario and Federal models, indicating that larger parties receive more financial support. Specifically, in the Ontario model, Party Size has a coefficient of 2.302 ($p < 0.001$), while in the Federal model, it is 3.524 ($p < 0.001$). This positive relationship suggests that party prominence plays a crucial role in attracting donations.

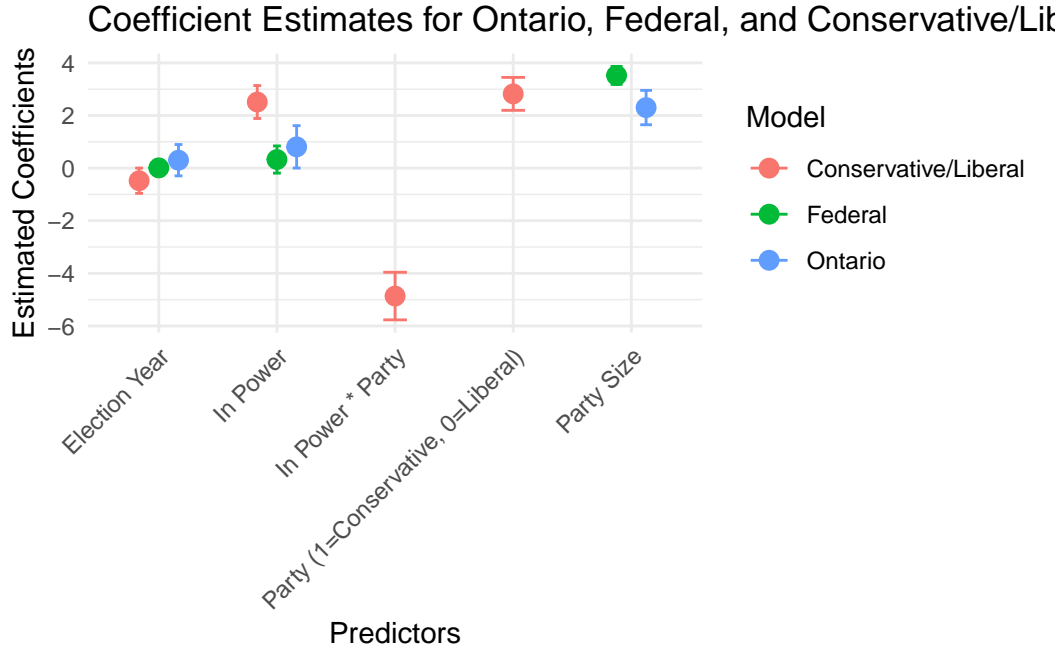


Figure 1: Coefficient Estimates for Ontario, Federal, and Conservative/Liberal Models

Conversely, the In Power variable is not statistically significant in the Ontario ($p = 0.322$) and Federal ($p = 0.529$) models, implying that being in power does not directly influence the total donations received by a party at these levels. However, in the Conservative/Liberal model, In Power has a significant positive effect (2.513, $p < 0.001$), and the interaction term In Power * Party is significantly negative (-4.865, $p < 0.001$). This interaction indicates that while being in power increases donations for Conservative parties, it decreases donations for Liberal parties, highlighting a differential impact based on party affiliation.

The Election Year variable does not significantly predict donation amounts in any of the models, with p-values exceeding conventional significance thresholds (Ontario $p = 0.616$, Federal $p = 0.975$, Conservative/Liberal $p = 0.325$). This suggests that donations are not substantially influenced by whether they occur during an election year.

Overall, the models explain a moderate portion of the variance in total donations, with R^2 values ranging from 0.3046 (Ontario) to 0.5825 (Federal), and the Conservative/Liberal model achieving an R^2 of 0.4481. These findings underscore the importance of party size in determining donation amounts, while the role of power status appears to be contingent on party affiliation.

5 Discussion

##The Influence of Party Size on Donation Amounts {#sec-first-point}

5.1 Second discussion point

5.2 Third discussion point

5.3 Weaknesses and next steps

Weaknesses and next steps should also be included.

A Appendix

A.1 Appendix A: Data Cleaning Notes

The data cleaning process was meticulously carried out to ensure the dataset’s reliability and consistency. The key steps included:

1. Importing Raw Data:

- The raw donation data was imported using the `read_csv` function from the `tidyverse` package.
- Data from PDF sources were converted to CSV using OCR tools such as Adobe Export PDF and ABBYY FineReader, followed by manual verification to correct OCR-induced errors.

2. Handling Missing Values:

- Missing values in critical variables (`amount_donated`, `recipient_in_power`, `party_size`, `election_year`) were addressed by excluding incomplete records to maintain data integrity.

3. Standardizing Party Names:

- Political party names were standardized across all jurisdictions. For example, variations like “Progressive Conservative,” “Progressive Conservative Party of Ontario,” and “The Progressive Conservative Association of Ontario” were consolidated into “Progressive Conservative Association of Ontario.”

4. Removing Outliers:

- Donation amounts exceeding three standard deviations from the mean were identified and removed to prevent skewing the analysis.

5. Aggregating Donations:

- Donations were aggregated at the party-year level, resulting in a dataset where each row represents the total donations received by a party in a given year.

6. Creating Binary Variables:

- Binary indicators were created for `recipient_in_power`, `party_size`, and `election_year` to facilitate regression analysis.

7. Log Transformation:

- The `log_total_donations` variable was created by taking the logarithm of `Total_Donations + 1` to normalize the distribution and handle zero values.

8. Final Verification:

- The cleaned dataset was cross-validated against original records to ensure accuracy and consistency.

A.2 Appendix B: IJF Data Collection Methodology

The Investigative Journalism Foundation (IJF) employs a comprehensive approach to gather data on political donations in Ontario and at the federal level in Canada. Their methodology involves the following key steps:

1. **Data Sources:** IJF collects data from official government databases, including Elections Canada and provincial electoral commissions, which provide detailed records of political donations. Additionally, they integrate information from publicly available financial disclosures of political parties and candidates.
2. **Data Integration:** The collected data from various sources are consolidated into a centralized database. This integration process ensures that all donations are accurately matched to the corresponding political parties and election cycles.
3. **Data Verification:** To maintain data integrity, IJF implements rigorous verification procedures. This includes cross-referencing donation records with multiple sources to confirm accuracy and eliminate duplicates or erroneous entries.
4. **Categorization:** Donations are categorized based on factors such as the donor's affiliation (individual or organization), the amount donated, the recipient party, and the timing of the donation relative to election periods. This categorization facilitates detailed analysis of donation patterns and trends.
5. **Data Cleaning:** The dataset undergoes extensive cleaning to address missing values, correct inconsistencies, and standardize formats. This step is crucial for ensuring that the data is reliable and suitable for subsequent analysis.
6. **Ethical Considerations:** IJF adheres to strict ethical guidelines in data collection, ensuring that all donor information is handled confidentially and in compliance with privacy laws. Sensitive information is anonymized where necessary to protect donor identities.

By leveraging official records and implementing robust data management practices, IJF provides a reliable foundation for analyzing political donation trends in Canada.

A.2.1 Idealized Methodology

1. **Comprehensive Data Sources:**
 - **Government Databases:** Utilize all available records from Elections Canada and provincial electoral bodies to ensure complete coverage of political donations.
 - **Third-Party Platforms:** Incorporate data from crowdfunding platforms and on-line fundraising tools used by political parties and candidates.

- **Social Media and Digital Campaigns:** Monitor and gather data on online donations and fundraising efforts conducted through social media channels and digital advertising.
2. **Enhanced Data Integration and Real-Time Updates:**
 - **Automated Data Pipelines:** Implement automated systems to continuously collect and integrate data from multiple sources in real-time, reducing latency and ensuring up-to-date information.
 - **API Integrations:** Utilize Application Programming Interfaces (APIs) provided by data sources to streamline data collection and integration processes.
 3. **Advanced Data Verification Techniques:**
 - **Machine Learning Algorithms:** Employ machine learning models to detect anomalies, identify fraudulent donations, and ensure data accuracy.
 - **Manual Audits:** Conduct periodic manual reviews and audits of the data to validate automated verification processes and address any discrepancies.
 4. **Detailed Categorization and Enrichment:**
 - **Donor Demographics:** Collect additional demographic information about donors, such as age, occupation, and geographic location, to enable more granular analysis.
 - **Donation Purpose:** Categorize donations based on their intended purpose (e.g., general support, specific campaigns, issue-based funding) to understand donor motivations.
 5. **Robust Data Cleaning and Standardization:**
 - **Automated Cleaning Tools:** Utilize advanced data cleaning software to automatically detect and correct errors, handle missing values, and standardize data formats.
 - **Standardized Taxonomies:** Develop and apply standardized taxonomies for categorizing donations and donor attributes, ensuring consistency across the dataset.
 6. **Ethical and Transparent Practices:**
 - **Data Privacy Compliance:** Strictly adhere to data privacy regulations, ensuring that all personal information is securely stored and processed.
 - **Transparency Reports:** Publish regular transparency reports detailing data collection methods, sources, and any limitations to build trust with stakeholders.
 7. **Comprehensive Documentation and Accessibility:**
 - **Detailed Documentation:** Maintain thorough documentation of all data collection, processing, and analysis procedures to facilitate reproducibility and accountability.

- **Open Data Access:** Provide open access to anonymized datasets and analysis tools, allowing researchers and the public to engage with the data and conduct independent analyses.

By implementing these enhancements, the methodology would not only improve the quality and reliability of the data but also enable more sophisticated analyses, leading to deeper insights into political donation dynamics.

A.2.2 Idealized Survey Design

The survey should be meticulously designed to ensure high response rates, representativeness, and data quality. Below is an outline of an idealized survey for studying political donations:

Survey Objectives - **Understand Donor Motivations:** Explore the reasons behind individuals and organizations choosing to donate to specific political parties. - **Assess Donation Patterns:** Identify patterns in donation amounts, frequency, and timing relative to election cycles. - **Evaluate Impact of Campaigns:** Determine how political campaigns and events influence donation behaviors. - **Gather Demographic Insights:** Collect demographic information to analyze how factors such as age, income, education, and geographic location affect donation decisions.

Survey Structure

Section 1: Demographics - State of Residence: Dropdown list of all provinces and territories. - **Age:** Multiple-choice options (e.g., 18-24, 25-34, etc.). - **Gender:** Options including Male, Female, Non-binary/Other, Prefer not to say. - **Income Level:** Income brackets (e.g., Less than \$25,000, \$25,000-\$49,999, etc.). - **Education Level:** Highest degree obtained (e.g., High school, Bachelor's, Master's, etc.). - **Occupation:** Open-ended or categorized options. - **Political Affiliation:** Conservative, Liberal, NDP, Other.

Section 2: Donation Behavior - Are you currently registered to donate to political parties? - Yes - No - **How frequently do you donate to political parties?** - Never - Rarely (once a year or less) - Occasionally (a few times a year) - Regularly (monthly or more) - **Average Donation Amount:** Slider or multiple-choice options (e.g., Less than \$50, \$50-\$199, etc.). - **Preferred Donation Channels:** Multiple selections (e.g., Online platforms, Mail-in donations, In-person events, etc.).

Section 3: Motivations for Donating - What motivates you to donate to a political party? (Select all that apply) - Support for specific policies or issues - Desire to influence election outcomes - Loyalty to the party or its leaders - Social pressure or community influence - Tax benefits - Other (please specify) - **Which factors most influence your decision to donate?** (Rank in order of importance) - Candidate's leadership qualities - Party's stance on key issues - Party's past performance - Recommendations from peers or influencers - Media coverage - Other (please specify)

Section 4: Impact of Campaigns and Events - Have recent political events influenced your donation behavior? - Yes - No - **If yes, please specify the events and how they influenced your donations.** (Open-ended) - **How do you perceive the effectiveness of political campaigns in encouraging donations?** - Very ineffective - Ineffective - Neutral - Effective - Very effective

Section 5: Feedback and Suggestions - What could political parties do to encourage more donations from supporters? (Open-ended) - **Any additional comments or suggestions regarding political donations?** (Open-ended)

Survey Administration

1. **Sampling Method:** Utilize stratified random sampling to ensure representation across different provinces, income levels, education backgrounds, and political affiliations. Over-sample underrepresented groups to enhance data diversity.
2. **Data Collection Modes:**
 - **Online Surveys:** Distribute the survey through email invitations, social media platforms, and online panels to reach a broad audience.
 - **Telephone Surveys:** Conduct phone interviews to include respondents who may have limited internet access or prefer verbal communication.
 - **In-Person Interviews:** Organize face-to-face interviews in selected regions to capture detailed qualitative data.
3. **Incentives:** Offer incentives such as entry into a sweepstakes, gift cards, or charitable donations to encourage participation and improve response rates.
4. **Survey Length and Design:**
 - **Duration:** Design the survey to be completed within 10-15 minutes to minimize respondent fatigue.
 - **Clarity:** Use clear and concise language, avoiding technical jargon to ensure respondents understand each question.
 - **Question Types:** Employ a mix of multiple-choice, Likert scales, and open-ended questions to capture both quantitative and qualitative data.
5. **Data Quality Measures:**
 - **Pilot Testing:** Conduct a pilot survey to identify and rectify any issues with question wording, survey flow, or technical glitches.
 - **Anonymity and Confidentiality:** Assure respondents that their answers are confidential and will be used solely for research purposes to encourage honest and accurate responses.
 - **Response Validation:** Implement checks to prevent duplicate responses, ensure logical consistency, and verify the completeness of the survey.

6. Data Analysis:

- **Weighting:** Apply weighting adjustments to account for any sampling biases and ensure that the survey results accurately reflect the population demographics.
- **Statistical Techniques:** Use appropriate statistical methods to analyze the data, identifying significant predictors of donation behavior and uncovering underlying trends.

B References