

The effect of income inequality and other socioeconomic factors on political participation  
in Canadian federal elections

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The socioeconomic factors of political participation in Canadian federal elections:

Income inequality and Employment

by Matthew B. Peters

**Abstract**

Voter turnout rates for Canadian federal elections have been in decline for over 50 years, and currently Canada is ranked 18<sup>th</sup> among OECD countries in this regard. To what extent do certain socioeconomic factors have in encouraging or discouraging voters' participation in elections in Canada?

This study examines previous literature on theories related to the ties between political participation and socioeconomic inequality; including the law of dispersion, relative power theory, conflict theory, and resource theory. Compiling data from external sources and creating a pseudo panel specific to this study, these theories are then tested to examine how income inequality (measured through Gini index, P90/P50 and P50/P10 ratios, and median income), age, marital status, and employment rates has effected voter turnout in Canada between 1979 and 2015. The analysis shows that the effects of both income inequality and the employment rate on turnout exhibit non-linear quadratic characteristics. Further to that, age and marital status are also shown to have positive effects on voter turnout. Employment rates specific to education are also examined but deemed generally inconclusive, however further insight and stronger data could yield better results and be cause for future study.

## 1. INTRODUCTION

It is no secret that voter turnout is on a slow and steady downward trend in Canada since the mid-60s. In fact, of the ten lowest recorded turnouts, eight of them have been the last eight consecutive federal elections held since 1993.<sup>1</sup> This is not solely a Canadian electoral issue though as voter turnout in many Western democracies lie below 70 percent. In data presented by the Pew Research Center, of the last 35 elections held in Organisation for Economic Co-operation and Development (OECD) countries, Canada's 68.3 percent in 2015 would rank 18<sup>th</sup>; and Canada's closest neighbour, the United States ranked 27<sup>th</sup> based on 2012's turnout of 53.6 percent.<sup>2</sup> In contrast, eight OECD countries; Australia, Luxembourg, Iceland, Denmark, South Korea, Sweden, Turkey, and Belgium (the last two noted as having compulsory voting in place at last elections analyzed) achieved turnout higher than 80 percent.

Much has been researched and written about the motivation for citizens to participate in voting and about the potential consequences when the representation at the polls is less than full participation. Two competing theories that set out to explain how voters rationalize their decision on whether to vote or not come down to whether voter's see the act of voting as an investment or as consumption (Guttman et al., 1994). An investment theory approach assumes that the voter is looking at their potential long-term gains from their supported candidate being elected over the other candidate(s) and weighing it against the probability that their vote will matter in the decision; while a consumption

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<sup>1</sup> <http://www.elections.ca/content.aspx?dir=his&document=appx&lang=e&section=res>

<sup>2</sup> <http://www.pewresearch.org/fact-tank/2016/08/02/u-s-voter-turnout-trails-most-developed-countries/>

theory approach assumes that the voter finds the act of voting itself is at least part of the benefit. These theories along with theories that explore how socioeconomic inequalities may affect political participation will be explored further in the next section of this paper.

Sub-optimal voter turnout rates would be of less concern if we could say that all groups of citizens are still equally represented in the voter base that cast ballots in the most recent election. For that to be the case, you would need evidence showing that the factors involved in voter participation are completely random, and are not dependent upon socioeconomic factors. This perspective follows the law of dispersion, as first hypothesized by Swedish political scientist Herbert Tingsten in the 1930s. Essentially, Tingsten's theory is that voter turnout rates and political inequality are inversely related so that as voter turnout declines, the degree of political inequality present in the election results increases (Tingsten, 1937). This theory, and its potential implications if true, will be explored and tested in the following sections of this paper.

The goal of any democratic system should be to produce the best result that is truest to the 'will of the people', and any result below 100 percent turnout is technically a sample of the preferred choice of the electorate. For democracies like Canada, which continually achieve voter turnout rates between high-50 and high-60 percentile, it leaves 30-40 percent of the electorate unrepresented. This would not be an issue if we could say with confidence that this sample of the electorate satisfied the same criteria of samples that produce inferences made on populations through the method of statistics but this is obviously not the case in the situation of a free-willed election. Whether you ascribe to investment theory or consumption theory as it pertains to voter choice, the one fundamental fact they have in common is that in either case the potential voter is

engaging in a decision and the outcome of whether they vote or not is not random, but a subjective action. For this reason, it is imperative that we undertake an investigation into issues pertaining to why electors fail to cast a vote, if inequality factors related to the law of dispersion are present, and how the inefficiencies of society could be contributing to creating gaps in equality for all citizens. Building on the foundation of rational choice models of voter behaviour, and a literature suggesting that political inequality becomes greater as voter turnout declines; there are three discernable objectives of this paper. First, try to develop potential models that may give insight into whether the law of dispersion is present or not in Canadian federal elections. Second, examine and try to explain which theories pertaining to socioeconomic inequalities and political participation may be most accurate to describe the Canadian political landscape. Finally, to raise the profile of the issue of how socioeconomic class differences affect the greater electorate and political outcomes to spurn further discussion and study.

This paper proceeds as follows: first, by providing a brief historical background of Canada's democratic system, and how it ranks internationally in terms of voter turnout. This is followed by a literature review of theories of rational choice of voters, Herbert Tingsten's law of dispersion, and the relationship between socioeconomic inequalities and political participation. I will then describe data obtained from Statistics Canada and Elections Canada that was used to create a pseudo panel data set specific to this paper. Following this, I will detail the variables chosen to be tested and the construction of the statistical models. Subsequently, results from the regression analysis are presented which then lead to relevant discussion of findings and conclusions that can be drawn.

## **2. LITERATURE REVIEW**

### **2.1 Canadian Democracy Historical Context**

The ability to vote since the Canadian Confederation in 1867 has followed a path from being considered a privilege to where it is now a right for all Canadian citizens. Aside from being dependent on your gender and ethnicity, minimum requirements to being allowed to vote used to depend on your annual income level and the value of the property you owned or were a tenant of. Towards the end of the 19<sup>th</sup> century, these same voting rights for women property owners were slowly allowed at the provincial level, a movement which progressed towards and culminated with the first federal election of universal franchise for majority status men and women in 1921.<sup>3</sup> It was not until 1960 however that universal suffrage was achieved for all Canadian citizens as language in Canada's electoral laws that enabled racial and religious discrimination in voter qualification had been amended or removed.<sup>4</sup> Expanding voter's rights and eliminating these discriminatory practices has been a strong step forward for Canadian democracy in the 20<sup>th</sup> century but it is now facing new challenges in the area of political participation through voter turnout.

If those first two federal elections under universal suffrage in 1962 and 1963 (each of which saw voter turnout rates above 79%), are to be seen as a high point for Canadian democratic participation, then the trend since then could be a cause for concern. As seen in the figure below, since 1962 and 1963, the trend in voter turnout has been that of

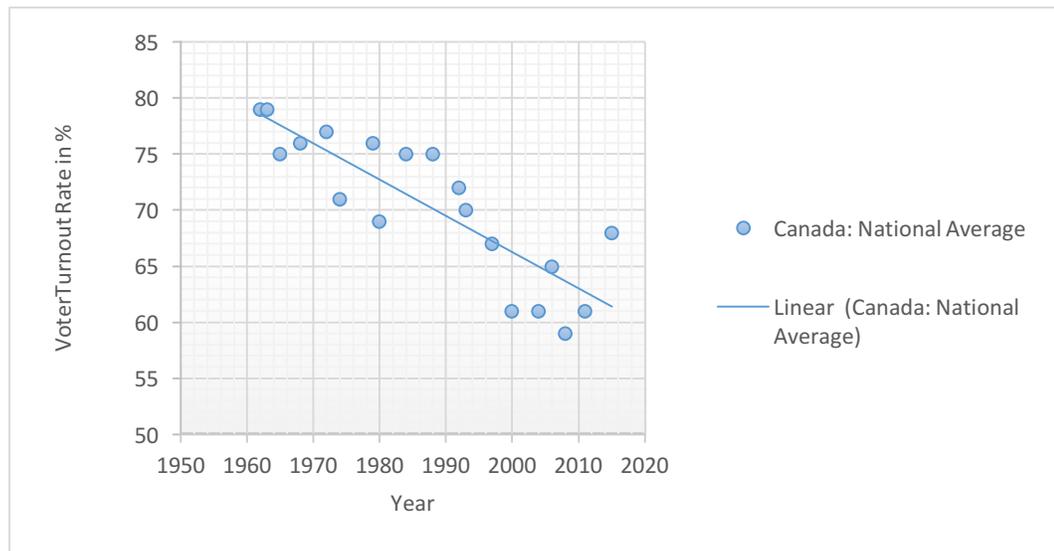
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<sup>3</sup> <http://www.elections.ca/content.aspx?section=res&dir=his&document=chap2&lang=e>

<sup>4</sup> <http://www.elections.ca/content.aspx?section=res&dir=his&document=chap3&lang=e>

decline in participation. In federal elections held between 1979 and 2015 (including the 1992 referendum), the mean voter turnout rate was 67.6 percent (see Appendix).

**Figure 1: Canadian National Average of Federal Election Voter Turnout 1962-2015**



Source: Elections Canada

The most recent Canadian federal election voter turnout rate of 68.3 percent would be in line with the mean average for the past three and a half decades and would also be in line with the current average among OECD countries. However, many other democratic nations in OECD are performing much better in this area. Based on the latest national election data available, OECD ranks the top five countries by voter turnout (as percentage of registered voters) as follows:<sup>5</sup>

- Australia 93.2 %
- Luxembourg 91.2%
- Belgium 89.4%

<sup>5</sup> <http://www.oecdbetterlifeindex.org/topics/civic-engagement/>

- Denmark 85.9%
- Sweden 85.8%

When comparing Canada's more recent voter turnout rates to those countries near the top it is obvious that there is still some room to grow in order to increase political participation for Canadian citizens, and with the backdrop of the ongoing discussions centred around the possibility of electoral reform at some point in the not too distant future,<sup>6</sup> the time is right to add to the discussion of what factors may be encouraging or depressing political participation and what implications lower voter turnouts have for society.

## **2.2 Rational Choice Theories: The Voter's Cost-Benefit Analysis**

Economists have been trying to understand the 'paradox of voting' since early game theory was used to examine voter behaviour. Many economists would make the argument that it is completely irrational to vote in most elections, and especially federal elections due to the fact that the probability of each voter's single vote being influential in the outcome is essentially zero.<sup>7</sup> The classical argument being that, when you think like an economist, you only take action when the perceived benefits outweigh the costs and under these assumptions, the essentially zero probability that your particular vote will matter brings the benefits to zero. This is represented in the original rational choice model:

$$\mathbf{R = P*B - C}$$

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<sup>6</sup> <https://www.liberal.ca/realchange/electoral-reform/>

<sup>7</sup> <http://www.nytimes.com/2005/11/06/magazine/why-vote.html>

Where ‘R’ represents the rewards to voting, ‘P’ is the probability of the supported candidate winning due to your vote, ‘B’ represents the perceived net benefits of your supported candidate winning of the other(s), and ‘C’ would be the costs incurred in the voting process (Riker & Ordeshook, 1968). This model has been explored and expanded in recent years and has seemingly split to provide two alternative hypotheses where voting is looked at as an investment or a consumption (Guttman, et al., 1994). According to Guttman, et al., voting could be seen as either an act of investment or of consumption, and that differentiating between two likely reasons for not voting, “alienation” and “indifference” to the candidates or parties, would provide insight into whether voters saw their actions as relevant to consumption or investment. It was further reasoned that if abstention occurred due to voters feeling alienated then it was a sign that they viewed the act of voting as a consumption, and if they abstained due to indifference then it was a sign that they viewed it as investment. Using panel survey data from the 1976 U.S. Presidential election they used the theoretical models presented below to try and provide statistical evidence for whether voting abstention had been linked to attitudes of alienation or indifference from candidates.

1.  $EU(\text{abstain}) = p'u_1 + (1-p')u_2$

2.  $EU(\text{vote}) = pu_1 + (1-p)u_2$

Where **EU** is the voter’s expected utility derived from either voting or abstaining: **p** is the voter’s subjective idea on probability of favoured party winning, and thus **p’** is subjective probability of favoured party not winning: **u1** is voter utility from favoured party winning, and **u2** is voter utility from alternative party winning. Combining these two equations yields:

$$\Delta EU = (p-p')(u1-u2)$$

representing the difference in utility from voting rather than abstaining. Using this method, Guttman, et al. had strong enough evidence to conclude that voter abstention was due more so as a result of alienation and not indifference, thus providing significant support behind the consumption theory of voting than the investment theory.

The common theme in these widely popular models presented is that to at least some degree, the voter's decision to take the action of voting is centred around having a preferred candidate available to them to vote for and that there is some rough estimation on a personal level as to their chance of winning. Where the models fall short in this regard though is that they assume that there is a preferred candidate available at all times and thus the decision then comes down to the likelihood of winning alone. But for many voters, it is very possible that, since voters do not control the candidates available to them since it is candidates who decide to run and then present themselves to voters, there is no preferred candidate as all available candidates may be indistinguishable to a given voter based on things such as their life experiences, political ideologies, the communities they identify with, and so on. If there are no preferred candidates, then in either a model with an investment approach or a model with a consumption approach, the rewards to voting become either 0 or less than 0. But if this is the case, that some voters find the candidates available to them indistinguishable from each other for whatever reasons they feel, it is important to study how this will affect election outcomes, and then the policy set in place by these governments. If voters who withdrew from elections did so randomly from all classes across demographics, then you could argue that the effect would be minimal or nil since the representation of all classes would still be there in proportion to each other.

However, there is evidence to suggest that this does not happen and that effects of Tingsten's law of dispersion are real across a variety of societies.

### **2.3 Law of Dispersion**

In his 1996 presidential address to the American Political Science Association, political scientist Arend Lijphart summarized why low voter turnout creates democratic problems through five key reasons:

*(1) It means unequal turnout that is systematically biased against less well-to-do citizens. (2) Unequal turnout spells unequal political influence. (3) U.S. voter turnout is especially low, but, measured as percent of voting-age population, it is also relatively low in most other countries. (4) Turnout in midterm, regional, local, and supranational elections-less salient but by no means unimportant elections-tends to be especially poor. (5) Turnout appears to be declining everywhere.*

All of the evidence brought forth by Lijphart in his address could be used as support for Tingsten's theory. Lijphart points to a study by Steven Rosentone and John Hansen, which shows that the smaller the size of the turnout of participants, the greater the depth of socioeconomic inequality between participants. The study found that in the United States between 1960 and 1988, as turnout declined, class inequalities increased. Gaps in participation have been found to grow in both conventional (financial contributions, volunteering with election offices, etc.) and unconventional (boycotts, tax strikes, etc.) means of political engagement, favouring those citizens with a greater level of advantage over others (Lijphart, 1997). Lijphart's address accepts the law of dispersion as undisputed fact and acts more as a call to action on reversing its effects in order to

improve democratic systems than trying to validate the law itself. We can use Lijphart's message as motivation for understanding the context of how the law of dispersion affects our political outcomes, but other sources which have tested for the presence of the law need to be consulted.

Perhaps the most relevant and recent study with respect to the presence of the law of dispersion took place in Sweden over back-to-back elections held in 2010 and 2011, conducted by Mikael Persson, Maria Solevid, and Richard Öhrvall. In 2010, Västra Götaland county council (comprised of 149 seats, making it the second largest parliament in Sweden) held an election simultaneously with national and local jurisdictions, but soon after found concerning irregularities at the county level. This resulted in having to do the county's election over again in 2011. Due to the low salience of the 2011 election, the voter turnout for the second election dropped from 80.6 percent in 2010 to 44.1 percent in 2011. Under these conditions, using multiple survey sources of the electorate, a natural experiment was conducted to test the whether this drop off in turnout saw certain socioeconomic groups drop off disproportionately in comparison to others. Results from their regression analysis show that in the election with lower turnout, the effects of the factors Age, Income, Years of Education, Political Interest, Married or Unmarried all become significant predictors of voter turnout. The participation gap between 70-year olds and 18-year olds increased from 6 percentage points to 28 percentage points and the regression analysis found a statistically significant relationship between age and voter turnout. The participation gap between those designated "rich" and those "poor" by the study grew from 15 percentage points to 20 percentage points and the regression analysis also found a statistically significant result in household incomes relationship to voter

turnout. The participation gap between those with seven years of schooling compared to those with sixteen years of schooling grew from 19 percentage points to 32 percentage points, and again the regression analysis found a statistically significant relationship between education in years and voter turnout.

The strongest of predictors in the Västra Götaland county study was found to be the stated level of political interest held by the survey respondents (Persson et al., 2013). For the 2010 election, the predicted probability of those with lower interest in politics was found to be 83 percent. That is, if you had responded to one of the surveys as saying you had little to no interest in regional politics you still had an 83 percent probability of turning up to vote. For the 2011 election, that probability of voting fell to 36 percent, representing a decrease of 47 percentage points. For those with higher stated interest in politics, the decrease was only from 99 percent probability to 80 percent probability of voting. This connection seems almost too intuitive and should come as common sense to witness of the issue. The greater question of the matter though is not how likely it is that those already interested in politics will choose to participate, but what are the factors leading to political interest or deterring those from being interested in politics, and to what extent are they represented in the socioeconomic factors already being tested as variables in studies like Persson's.

The idea of the law of dispersion in this context raises many questions when it comes to analyzing the success of any democratic system. If we believe the law to be true, to what extent are its effects universal or culturally or regionally centred? Are there other mitigating factors that can amplify or reduce its effects? In the previous section the theoretical approach to the elements of a voter's decision to engage through a cost-benefit

analysis framework was explored. In the following section, theories that aim to address how inequalities in society can affect that process will be presented. These theories could be useful in explaining how it is that the law of dispersion comes into effect.

#### **2.4 Relevant Theories on Income Inequality and Political Engagement**

There are three competing theories that attempt to explain the relationship between income inequality and political engagement: the relative power theory, conflict theory, and resource theory (Solt, 2008). When applied to this case, the relative power theory supposes that economic inequality will enforce a negative impact on political engagement due to how power is distributed throughout society. From an economics perspective, consider the case where you are competing for a scarce commodity with another party within a market. It is rational for each party in the market to seek out information on each other and understand the degree of wealth or whatever other measure of capability of acquiring this commodity over you. Therefore, the richer the other agent(s) are in relation to you, the worse off you will be since you have a lower market power and are less capable of outbidding others for the commodity (Goodin & Dryzek 1980). Goodin and Dryzek go on to support applying this logic to political outcomes since policy outputs have a limited or fixed quantity and therefore those with the relatively higher ability to influence the policy makers are in a greater position to influence. In other words, absolute levels of wealth are irrelevant in assessing one's potential political influence. If the absolute levels of wealth rise for all parties involved at an equal rate, it is their relative positions to one another that will determine who has the greater influence. Further to that, as pointed out by Solt, this framework allows the wealthier to influence political behaviour in their favour before an issue can be debated publicly. This process then

convinces those poorer individuals to withdraw from the process altogether as they are continually unable to prevail in influencing policies and therefore find no real gains through the political system. This could be looked upon as another way of showing how voters can become alienated and thus political interest declines.

In contrast to the relative power theory, conflict theory supposes that as economic inequality increases, it should motivate voters who are losing power to become more politically engaged (Solt, 2008). As Solt notes in their research, the theory maintains that as political preferences diverge there is greater opportunity present for debate. It is through the higher frequency and polarization of debate that then mobilizes those who would not become engaged if political discourse and debate were not so divergent. Through conflict theory, those who are poorer become mobilized and increase their engagement as they are becoming poorer relative to the other citizens and thus, redistributive policies should become more attractive to them as they become poorer. On the opposite end of the spectrum, as inequality rises, the richer have more to lose through redistributive policies than when inequality is lower. Therefore, an increase in inequality should also motivate richer citizens to become politically engaged to protect the income levels and luxuries they are currently receiving (Meltzer & Richard 1981). Due to the cause for mobilization on both ends of the income spectrum, the conflict theory argues for a positive relationship between income inequality and political engagement.

While relative power theory argues for a negative relationship between income inequality and political engagement, and conflict theory argues for a positive relationship; the resource theory argues that the relationship is determined at the individual level and is thus not as broadly defined as the previous two theories. The main assumption of the

resource theory is that to be engaged in politics takes resources and therefore their decision about engaging in politics enters the same process as deciding upon whether or not to consume a good. Under this assumption, individuals are only going to become politically engaged if they are willing to pay the costs (financial or otherwise) to do so and having a higher income decreases the consequences of these costs. The prevailing argument of the theory is thus that greater inequality is expected to decrease political engagement for the relatively poorer, and increase political engagement among the relatively richer. Therefore, the relationship between income inequality and political engagement plays out differently depending on the individual (Jaime-Castillo, 2009). Since income inequality is represented by the degree to which aggregate income is skewed in favour of a few over the many, you would expect that if the resource theory is relevant, the higher the inequality, the greater the number of citizens who do not have the resources to participate and thus a decrease in aggregate political engagement.

## **2.5 Contribution to the Literature**

When we talk about ways to create a more equal society the discussion is often leaves out the political system altogether. The aspect of government and its representation of the ‘will of the people’ is treated as a fixed entity, and under this assumption we try and create solutions that will achieve outcomes such as decreasing income inequality and incarceration rates, provide better access to education and health care for all income classes, and eliminate the gender wage gap and poverty. But having the discussion on decreasing inequalities in this way is leaving out perhaps the most vital aspect necessary to achieve these goals, and that is, if voting is creating bias in political representation, how do we distribute power more equally to eliminate these biases? There are many

theories and ideas out there on how to tackle that question and answering is not the goal of this paper, but instead the contribution of this paper would be addressing the initial question that precedes it. The aim of this paper is therefore to examine and build on the literature that is looking to examine how various socioeconomic factors, specifically income inequality, affect aggregate political participation.

### **3. DATA & METHODOLOGY**

This paper is examining the argument that political participation is determined by various socioeconomic factors, most notably of which is income inequality. Data was collected from two main data sources, Elections Canada and Statistics Canada to test this argument on the Canadian provinces specifically for only federal elections. A pseudo panel was constructed for this paper from cross-sectional sample data estimates over the period of time from 1979 to 2015. Using these data estimates from Statistics Canada, as well as post-election estimates on voter turnout from Elections Canada made it possible to create an appropriate panel dataset to apply to the models that were tested which will be explained in the next section. After the pseudo panel was constructed, various models were regressed using the fixed-effects method. The fixed-effects method was chosen in order to control for the issue of unobserved heterogeneity that would be a present constant over time when cross-examining these factors across provinces over time. The models themselves will be explained in more detail in the next section of the paper, after the data sources are examined.

### **3.1 Statistics Canada**

Statistics Canada is Canada's national statistics agency. Statistics Canada is responsible for conducting the national census of the population every five years in addition to various other surveys of which there are currently 350 active. In total, five Statistics Canada cross-sectional data tables estimated from four different surveys (Survey of Consumer Finances, Survey of Labour and Income Dynamics, Canadian Income Survey, and Labour Force Survey) as well as the census of the population completed every five years were accessed in order to compile data used in the pseudo panel for this paper and they are summarized as follows.

#### **3.1.1 Table 206-0033: Gini coefficients of adjusted market, total and after-tax income, Canada and provinces.**

This table provided by Statistics Canada estimates the annual Gini coefficient in Canada on an annual basis within the timeframe of 1976 to 2014. The estimates are done at the national level as well as at the provincial level. The data used for the table was prepared by the Income Statistics Division of Statistics Canada and bases its estimates primarily off of the following surveys:<sup>8</sup>

Survey of Consumer Finances (1976-1997): An annual voluntary survey that targeted all individuals in Canada, excluding residents living in Territories, within institutions, and living on First Nations reserves. According to Statistics Canada, these exclusions amounted to less than three percent of the total population. The subjects to which the survey targeted were: household, family, and personal income; income, pensions,

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<sup>8</sup> <http://www5.statcan.gc.ca/cansim/a26?id=2060033>

spending, and wealth; and low income and inequality. Starting in 1986, estimates from the survey were then revised following the results of the applicable census data.<sup>9</sup>

Survey of Labour and Income Dynamics (1993-2012): An annual voluntary survey that targeted all individuals in Canada, excluding residents living in Territories, within institutions, and living on First Nations reserves. The survey is the primary source for Canadian income data and is used to provide additional information to Canada's Labour Force Survey. The sample for the survey consists of two panels which at any given time covers approximately 17,000 households. Each panel selected stays in the survey for six consecutive years with a new panel being introduced every three years, creating overlap between selected groups. The targeted subjects of the survey are: Families, households and housing; Household, family and personal income; Income, pensions, spending and wealth; Labour; Low income and inequality.<sup>10</sup>

Canadian Income Survey (2012 – 2014): Administered to a sub-sample of respondents to the Labour Force Survey. Response to the survey was voluntary and the sample consisted of four rotation group each consisting of approximately 8400 households. The data collected in the survey is combined with Labour Force Survey data

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<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&lang=en&db=imdb&adm=8&dis=2&SDDS=3502>

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<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&lang=en&db=imdb&adm=8&dis=2&SDDS=3889>

as well as tax data, providing information on income, income sources, and characteristics of individuals and households. The survey had a response rate of 70.1%.<sup>11</sup>

It should be noted that from 1993 to 1997, both the Survey of Consumer Finances and Survey of Labour and Income Dynamics were used together. Starting with data from 1993 up to current estimates, a data quality indicator was provided by Statistics Canada based on the following scale:<sup>12</sup>

- *A - Excellent (CV between 0% and 2%);*
- *B - Very good (CV between 2% and 4%);*
- *C - Good (CV between 4% and 8%);*
- *D - Acceptable (CV between 8% and 16%);*
- *E - Use with caution (1976 to 1992: CV greater than or equal to 16%; 1993 and subsequent years: CV between 16% and 33.3%).*

Of the 80 observations used that were graded by Statistics Canada in this manner, 24 were ranked A, 53 were ranked B, and 3 were ranked C.

### **3.1.2 Table 206-0032: Upper income limit, income share and average of adjusted market, total and after-tax income by income decile, Canada and provinces**

This table's contributions are its average after-tax income estimates by income decile for each province. By using these estimates, income decile ratio variables were created in the pseudo panel, for the purpose of being used as another measure of income inequality as an alternative to the Gini coefficient. Similar to Table 206-0033, the estimates by Statistics Canada here were based on the responses from the same three surveys; the

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<sup>11</sup>

<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&lang=en&db=imdb&adm=8&dis=2&SDDS=5200>

<sup>12</sup> <http://www5.statcan.gc.ca/cansim/a26#F5>

Survey of Consumer Finances, Survey of Labour and Income Dynamics, and Canadian Income Survey and collectively covered the same time frame of 1976 to 2014.<sup>13</sup>

**3.1.3 Table 206-0052 Income of individuals by age group, sex, and income source, Canada, provinces and selected census metropolitan areas**

The contribution to the pseudo panel data from this table is the median income of the population sixteen years of age or older on an annual basis from 1979 to 2014 by province using 2014 constant dollars. The estimates in this Table were also compiled using the Survey of Consumers Finances, Survey of Labour and Income Dynamics, and Canadian Income Survey.<sup>14</sup>

**3.1.4 Table 051-0001 Estimates of population, by age group and sex for July 1, Canada, provinces and territories**

The contribution to the pseudo panel data from this table is the median age on an annual basis from 1979 to 2014 for each province. Estimates for the population in this table come from results of the population census.<sup>15</sup>

**3.1.5 Table 051-0042 Estimates of population, by marital status or legal marital status, age and sex for July 1, Canada, provinces and territories**

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<sup>13</sup> <http://www5.statcan.gc.ca/cansim/a26?lang=eng&id=2060032>

<sup>14</sup>

<http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=2060052&&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>

<sup>15</sup>

<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&lang=en&db=imdb&adm=8&dis=2&SDDS=3604>

The contribution to the pseudo panel data from this table are the figures related to marital status for each province on an annual basis from 1979 to 2015. Data from this table allowed for the calculation of the estimated proportion of the population that was either legally married or in a common-law relationship. The data originally used to construct the Statistics Canada table is composed of data primarily collected from various censuses but also from other Statistics Canada surveys, and administrative data such as that held by the Canadian Revenue Agency.<sup>16</sup>

### **3.1.6 Table 282-0004 Labour Force Survey Estimates, by educational attainment, sex and age group**

The contribution to the pseudo panel data from this table is the employment rate at the provincial level from 1992 to 2015. The total employment rate for the population 15 years of age and over, as well as the employment rate grouped by highest educational attainment (did not graduate high school, high school graduate, diploma or certificate holder, Bachelor's degree or higher) were collected from this table. The estimates in the Statistics Canada table were determined from Statistics Canada's Labour Force Survey.

Labour Force Survey: Data from this monthly survey is collected directly from respondents and their response is mandatory. The subjects of the survey are as follows: Employment and unemployment, Hours of work and work arrangements, Industries, Labour, Occupations, Unionization and industrial relations, and Wages, salaries and other earnings. The target population of the survey are those who are 15 years of age or older,

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<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&lang=en&db=imdb&adm=8&dis=2&SDDS=3605>

do not live in an institutionalized setting, are not living on First Nations reserves, are not full-time members of the Canadian Armed Forces, do not live in extremely remote areas of low population density, and comes from all provinces and territories. The sample size for the LFS is approximately 56,000 households, covering roughly 100,000 individuals.<sup>17</sup>

### **3.2 Elections Canada**

Elections Canada is an independent, non-partisan agency of Canada's Parliament and is primarily tasked with the administering of Canadian elections. It is through Elections Canada that all federal elections take place. Some of the most critical aspects of Canada's democratic system that Elections Canada is responsible for is that it administers electoral legislation, registers political parties, maintains the National Register of Electors, and provides access for all eligible citizens to the voting process.<sup>18</sup>

Information on voter turnout rates at both the national and provincial levels in Canada's federal election history was provided by Elections Canada. Since this paper is examining how socioeconomic factors, specifically income inequality, affects political participation in Canada, voter turnout rates (as a measure for political participation) is necessary for the pseudo panel created as it will be the dependent variable in the models being tested. Voter turnout rates are listed in Table 2 in the appendix of Elections Canada's report, *A History of the Vote in Canada*.<sup>19</sup> Their estimates on voter turnout

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<sup>17</sup>

<http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&lang=en&db=imdb&adm=8&dis=2&SDDS=3701>

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<http://www.elections.ca/content.aspx?section=abo&dir=role&document=index&lang=e>  
<sup>19</sup> <http://www.elections.ca/content.aspx?dir=his&document=appx&lang=e&section=res>

reflect first-hand information of the proportion of the registered electors population that cast a ballot in each respective election.

### 3.3 Variables

#### 3.3.1 Voter Turnout Rate

Acting as our dependent variable, the voter turnout rate measures the proportion of voters on the registered list of electors who voted in a given election. It is often used as an indicator of how healthy and engaged an electoral base is of a given country, region, or institution. The higher the voter turnout rate is, the greater the degree of political participation amongst those citizens eligible to vote in an election. A low voter turnout rate would indicate a large number of legally eligible voters choosing to abstain from the process altogether rather than participating and being part of the group of citizens who determine the government's elected officials.

**Table 1: National level voter turnout summary (1979-2015)**

Election Year	Voter Turnout Rate %	Change in Voter Turnout	Difference from Mean Average
1979	76	--	8.4
1980	69	-7	1.4
1984	75	6	7.4
1988	75	0	7.4
1992*	72	-3	4.4
1993	70	-2	2.4
1997	67	-3	-0.6
2000	61	-6	-6.6
2004	61	0	-6.6
2006	65	4	-2.6
2008	59	-6	-8.6
2011	61	2	-6.6
2015	68	7	0.4
Mean Avg.	67.6		

\*indicates referendum on the Charlottetown Accord.

Based on the values for the Canadian national average of voter turnout rate in the federal elections examined, as published by Elections Canada, the mean average for voter turnout for this time period was 67.6 percent.

### **3.3.2 Median Income**

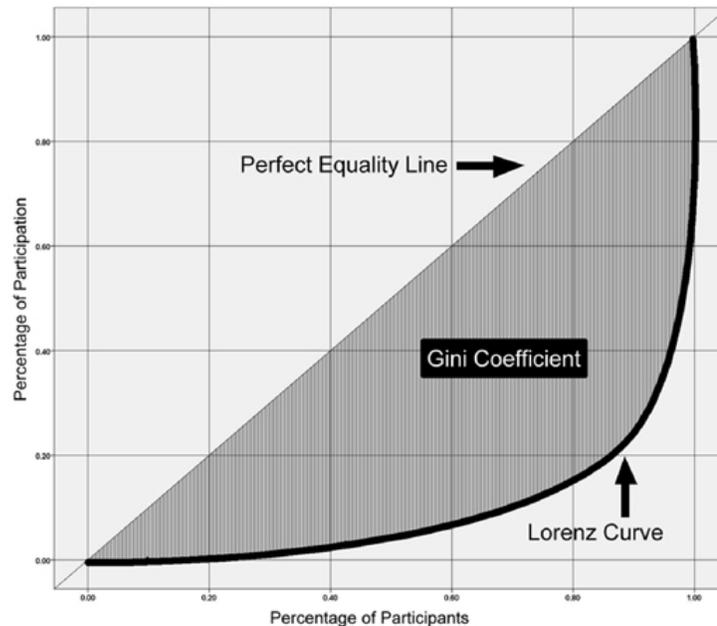
The median income represents the income level of the median citizen of a country, area, demographic group, etc. In this paper it is used in the context of the Canadian provinces. Each province's median income for every federal election year was taken and is then used to represent the level of income equality throughout the country on a provincial basis. Used as a measure of the wealth of the average citizen in absolute terms, it is not expected that the median income will give us strong evidence to make any claims about relative power theory or conflict theory, but it could provide insight into the strength of resource theory. A statistically significant positive coefficient could be interpreted as potential proof of resource theory's presence.

### **3.3.3 Gini Coefficient**

The Gini Coefficient (sometimes also referred to as Gini 'index') spans from 0 to 1 and measures the degree to which income is distributing equally throughout a society, where 0 would be total equality (everyone holds equal wealth) and 1 would be total inequality (one person holds all the wealth). The Gini index spawns out of the Lorenz curve which is the graphical representation of the distribution of wealth in a society. On a Lorenz graph, the percentage of total wealth is plotted on the y-axis and the percentage of total population is plotted in the x-axis. In this context, a perfect 45-degree line would represent full equality, the Lorenz curve is then plotted underneath this line and represents

the distribution of wealth in a society. The Gini coefficient then measures the area between the full equality line and the Lorenz curve.<sup>20</sup>

**Figure 2: Example of Lorenz curve and Gini Coefficient**



Source: <http://journals.uic.edu/ojs/index.php/fm/article/view/3450/2856>

The Gini coefficient has been a very useful tool for economists in the study of income inequality throughout the world but it is not a perfect measure in itself of income inequality. The main critique of the Gini index was pointed out by Antonio Jaime-Castillo's paper prepared for the Comparative Study of Electoral Systems Conference held in Toronto in 2009. The issue with the Gini in this regard is that two completely different Lorenz curves can yield the same Gini index value. Thus, the same Gini coefficient can reflect inequality between the top and the middle of the income distribution, or between the middle and the bottom of the income distribution (Jaime-Castillo, 2009). This is a relevant issue to consider in this study if you are looking to

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<sup>20</sup> <http://data.worldbank.org/indicator/SI.POV.GINI>

apply the Gini as a measure of income inequality and test its relationship to voter turnout through the lens of any of the three theories presented in the previous section. Observing the same society over time, which is what this paper is doing, could be immune to this issue though for the following reason. In the case where Gini decreases due to a decrease in income at the top rather than a gain at the bottom, the relative power gained by the lower percentile earners would still be substantial under the framework that will be proposed in the proceeding sections. A statistically significant positive coefficient could be a sign of the presence of conflict theory, while a negative coefficient could be interpreted as the presence of relative power theory.

#### **3.3.4 Income decile ratios**

Taking Jaime-Castillo's point of advice, this research will not only focus on Gini as a measurement of income inequality but will include the following income decile ratios for analysis:

**P90/P50** – ratio measure of the inequality at the top of the income ladder. The richest decile to the middle income earners. In our dataset it is calculated as the average income earned by the top decile divided by the corresponding median income.

**P50/P10** – ratio measure of the inequality at the bottom half of the income ladder. In our dataset it is calculated as the median income divided by the average income earned by the lowest decile.

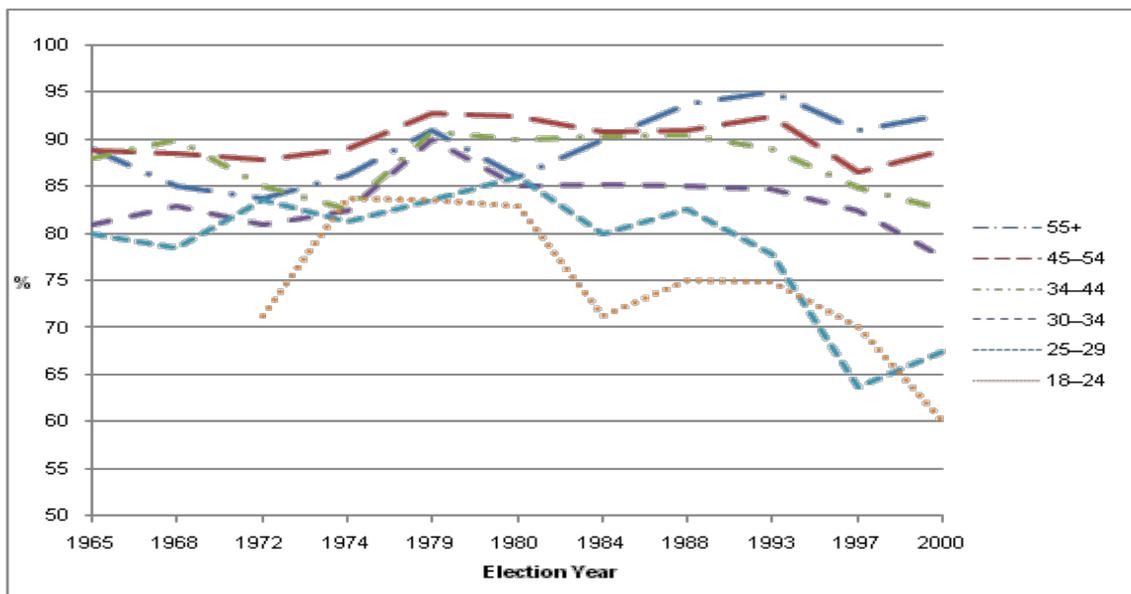
Similar to the Gini coefficient, where an increase to the ratio represents growing inequality, a statistically significant positive coefficient in our findings could be evidence

for the presence of conflict theory, while a negative coefficient could be evidence for relative power theory.

### 3.3.5 Median Age

According to the law of dispersion, as voter turnout decreases and political inequality increases, younger voters drop out of the participation at a higher rate than older voters (Tingsten, 1937). The empirical evidence supplied by the Swedish study by Persson, Solevid, and Öhrvall also found statistically significant results for age having an effect on voter turnout. The trends observed in this data show visually that there is a very real difference in voter turnout by age, and the fact that the graph represents thirty-five years of data should lead one to dispel any preconceived assumptions that the difference in voter turnouts by age is due to differences in generational tendencies.

**Figure 3: Estimated Voter Turnout in Canada by Age Group, 1965–2000**



Source: Library of Parliament: *Youth Voter Turnout in Canada: 1. Trends and Issues*<sup>21</sup>

<sup>21</sup> <http://www.lopparl.gc.ca/content/lopparl/ResearchPublications/2010-19-e.htm#a4>

Based on the above findings, it is expected that the median age will have some positive effect on the voter turnout rate since as the median age rises then the average age of those voting eligible should also be higher and since older citizens tend to vote more (proportionally to younger citizens), this would lead to an increase in the voter turnout rates. A statistically significant positive coefficient here would be in line with what is stated under the law of dispersion as discussed in the previous section.

### **3.3.6 Employment Rate**

One notable variable from the Persson, Solevid, and Öhrvall study presented earlier was that of Education Years. The amount of years of education a citizen had had a significant effect as a predictor on whether they maintained their desire to vote in the second election. This was not a new finding, as it had been supposed that the level of Education has always been a strong predictor of political engagement, dating back to Tingsten's findings. Due to this, I decided not to include education level in the models but instead took a different approach. Supposing that it may not be purely the level of education that is a factor in political engagement, but in fact the ability that the voter has to utilize that education manifested as job security. Human capital theory is widely accepted as providing an explanation as to how wages are determined, and through human capital theory it is shown that the higher level of education, the higher the expected wage of the individual.<sup>22</sup> Thus, I included the employment rate sorted by highest education level attained due to the belief that even those who have higher education rates,

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<sup>22</sup> <http://www.econlib.org/library/Enc1/HumanCapital.html>

but still face unmet expectations of job security can become alienated from the process just the same as those with lower level of education and perhaps lower expectations of job security. It may not be the educational level itself, but what the voter is able to get out of that education level that determines their will to be politically engaged.

### **Employment Rate Total**

The employment rate for all who are 15 years of age or older, as estimated by Statistics Canada. Following the logic that being employed generates wages, a simplistic way to interpret expectations here would be that if the employment rate is rising, the general wealth and job security of the labour force should be rising as well. Under this assumption, a statistically significant positive coefficient here could support resource theory in this context, and a negative result could be evidence that simply just being employed is not a strong enough factor to prevent voters from feeling alienated or indifferent from politics.

### **Employment Rate by Highest Educational Attainment:**

#### **Did not graduate High School**

The employment rate for those who are 15 years of age or older who have not graduated from high school (0-8 years of schooling total), as estimated by Statistics Canada

#### **High School Graduate**

The employment rate for those who are 15 years of age or older whose highest educational attainment is completion of high school, as estimated by Statistics Canada

### **Post-Secondary Diploma or Certificate**

The employment rate for those who are 15 years of age or older whose highest educational attainment is either a post-secondary diploma or certificate, but not a degree, as estimated by Statistics Canada.

### **University Graduate (Bachelor's degree or above)**

The employment rate for those who are 15 years of age or older and have completed at least a bachelor's degree from a university, as estimated by Statistics Canada.

### **3.3.7 Closeness of Election Outcome**

Based on the rational choice models of voting presented earlier, the closeness of an election could potentially have a strong effect on a voter's decision to participate. A closer election increases the marginal probability value that their vote will have an effect on the outcome. A dummy variable was created to control for closeness of the election in which 0 was coded for majority government results, and 1 coded for minority government results. Under these conditions, it would be expected that a statistically significant positive coefficient could be evidence that Canadian voters recognize the increased marginal probability of their vote being decisive to the outcome.

Canada's electoral system being a multi-partied system can yield two types of outcomes for the party which forms the government. There can be either a majority government wherein the winning party has successfully been elected to more seats in the House of Commons (or applicable provincial legislature) than all the other parties combined. Or, there will be a minority government wherein the party with the most seats still has less seats than all of the other parties combined, meaning that their margin of

victory was smaller than if they had won a majority. Currently, the Liberal Party, led by Prime Minister Justin Trudeau has a majority government won in the 2015 federal election, ensuring them a four-year mandate. In a minority government situation however, the opposition parties can collectively act together through a vote of “no confidence” and force an election call at the permission of the Governor General.<sup>23</sup> This is why some election years are less than four years apart from their predecessor, such as the span from 2004-2011 in which four federal elections were held.

### **3.3.8 Proportion of Voting Aged Population in Marriage or Common Law Relationship**

In the law of dispersion study conducted by Persson, Solevid, and Öhrvall in Sweden’s Västra Götaland county, they found that being married had a statistically significant positive impact on the likelihood of voting (Persson et al., 2013). Based on their results, a similar variable should be included in this paper. For each province, within each election year, the estimated proportion of the population living as legally married or in a common law relationship was taken and included in to one of the regression models to see if the same statistical significant relationship between civil status and political participation existed in this context. A statistically significant positive coefficient here would provide possible further evidence to the law of dispersion which finds that inequality in civil status grows as turnout declines (Tingsten, 1937).

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<http://www.elections.ca/content.aspx?section=res&dir=ces&document=part1&lang=e#p11>

## **4. THEORETICAL FRAMEWORK AND EMPIRICAL MODEL**

### **4.1 Income Inequality**

As has been argued previously, income inequality (relative income) will have an effect on political participation and thus, the voter turnout rate. Taking all the relevant theories presented into account; higher income inequality could increase voter turnout through conflict theory, decrease voter turnout through relative power theory, or as argued through resource theory, affect participation at the individual level by encouraging those with higher incomes and discouraging those with lower incomes. The initial models use the Gini coefficient as the measure for income inequality. To explore Jaime-Castillo's call for income decile comparisons instead of Gini with matters related to political participation, alternative models using the P90/P50 and P50/P10 ratios are also tested.

#### **Model 1: Direct Linear Relationship**

Voter Turnout =  $f$  (Income Inequality)

#### **Model 2: Quadratic (Polynomial) Relationship**

Voter Turnout =  $f$  (Income Inequality)

The first editions of the models will test the Gini coefficient as the measure for income inequality. Following these tests, alternative tests of income inequality will be conducted as follows:

Models 1A, 1B, and 1C replace the Gini coefficient with the P90P50 ratio, P50P10 ratio, and median income respectively.

Models 2A, 2B, and 2C replace the Gini coefficient with the P90P50 ratio, P50P10 ratio, and median income respectively.

#### **4.2 Other socioeconomic factors**

After testing solely for the effect that income inequality has on voter turnout, the following socioeconomic indicators were then added to the model to account for other factors supported by the literature: age, civil status (proportion married or in common law relationship), closeness of election result, and the employment rate.

#### **Model 3:**

Voter Turnout =  $f$  (Income Inequality, Median Age, Marriage or Common Law, Employment Rate)

#### **4.3 Employment rate by education**

After testing the relationship as centred around income inequality, a separate model was used to test how the job security provided by education level might also affect political participation. As noted earlier, the literature sees a significant relationship between education level and political participation. I hypothesize that this may be due to the fact that those with higher educational attainment have greater earnings potential and job security and so the educational effects previously discovered may be in large part due to those individuals being better off from an employment perspective. The employment rate was recorded for the previously mentioned four groups and included into the following model.

**Model 4:**

Voter Turnout =  $f$  (Emp. Rate for < High School, Emp. Rate for High School graduates, Emp. Rate for Diploma or Certificate holders, Emp. Rate for Bachelor’s Degree or higher)

**4.4 Employment Rate**

**Model 5: Quadratic (Polynomial) Relationship**

Voter Turnout =  $f$  (Total Employment Rate)

**5. RESULTS**

After originally including the variable that controlled for a result of a majority or minority government, it was removed from the model after it was found to be statistically insignificant. Upon removing from the model, the R-squared values witnessed increased, leading to more efficient models on the whole. Results from the regression analysis are presented in the subsequent four tables.

	<b>Model 1</b> P>F = 0.000 R <sup>2</sup> = .5642	<b>Model 2</b> P>F = 0.000 R <sup>2</sup> = .5749	<b>Model 3</b> P>F = 0.000 R <sup>2</sup> = .7209
<b>Gini</b>	<b>*** -2.034</b> (.2249)	<b>*9.5425</b> (5.37)	<b>**9.8456</b> (3.986)
<b>Gini ^2</b>	N/A	<b>** -17.644</b> (8.15)	<b>** -15.1545</b> (6.145)
<b>Median Age</b>	N/A	N/A	<b>*** .011241</b> (.0032)
<b>Marriage or Common Law</b>	N/A	N/A	<b>*** 1.934886</b> (.665)
<b>Total Employment Rate</b>	N/A	N/A	<b>*** -1.209</b> (.373)

\*\*\* p < 0.01 \*\*p<0.05 \*p<0.10 No \*’s signifies no statistical significance

Coefficients are in bold, robust standard errors in parentheses

When we look at the first model which analyzes the potential linear relationship between voter turnout and the Gini coefficient there is a statistically significant negative coefficient result indicating an inverse relationship between the Gini and political participation. This would be consistent with the relative power theory in which an increase in income inequality is hypothesized to deter political participation.

When a quadratic model is applied to explain the relationship between the Gini and political participation the result is statistically significant and quite interesting. Under this model, it is shown that up to a point, voter turnout increases as the Gini increases. In other words, as income distribution becomes more unequal, voter turnout is increasing which would support the hypothesis of the conflict theory. After a certain point however, we see that the relationship changes to a negative one as the Gini continues to increase. This result would seem to indicate that both theories are shown to be in effect but that they are not constant and that their effect depends on the level of inequality itself.

Under the third model, the other hypothesized socioeconomic determinants of political participation are included into the model and the results remain statistically significant. In addition to the Gini coefficient's relationship, it is observed that both age and marriage or common law partnerships are positively related to political participation, as was hypothesized. A surprising result though is the finding that the total employment rate has a negative relationship with political participation in this case.

As noted in previous sections of this paper, other measures of income inequality outside of the Gini coefficient were included in order to provide greater context to both the issue and whether the Gini coefficient itself was an adequate measure. In the alternatives to the first three models in which the Gini coefficient was replaced by other

measures of income inequality, only the following models held any statistical significance with the data.

	<b>Model 1C</b> P>F = 0.0000 R <sup>2</sup> = .4286	<b>Model 2B</b> P>F = 0.0000 R <sup>2</sup> = .4624	<b>Model 3B</b> P>F = 0.0000 R <sup>2</sup> = .7252
<b>P50P10</b>	N/A	<b>***26.74963</b> (5.44)	<b>**13.69186</b> (6.369)
<b>P50P10 ^2</b>	N/A	<b>***-3.174257</b> (.612)	<b>** -1.594639</b> (.7042)
<b>Median Income</b>	<b>***-.5651169</b> (.17699)	N/A	N/A
<b>Median Age</b>	N/A	N/A	<b>***1.263907</b> (.30558)
<b>Marriage or Common Law</b>	N/A	N/A	<b>***2.096974</b> (.65579)
<b>Total Employment Rate</b>	N/A	N/A	<b>***-1.218675</b> (.3446)

**\*\*\* p < 0.01 \*\*p<0.05 \*p<0.10 No \*'s signifies no statistical significance**

Coefficients are in bold, robust standard errors in parentheses

In the variation of Model 1 where median income's direct linear relationship with political participation was tested, the result is statistically significant but yields a very small coefficient. Put into the context of the units of the variables, it is indicating that as median income increases by \$1000, the voter turnout is declining at an average rate of 0.565 percent.

Under the variation of Model 2 which replaces the Gini coefficient with the P50P10 ratio, a similar relationship to the original model is observed. As the inequality between the median income and the average lowest decile income grows, political participation is increasing up to a point where then the relationship turns negative. The R-squared value in the alternative model is lower than that of the original model which would not be

surprising since the Gini measures total inequality, while the P50P10 ratio is only examining the inequality between half of the population.

The third Model's variation offers very similar results to the original model. The R-squared value is almost identical between the two models, the relationship between the income inequality variable and the political participation variable holds as was observed under the previous model, and the factors of age, marriage or common law relationships, and the total employment rate all exhibit the same relationships to political participation.

The following two models shift the focus from the effect of income inequality on political participation to that of the employment rate. As hypothesized earlier in this paper, the effect that the education level present in a society has on political participation is not solely due to the education itself, but due to the job security and/or higher earnings that come with greater education relative to other participants in the labour market.

Results from this test are presented below:

<b>Employment Rates by Highest Educational Attainment</b>	<b>Model 4</b> P>F = 0.0000 R <sup>2</sup> = 0.7347
<b>Did not graduate High School</b>	<b>***.6645575</b> (.1922)
<b>High School graduate</b>	<b>-.031909</b> (.2318)
<b>Graduate of diploma or certificate program</b>	<b>***-1.983722</b> (.3579637)
<b>Bachelor's degree or higher</b>	<b>-.1146661</b> (.0129)

\*\*\* p < 0.01 \*\*p<0.05 \*p<0.10 No \*'s signifies no statistical significance

Coefficients are in bold, robust standard errors in parentheses

The model did yield a fairly high R-squared value, but only two of the four variables in the test showed statistical significance. The surprising result being that the relationship

between the employment rate for those of whom held a post-secondary diploma or certificate came back negative and that interpreting the coefficient in the context of the units of the model; it is suggesting that on average, as the employment rate for the group increases by one percentage point, the voter turnout rate declines by 1.98 percentage points. The results of this model should be interpreted cautiously though due to the inconsistency in the statistical significance of all of the coefficients.

The final model tested examines purely just the relationship between the total employment rate and political participation. It is expected that the employment rate would have a positive relationship with political participation since higher levels of employment theoretically results in higher income levels, higher stakes in politics through labour policies, if more people are employed and have job security then they have more to lose with a potential unwanted change of government, and that when the employment rate decreases people will be angry and motivated to create a change in government.

	<b>Model 5</b> P>F = 0.0000 R <sup>2</sup> = 0.6705
<b>Employment Rate Total</b>	<b>***4.214117</b> (1.464)
<b>Employment Rate Total ^2</b>	<b>***-.0446215</b> (.0129)

\*\*\* p < 0.01 \*\*p<0.05 \*p<0.10 No \*'s signifies no statistical significance

Coefficients are in bold, robust standard errors in parentheses

The results of this test are found to be statistically significant and are also quite interesting. Using a quadratic model, the employment rate is positively related to political participation up to a certain point, at which it seems to level off and begin a slight decline. If this result is reflective of true voter behaviour, it is suggesting that as the employment

rate for all is increasing, voter turnout is also increasing, but at some level of employment the employment rate's effect on political participation weakens and might actually begin to work against political participation. This result, as well as the results in the previous three tables provide interesting discussion points which will be explored in the concluding section of this paper.

## **6. DISCUSSION & CONCLUSIONS**

The objective of this paper is threefold: firstly, to examine if there is evidence at the aggregate level to support or disprove the presence of the law of dispersion across Canada's political environment. Secondly, to test for evidence that speaks to whether any of the relative power, conflict, or resource theories related to inequality and political participation can be argued for or against. Thirdly, to raise the profile of the issue of socioeconomic factors' relationship with political participation and show that they are interacting with each other and not separate entities, determined exogenously of the other. Or in other words, that if they exhibit complex interactive behaviour, gaps in socioeconomic inequalities cannot be sought to be effectively closed without taking into account how vital political participation is.

Based on the methods employed in this study, there is strong evidence to support that all of relative power, conflict, and resource theories are present and that one does not necessarily trump the other, but that the conditions of inequality determine which theory holds true. Results related to both the Gini coefficient and P50P10 ratio show that increasing inequality encourages voter turnout but that as inequality continues to increase the response of voter turnout flattens and then turns negative. This leads us to conclude that conflict theory is relevant in this context at the initial stages where participants

initially feel income inequality's effects, but that as income inequality pushes higher it is relative power theory that then is becoming dominant over conflict theory.

As a whole, the statistically significant results observed in both Models 3 and 3B point to evidence of the law of dispersion being present across Canada in federal elections. Income inequality, age, and civil status all became significant predictors of voter turnout rates in a way that suggests that as turnout declines, it is the registered voters who tend to be younger, single, and hold relatively less wealth who withdraw from the political sphere.

Education factors were tested in the context of employment rates experienced by educational attainment group and the results are mixed and could point to the need to examine this issue with greater detail and with better data. Only two of the four groups came back with statistically significant results in the model designed here. An interesting interpretation can be gathered from the fact that the employment rate of those with less education was positively related to voter turnout while the employment rate for those who had a diploma or certificate was negatively related. This could be pointing to the possibility that as voters gain education and increase their human capital, factors outside of employment security are influencing their perspective on political participation. The lack of statistically significant results for all independent variables in this case precludes me from making any significant conclusions other than to encourage further review, study, and analysis of this relationship in future studies.

The statistically significant result in Model 5 of the relationship between voter turnout and the total employment rate could be giving evidence of the effects present under resource theory. As employment is growing, it is assumed that the greater resources

amongst the population is growing which under resource theory would encourage greater political participation. However, we notice that this relationship is not purely a direct linear one. The effect that the total employment rate has on voter turnout diminishes, flattens out at a point, and then reverses to a negative impact.

Overall, we can conclude that the socioeconomic factors of income inequality, age, and marital or common law status are significant predictors of political participation as measured by voter turnout amongst the registered voting base in Canada, across all provinces. We can also conclude that the employment rate for all working age Canadians is a significant factor as well. However, these relationships are perhaps not as simplistic as originally thought. Income inequality affects political participation in different ways dependent upon its severity. When it is low, gains to inequality increase political participation, but when it is higher, further gains to inequality decrease political participation. Potentially, this could be happening due to the fact that political participation is increasing, yet income inequality is also still increasing. Participants may be observing that their own participation in the system is not closing the income inequalities present. In fact, they are witnessing having either no effect, or a negative effect, and therefore choose to withdraw due to their perceived benefits not being realized and/or they grow fatigued by the process.

The employment rate also exhibits a similar relationship as income inequality, suggesting that when the employment rate is lower, gains in employment increase political participation, but as employment sees further gains, its effects on political participation are withdrawing and/or being reversed. This could be evidence of employment itself being an important factor, but as employment gains are met, other

issues take precedence on what motivates people to become politically knowledgeable and engaged.

## REFERENCES

Cebula, R., McGrath, R., & Paul, C. (2002) *A cost benefit analysis of voting*. Jacksonville University, Armstrong Atlantic State University, Georgia Southern University

<http://mpa.ub.uni-muenchen.de/58430/>

Downs, Anthony (1957). *An economic theory of democracy*. New York, NY: Harper & Row

Goodin, R., Dryzek, J. (1980) *Rational Participation: The Politics of Relative Power*. *British Journal of Political Science*, Vol. 10, No. 3. <http://www.jstor.org/stable/193523>

Guttman, J. M., & Hilger, N. (1994). Voting as investment vs. voting as consumption: New evidence. *Kyklos*, 47(2), 197.

Jaime-Castillo, Antonio. (2009) *Economic Inequality and Electoral Participation: a Cross-Country Evaluation*. University of Granada and ASEP

Lijphart, Arend. (1997) *Unequal participation in democracy's unresolved dilemma*. American Political Science Association. <http://www.jstor.org/stable/2952255>

Meltzer, A., & Richard, S. (1981). A Rational Theory of the Size of Government. *Journal of Political Economy*, 89(5), 914-927.

Persson, M., Solevid, M., & Öhrvall, R. (2013). Voter Turnout and Political Equality: Testing the 'Law of Dispersion' in a Swedish Natural Experiment. *Politics*, 33(3), 172-184.

Riker, W., & Ordeshook, P., (1968) A theory of the calculus of voting. *American Political Science Association*. <http://www.jstor.org/stable/1953324>

Solt, F. (2008). Economic Inequality and Democratic Political Engagement. *American Journal of Political Science*, 52(1), 48-60.

Tingsten, Herbert. (1937) *Political Behaviour: studies in election statistics*. Stockholm, Sweden: P. A. Norstedt & Söner

## Appendix

<b>Province</b>	<b>Mean Voter Turnout Rate<sup>24</sup></b>	<b>Difference from National Mean Avg.</b>	<b>Mean Gini<sup>25</sup></b>
Newfoundland & Labrador	56.84	-10.76	0.3288
P.E.I.	75.61	8.01	0.2968
Nova Scotia	67.69	0.09	0.3196
New Brunswick	70.38	2.78	0.3166
Quebec	68.83	1.23	0.3313
Ontario	67.85	0.25	0.3392
Manitoba	66.15	-1.45	0.3296
Saskatchewan	68.31	0.71	0.3402
Alberta	63.62	-3.98	0.3405
B.C.	68.69	1.09	0.3343
Canada	67.6		

<sup>24</sup> Calculated from data provided by Elections Canada at <http://www.elections.ca/content.aspx?dir=his&document=appx&lang=e&section=res>

<sup>25</sup> Calculated from data provided by Statistics Canada Table 206-0033