7-1-2017

Measuring the Fiscal Impact of At-Large Versus Ward-Based Political Representation in Ontario Municipalities

Alysha Faria
Western University

Measuring the Fiscal Impact of At-Large Versus Ward Based Political Representation in Ontario Municipalities

MPA Research Report

Submitted to

The Local Government Program
Department of Political Science
University of Western Ontario

By: Alysha Faria

July 2017

Measuring the Fiscal Impact of At-Large Versus Ward Based Political Representation in Ontario Municipalities

Executive Summary

This research report seeks to undertake a quantitative fiscal assessment of the financial effect of at-large versus ward based election systems in the context of Ontario municipalities. This is accomplished by analyzing the operating and capital expenditures of all lower tier municipalities over a one-year period. These expenditures are then divided by the municipal population in order to arrive at a per capita cost. A comparison of the costs between the two different electoral formats confirms that on average, there is a measurable difference in expenditures with at-large municipalities experiencing more spending across the entire lower tiers, and conversely, the ward based municipalities costing less per capita when restricting the analysis to the single tier cities. The outputs are then subjected to analysis of variation and regression analysis to confirm whether the results are statistically viable. The ANOVA revealed that there is a statistically significant relationship between the electoral systems in terms of operations, but not capital spending. However, the regression analysis failed to identify the type of electoral system as having any substantial relational impact. Therefore, in the Ontario context, on average single tier municipalities with a ward based system features a higher per capita cost. However, running this data through statistical analysis suggests that there is no linkage between the types of election methods being used.

Table of Contents

Section 1: Introduction

This paper will explore, measure, and analyze the financial impact of the at-large election system versus the ward based election system on Ontario municipalities. The issue of the best form of political representation in a municipal setting is one which has been studied by some scholars in Canada, but mostly in the United States and England. Several political theorists have posited that at-large political races result in reduced costs to their constituents based on studies conducted in the United States and England. This paper will provide a quantitative analysis of municipal budgeting and fiscal expenditures to determine whether or not the election method has a measurable financial impact on municipalities and what this may mean about our local government system.

The literature review indicates that from an American perspective at least, there is well established scholarship data to support the conclusion that the ward based electoral system results in increased local government spending. It should be noted that the documented research has been solely focused on investigating the impact on capital expenditures at the local government level. The studies have been conducted in a similar manner to each other, with the projects chosen as measurable variables running from parks to community centers to water infrastructure projects. All of the literature reviewed supported the conclusion that capital infrastructure projects are more plentiful in ward based municipalities. The conclusion being that for various reasons, ward councillors support local ward based capital expenditures to a greater degree than at-large councillors.

The literature supported this conclusion was compiled from international context, and as such, this paper endeavors to determine if a quantitative review of Ontario municipal finances supports the same conclusion in the Canadian context. This study will differentiate from its American counterparts in three significant areas. Firstly, the focus of the study is in the Canadian municipal setting, with a specific focus on Ontario municipalities. Secondly, this study is quantitative in nature and looks at the municipal financing on a large scale rather than starting with a small random sample. Finally, this assessment looks at capital expenditures as well as operating costs.

The hypothesis at the start of this study was that the type of electoral method chosen will reflect a measurable fiscal impact. Specifically, this study is expected to support the established academia which concludes that ward based municipal councillors spend more than their at-large counterparts. The quantitative data analysis will be a measurable means to prove the hypothesis. The theory of American academia: that councillors in the ward based systems support additional capital spending within their wards in order to, among other things, shore up political support and represent constituents within their wards, could be equally applicable in Ontario.

One of the largest struggles in studying this topic was determining what type of research method to utilize. As this was a topic that had never been studied before, an inductive approach was employed. Specifically, an exploratory research method type which would allow for something to be investigated that had not yet been studied. After much thought, the decision was made to complete a large scale quantitative analysis of the financial data. The measurable units at the start of the study are all the municipalities in Ontario. The project would then move into analysis of the data. This analysis will conclude with an ANOVA analysis and multiple

regressions. This research design will allow a large-scale analysis of municipal financing, along with statistical analysis to determine if the results were statistically relevant.

In order to test the hypothesis, several steps of data analysis were required. Firstly, the operating and capital spending of all the lower tier municipalities in Ontario was reviewed. These amounts were divided by the cities' respective populations in order to arrive at a cost per constituent. A comparison was then completed between the respective at-large and ward based municipalities. This method of analysis was then recreated with only the single tier municipalities. This was done to account for the fact that the upper tier and regional governments are able to fund capital expenditures, which would artificially lower capital costs for some municipalities.

Finally, in order to establish whether or not the results of the assessment had any statistical relevance, an analysis of variation was conducted using both operating expenses per capita and capital expense per capita. This was to provide confirmation about whether the data was statistically significant. Multiple regression analysis was then conducted using per capita capital and operating expenditures as the dependent variable to test what relationship might be affecting the outputs.

The ward based electoral system is a system that divides a municipality into smaller geographical areas into smaller areas known as wards. In a ward based electoral system, elected official are responsible for constituent representation of those only within their respective ward, and not the City as a whole. In these smaller areas, only those who live within the defined geographical boundaries would be eligible to vote for the individuals who are running to represent the area. In essence, a smaller electoral boundary is created. Although all councilors

are expected to come together as a whole to make decisions that would benefit the entire city for which they represent, an obvious conclusion is that the councilors would be expected to first and foremost represent the area which elected them.

As the alternative, at-large electoral areas are geographical locations in which cities are not divided up into artificial smaller areas. Instead, citizens are able to vote on all representation across the entire area. These types of areas are believed to represent a larger picture view without the constraint of the elected officials being forced to focus their attention on smaller pockets of population. Instead, it is argued that they can focus their attention on City wide initiatives, which will put the good of the overall population ahead of that of a chosen few.

Section 2: Literature Review

The topic of at-large versus ward based voting has been largely written about and studied in the context of the United States and England, with numerous studies being conducted in an attempt to prove that ward based election result in larger capital expenditures. However, this topic has never been studied in Ontario. Furthermore, the research design of these studies has been to choose a specific type of expenditure and then measure the differences found within the ward based and at-large cities. This topic has not been studied in a large scale quantitative design.

Michael Haselswerdt, in his article on voter and candidate reaction to district and at-large elections, studied the experience of Buffalo New York following the 1980 census. The primary focus of Haselswerdt's studies was the electoral spending habits of the candidates, noting that candidates in ward elections spent more money on their campaigns than those in at-large

elections (Haselswerdt, 1984). His inference is that if ward based politicians spend more money on themselves to get elected, then they would spend more money to remain elected.

Furthermore, he also notes that the general populace paid less attention to the election campaigns in the races that were at-large (Haselswerdt, 1984). The implication of this is that if voters care to a lesser degree about at-large elections, a reverse of this relationship could infer that the politicians elected using the at-large methodology could provide less spending due to a more tenuous relationship between elected politician and electors. In order to measure and test his hypothesis, Haselwerdt reviewed the data of the election for the common council of Buffalo from 1967-1979 which did indicate that at-large elections attract less attention than their ward based counterparts and that as a whole ward based elections resulted in increased campaign expenditures (Haselwerdt, 1984).

Similarly, Laura I. Langbein, Philip Crewson & Charles Neil Brasher (1996) authored a paper that looked at spending, and locations selected for city services in ward versus at-large elections. Specifically, they found that policy decisions which included the placement of a structure that was desired through the rule of universalism, was much higher in locations with a larger number of legislators . Where they dealt with the placement of items which were not as universally admired, those with ward based representation saw a decrease in their presence in the direct vicinity of their electorate. Langbein et. l, (1996) attempt to study this by focusing on weak mayor cities to control for the possibility of a veto. Most interestingly, the study found that locally unwanted land uses (LULU's), which negatively impacted local residents should they be placed too closely to their houses, were more predominant in areas that featured at-large representation (Langbein et. Al,1996). This is an interesting manifestation because it could potentially indicate that all politicians, no matter what method of representation they adhere to,

have an incentive to provide goods which will result in positive political traction. However, it appears, based on this study, that only politicians with a narrow geographical focus are able to use their political clout to ensure that those less than ideal capital projects are kept out of the areas in which they have a personal investment (Langbeing et. al, 1996).

Douglas Dalenberg and Kevin Duffy-Deno also studied the impact of at-large versus ward elections on municipal infrastructure spending. They focus on analyzing the impacts of at-large elections on public infrastructure projects (Dalenberg and Duffy-Deno, 1991). Several arguments are forwarded to support the hypothesis stating that ward based systems feature higher expenditures on infrastructure. They further argue that ward councilors actively attempt to purchase loyalty with funds and are therefore concerned with spending funding within their area of geographical representation. The alternative argument to that would be that the at-large councilors would focus on providing city wide infrastructure services, regardless of geographical location (Dalenberg and Duffy-Deno, 1991). Using 30 cities as a data pool, the study found that when all other variables were held constant, those cities who had ward based representation had more public capital in terms of the cost of large capital infrastructure projects (Dalenberg and Duffy-Deno, 1991).

Lawrence Southwick Jr. investigates the movement from at-large to ward based voting in the United States as a method of providing better ethnic representation (Southwick, 1997). His premise was that many academics claims that ethnic minorities tend to live in concentrated geographical areas. Therefore, allowing ward base representation would increase the probability that these minorities would elect a politician consistent with the cultural make-up of the ward (Southwick, 1997). The inference drawn is that the at-large electoral system was developed as a specific response to the fear of minority representation. However, although Southwick concedes

that this may occur, he does not believe that an attempt to reconcile this injustice is the real reason that there is a movement towards ward based representation. Rather, he notes that pork barrel spending on the part of the politicians is the reality behind the proposed changes (Southwick, 1997). His argument is that politicians with a local focus will need to provide services to those local constituents, whereas those who are at-larger have a wider focus (Southwick, 1997). Therefore, his paper attempts to test whether or not the above noted cost spending occurs. Southwick proposes that ward councilors affect spending in this capacity in three ways: through the influence of municipal employees, through gerrymandering, or through the deliberate decision making of increasing taxation across an entire city in order to pay for services that would be located within their ward (Southwick, 1997). Southwick's study did note that there was a movement of the at-large councilors to counteract the spending push of the ward based councilors (Southwick, 1997). The article concludes that when looking at expenditures of fire, police, sewer, and general spending, that at-large councilors tend to reduce spending and taxes in comparison to their ward based counterparts (Southwick, 1997).

For a Canadian perspective, Royce Koop and John Kraemer discuss the focus of representation in Canadian cities. They note that a ward based system presumes that the localized geographical constraints of the political boundaries indicate that the councilors will base their decisions on neighborhood issues, as opposed to city wide concerns (Koop & Kraemer, 2016). By inference, should local political decision making impact the political effectiveness of local councilors, then the ward based system would be superior. They note that the ward based system ensures that all constituents are represented at City Hall, regardless of their ethnic or gender make up (Koop & Kraemer, 2016). The study interviewed 52 Canadian Councillors to determine to what extent ward based elections shaped their representation and

political focus. In short, did they focus on solely the geographical area they were elected to represent? Or did they focus on the City as a whole? (Koop &Kraemer, 2016) The results of the interviews indicated that councilors elected in wards tended to focus their policy decisions and by extension their budgets, on their wards. In fact, Councillor Adam Vaughan from Toronto was quoted in the study as saying "My job is to represent the residents who live in the neighbourhoods that comprise Ward 20 that I represent. And my job is to make sure that they get city services they have been promised and have been paid for and created through their taxes but also to make sure the city services they need or want are delivered to them" (Koop & Kraemer, 2016, 439).

The fact that at-large elections affect the way in which local governments spend their budget is well rooted in American academia and has been studied and measured through various means. However, aside from Koop's previously mentioned study, this has never been researched in a Canadian context. Similarly, although Koop has identified that ward based councilors make their wards the highest priority; no one has researched whether or not the lack of this focus actually results in any cost savings for residents residing in cities governed under this model.

The gap in the academic research will be filled by conducting a large scale quantitative analysis of local government finances. Based on the research conducted, not only has this issue never been studied in the Canadian context, but the American studies that have been conducted have been focused solely on capital expenditures. No academic journal has ever studied this issue from a holistic approach that included both operating and capital expenditures. Similarly, a study of this magnitude in terms of sample size has never been attempted. The sample size of the studies were conservative and no previous sample size exceeded more than one hundred municipalities. This study begins, with all four hundred and forty four municipalities in Ontario.

Although arguable it does narrow in scope as the analysis progresses. The data is then put through a series of statistical analyses to determine whether or not the results drawn from the study are statistically significant or not.

Section 3: Data Sources

In order to conduct a large scale quantitative analysis of all the Ontario municipalities, a stable and consistent data source was required that would be able to capture both operating expenditures, but also capital information for all municipalities across Ontario. It was critical that a systematic approach be utilized that could be recreated by anyone attempting to confirm that financial analysis. It was also critical that the information be publically accessible and produced from a credible source so that the financial figures can be expected to be reasonably reliable.

For this project, financial data was retrieved from the Association of Municipalities of Ontario using the open data portal available online. This data portal was created by the Association of Municipalities of Ontario, hereinto for referred to as AMO. This data portal collects financial and budgetary information for all Ontario municipalities and combines them into usable data tables that can be exported into several useful formats. AMO's compiled data portal has provided annual operating expenditures data set.

Next, a measurable unit that could compile capital expenditures was required that would provide capital spending information for all local governments. A quick internet search revealed that there was no consistent method of gathering capital budget data. Although some municipalities posted this information on their website, others did not. Due to the nature of this

study, consistency of information was critical to the success of the study. Therefore, it was determined that the only source of this information was the local government Financial Investment Returns.

Provincial legislation requires local governments to complete an annual Financial Investment Return (FIR) and submit the data to the Ontario government. This information is compiled by the Ministry of Municipal Affairs and is then posted on their website. As each municipality in Ontario has to submit these documents to the provincial government, there are strict rules and legislation in terms of what information must be included in the filings in order for the municipalities to be compliant with the purpose being that local governments have to declare all of their assets (Ministry of Municipal Affairs, 2017). This allows the Provincial Government to monitor the solvency levels of the local government entities. As previously stated, the FIR data captures all of the assets of municipalities and therefore utilizing the total data from the FIR submissions would be too broad of a scope. However, the FIRs are divided into sub-headings, and one of these sub-headings fit the definition of what was attempting to be measured. Specifically, column 51 under the FIR return is entitled "Additions and Betterments." This column captures capital improvements that have occurred in the year in question. With the AMO operating data and the MMA capital betterments and improvements data combined, a snapshot of local government finances can be acquired and relied upon to conduct a large scale quantitative study of local government finances.

Municipal budgets comprise of two separate types of spending: operations and capital. The operations budget provides funds for the daily cost of operating a municipality. Expenses include salaries, benefits, utilities, and office supplies for example. Essentially, the operations budget captures any routine and normal expenses. The capital budget, on the other hand, covers

the cost of assets such as buildings, roads, or large projects. It is included in a separate budget because it requires financing in order to fund the costs of a long period of time. Capital planning and budgeting is required in order to ensure that the assets owned by local governments are maintained to an appropriate level (City of Brantford, 2017).

The determination of whether a municipality was categorized as an at-large or ward-based electoral system was determined by utilizing the results from a survey that Association of Municipalities of Ontario administered following the 2014 municipal election (AMO 2014 Election Survey, 2014). Following the 2014 election, AMO had requested that all municipalities identify their electoral structure as either at-large or ward. The survey did not include the upper tier municipalities as AMO excluded them because the election of politicians by constituents occurs at the lower level. The elected councillors then subsequently elect from amongst themselves the member that they want to represent their municipality at the upper tier or regional level. As this project was attempting to measure the impact of the election method on finances, the 29 upper tiers and counties were removed from the data pool.

In approximately 52 cases, either the municipalities had indicated that they did not conform to an electoral method, or that they utilized both methods. In these situations the municipal websites were consulted and the 2014 municipal election results were reviewed in order to determine whether or not the municipality should be categorized as an at-large municipality, or a ward based municipality. Municipalities who elected ward based councillors, but at-large Mayors, Deputy Mayors, or Reeves, were categorized as ward based municipalities. However, there were some genuinely hybrid municipalities who elected numerous ward based councillors with one at-large or vice versa. In these cases, the cities were counted as both an at-large municipality and a ward based municipality. This approach was applied consistently.

Confirmation as to whether or not municipalities were considered upper tier, lower tier, or single tier, was determined through the list of Ontario municipalities provided at the AMO website. The list is a document that is created by AMO that categorizes all the local governments in Ontario into the following types: Regional government, counties, lower tier, single tier, upper tier, or districts. This information was used to separate the various data sets into sub sets during the analysis phase of the study.

Finally, the operating and capital data, along with the level of municipality and the electoral types was compared to the 2011 population data that was taken from stats Canada and compiled into a spreadsheet. All data was taken from the year 2011. This was intentionally done in order to obtain an accurate snapshot that would match the census population data. Although averaging the capital infrastructure spending over a five year period would have smoothed out any abnormally large spending projects, the decision was made to apply a consistent time based approach.

Section 4.1: Operating Budgetary Data Comparison Analysis for all lower tier municipalities

The first step in the process of attempting to quantify the difference between the two forms of election was to determine a method to measure the assumed difference in municipal costs that resulted from the different types. However, the process of finding a suitable unit of measurement was difficult. Eventually, after casting aside several flawed variables, it was decided to measure operating and capital spending per person. The difference between the costs per person under the two different electoral systems, if there was any, should be simple to

calculate and also, using a histogram, would be able to provide a visual representation of the difference.

The first step to the analysis was taking the operating budgetary costs for all the lower tier municipalities in the Province and dividing this figure by the municipal population base, as reported by Stats Canada (Statistics Canada, 2011). As the most recent available census data was for 2011, a decision was made to similarly restrict the operating budget information to the budgetary year of 2011. The rationale behind this decision was to obtain a specific snapshot of the financial impact, over a finite period of time. The removal of the upper tiers from the data set for reasons previously laid out, in reducing the study sample size to 172 ward based municipalities and 254 at-large municipalities. Thus, for the first step of the analysis, a total sample size of 426 Ontario Municipalities was used.

The decision to visually display the results using a histogram made the most sense based on what histograms do. In short, histograms present a visual display of the distribution of two sets of data. However, the intent behind using the histogram was to provide an accurate visual of the data and a problem with the visual quickly became apparent. The total number of ward based municipalities in the first step of the analysis was 172. However, there were 254 at-large municipalities. The unevenness of the sample set led to a distorted visual representation, which was contrary to the intended purpose of using the tool. In order to even out the visual representation of the data, the data inputted into the histograms was a percentage of the whole, as opposed to the actual numbers.

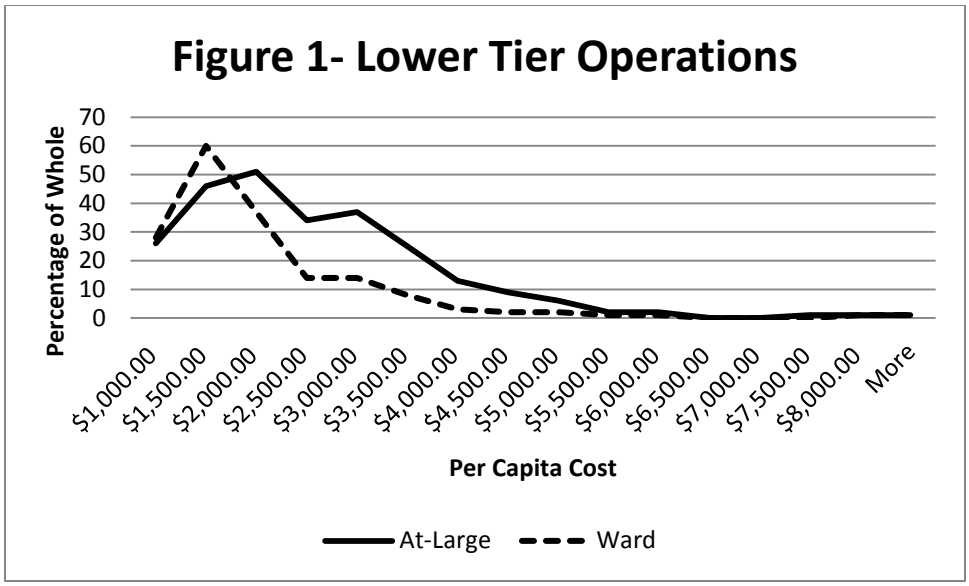


Figure 1 depicts the overlaid histograms of operating costs per person for all lower and single tier municipalities in Ontario. The solid line represents the at-large municipal spending per person, whereas the dotted line represents the ward based municipalities. The cost per person runs across the y axis and start as lower as $543 per person, as found in the Township of McNab Braeside and as high as $14,857.02 as found in the Township of Pelee. The average cost per person of the at-large municipalities was $2,336.37. Whereas the average cost per person of the ward based municipalities was $1865.50. This is a substantial difference and seems to provide evidence that the Ontario experience differs from that reported in the general American scholarship.

This is further corroborated by the distribution of the operating costs per person. In the ward based municipalities, 82 percent, or 139 of the 172 sampled had operating costs per person contained at under $2500.00. This is compared with the at-large municipalities, of which on 157 out of 254, or 62 percent, had contained their costs to the same amount. Therefore, the

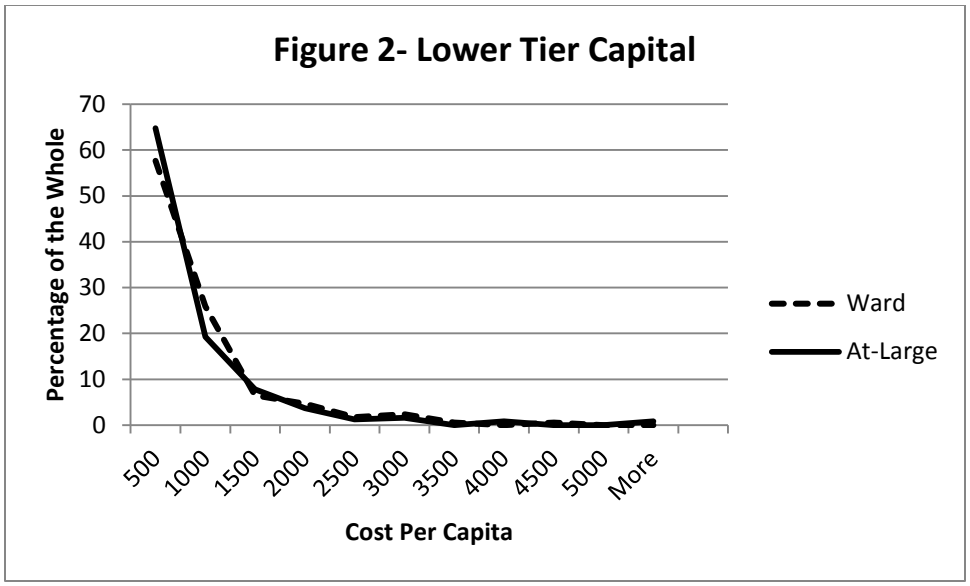
quantitative data analysis confirms that ward based municipalities, both on average and in cost distribution, expend considerably less than their at-large counterparts.

However, it must be acknowledged no previous study has taken operating expenditures into account. Therefore, although the results of the operating cost per persona analysis are not what were expected, the results do not yet disprove the hypothesis. Thus, it became apparent that it was critical to add capital expenditures to the analysis.

Section 4.2: Capital Data Comparison Analysis for Lower Tier

The decision to add capital expenditures to the project was confirmed by the results of the operating data. In order to remain consistent with the snapshot in time approach, only capital expenditures from the year 2011 were used. Although taking a five year average would have smoothed out any large capital projects that may skew the results, in the end, the decision was made that consistency in methodology would be more beneficial.

As previously discussed, attempting to locate a data source which contained the capital expenditures for this "snapshot" approach was difficult. Obviously having access to the actual 2011 municipal capital budgets would have been the ideal solution. But this information is not posted in any consistent manner. Some thought was given to using the capital expenditures of only the municipalities who posted their budgets online, but the randomness of the cities would have made any data analysis based on that information meaningless. Therefore, the decision was made to review the FIR submissions for the information that was needed. This approach best matched with what was attempting to be measured.



As you can see from Figure number 2, the capital expenditures of both ward based municipalities and at-large municipalities appear to be relatively similar in their distribution. On the ward based side, the lowest ten municipalities feature higher per person expenditures, whereas for the highest ten municipalities, the at-large municipalities seem to spend slightly more per person. In fact, on average, residents of at-large municipalities pay $657.29 per person for capital expenditures, whereas ward based municipal residents pay on average $619.85 per person for capital expenditures. This represents a six percent difference between the two. However, due to the fact that the vast majority of both types of municipalities spend under $1000 per person, it was worthwhile to review the spending distribution under that amount.

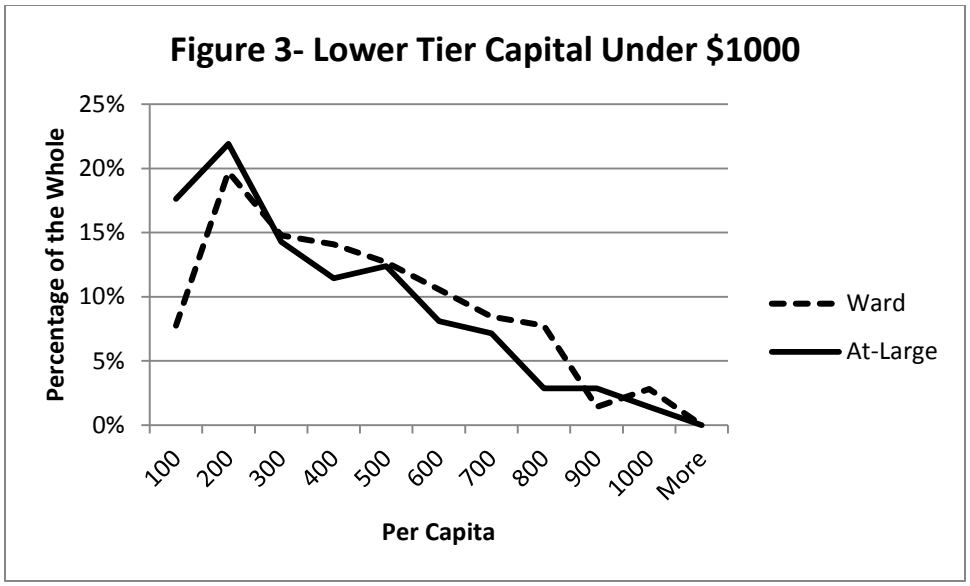


Figure 3 represents the distribution of spending under the $1000 capital cost per person. Once again, the visual representation features a distribution of the percentage of the whole spending, while restricting the data to only those municipalities who expend less than $1000 per resident on capital projects. When analyzing the spending at this level, the data pool is reduced to 142 municipalities with ward systems and 210 municipalities with at-large systems. However, once again, even at this spending amount, it appears that the spending distribution is relatively equal amongst the two types with most of the spending occurring below the $400 level.

The results which showed that at-large municipalities spend more money per person on capital and operating spending. This result seems to disprove the working hypothesis that predicted the data would the opposite would occur. However, in Ontario municipal politics the upper tier and regional governments are often responsible for a large portion of capital spending projects. Also, if a municipality is a lower tier, odds are that major infrastructure or departments that require large capital investments such as road, transit, water, fall under the purview of the upper tier or regional government. Therefore, prior to conclusively stating that in contrast to

their American counterparts, ward based municipalities do not cost more, one further step of analysis is required that would remove the potential financial impact of the upper tier spending.

Section 4.3: Single Tier Operating Budgets

The removal of the upper tier municipalities from the data set made sense from a methodological perspective. The literature revealed that ward based capital spending was higher than that of its at-large counterparts specifically because councillors worked hard to obtain capital infrastructure and spending in their wards. This was as a result of both attempting to do their best in representing only the constituents who they represent, but also an attempt to obtain votes from those who matter to them: their constituents. Therefore, for the next step in the analysis was to remove all the upper tier and regional governments from the data analysis. The exact same analysis of the operating and capital expenditures per person would be run, but without the potential impact of other levels of government. In order to change the data set once again the Association of Municipalities of Ontario website was consulted. This document divides all local governments in Ontario into different groups based on their structure. Using this document, it was decided to include only the single tier municipalities and the districts.

The single tiers, as their name describes, are the only local government body within their geographical districts. They are the sole providers of services. Also, the local government bodies described as districts operate in a similar manner to the single tiers. They are also the sole provider of services, however, they consist of many small local governments which are grouped together to denote a territorial boundary marker as opposed to shared services. Of interest is that the districts are mostly found in northern Ontario (AMO, 2017).

With the removal of the upper tier municipalities, regional governments, and counties from the analysis, a total of 157 Ontario municipalities remained in the study. Of these 157, only 11 are single tier municipalities. The remaining 146 are considered districts, which, as previously stated, as generally situated in Northern Ontario (AMO, 2017). It should be stated that service levels provided in Northern Ontario are often much different than those found in the rest of the Province with local governments in the North often struggling to provide basic levels of service provision to their constituents. Consequently, it is probable that this will impact the results of the data to some degree.

Out of the municipalities remaining in the data pool, 35 are ward based and 122 are at-large municipalities. Therefore, once again, a display of the results will be shown as a percentage of the whole as opposed to straight figures. It remains to be seen whether the inequality of the types of municipalities will affect the overall integrity of the results that can be pulled from the analysis. Since the purpose of utilizing the histograms was to assess the distribution of costs, rather than tabulating the costs themselves, the analysis of the data gathered by completing this step was still important because it revealed trends that were occurring both for the at-large municipalities and also for the ward based cities.

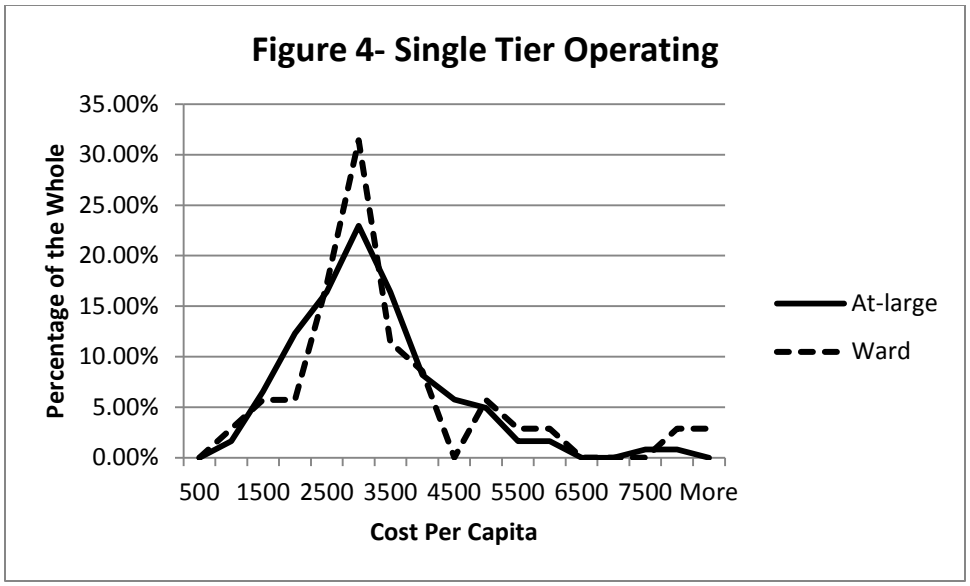


Figure four depicts that operations spending cost, per person, for the single tier municipalities. For the purpose of this paper, the districts will be referred to as "single tier" moving forward for the ease of understanding. Although the at-large municipalities outnumber their ward based counterparts on a large scale, there are several interesting facts that arise as a result of this particular analysis. At a first glance, it appears that the distribution of costs per person is similar with both types of electoral systems at the single tier level. Both have the highest cost per person between the $2500 and the $3000 range. Based on a simple visual review, there appear to be some below this figure, with the bottom end coming in at between $1000 and $1500, and some above the top figure, with the upper end of the scale being above $8000.

However, an in depth review of the data indicates that there is actually a large difference in these expenditures. For the at-large municipalities, the average cost per resident in the single tier systems is $2926.72. The lowest cost per person was found in the Township of Alberton at a cost of $748.50 per person. On the high side, the most expensive at-large city was $7920.23 in the Village of Killarney. This is a difference of nine hundred and fifty eight percent, or a

magnitude of ten to one. Furthermore, twenty three percent of the municipalities fell within that most popular range of $2500 and $3000 per resident cost.

On the ward side, the average cost per resident was $3318.28. That is a $391.56 increase over the at-large municipalities, and results in a 13.4 percent difference. The municipality with the lowest operating costs per person was Brant County with a total cost of $519.05 per person. This is thirty percent less than the lowest at-large municipality and results in a cost savings of $229.45 per person. However, the most expensive municipality is the Township of Archipelago, which features a per person cost of $13,955.43. This is an incredible seventy six percent higher than the most expensive at-large municipality and would result in an increased cost of $6035.20 per person.

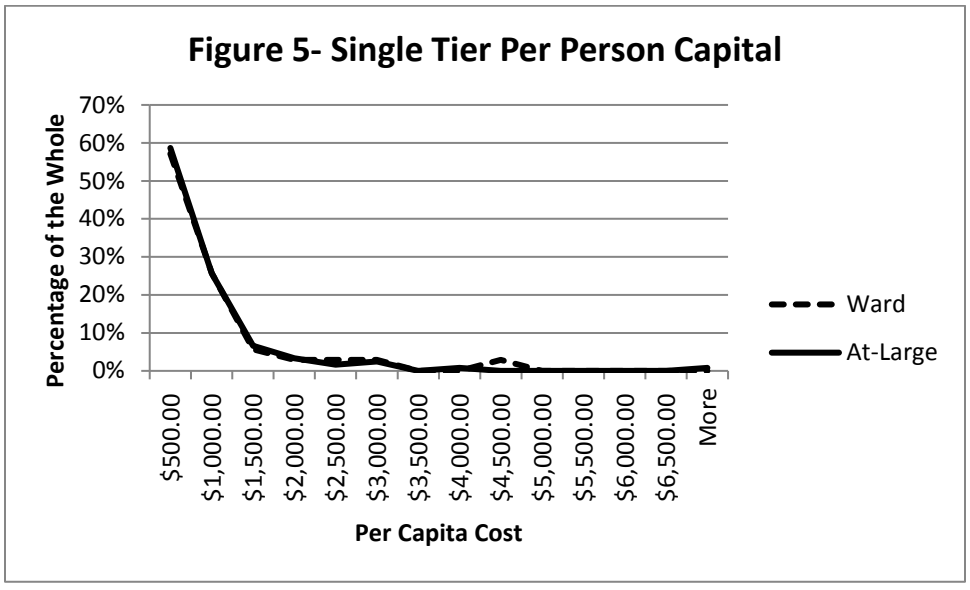
Further data analysis shows that thirty seven percent of the at-large municipalities had per person cost spending contained at below $2500. This is compared with the ward based cities which only had thirty one percent below the same financial threshold. More importantly, in the most expenses categories, twenty four percent of single tier at-large municipalities featured costs of more than $4000 per person. This is in comparison with the ward based cities, of which a total of fifty one percent cost residents more than $4000 per person.

Therefore, in terms of operating costs, the ward based municipalities at the single tier level are twenty seven percent higher than those of the at-large municipalities. This is a huge discrepancy in terms of operating spending. Furthermore, the percentage of ward based municipalities who spend more than $4000 per person is so much higher than the at-large single tier cities, that is believe an argument can be made that on a systemic basis, single tier ward based municipalities cost more for residents than the at-large cities. However, as previously

stated, this analysis only reviewed the operating spending. Would this imbalance in spending continue into capital spending as suggested by the American literature, or would the capital spending even out the costs to residents? This was the question that was next reviewed.

Section 4.4: Single Tier Capital Analysis

The purpose of removing the upper tier governments from this stage of analysis was to remove any affect that their capital spending program may have on the per person capital expenditures calculation. It stands to reason that if some municipalities are supporting a full capital spending program, whereas others are able to upload the costs to another government body, any subsequent analysis done on the spending data would be skewed by the inability to measure the impact. If this assumption is correct, then one would expect a change in results from the capital spending assessment that was done with the data of all the lower tiers.



Similar to the previous visual display of the data, the ward based spending and the at-large spending appears to be similar in nature. In fact, the distribution of data is so comparable along

the X axis, that at times only one line can be seen because they overlap. However, just as in the last assessment, the distribution of data is somewhat misleading in terms of what the actual statistical data reveals. Despite an almost identical distribution of capital spending, there is quite a disparate result in the average cost per person between the two types of municipalities.

The average cost of capital spending per person in the at-large single tier municipalities is $633.07. This is compared with the average ward based spending per person which is $697.44, which represents a difference of $64.37. Therefore, residents living in a municipality with a ward government pay 9.2% more per person. But how can this be explained when the distribution appears to be very much alike? The answer to that question lies in the spending habits of the municipalities that lie at the extremes of the data set.

One of the largest anomalies in the at-large reported data is that there are three municipalities who have indicated that they spent $0 on capital expenditures for the entire 2011 budget year. These three municipalities are the Town of North Shore, the Village of Thornloe, and the Township of Harris. Although these are small sized municipalities with populations of 509, 523, and 123 respectively, it is unclear if they actually did have no capital expenditures to report under Schedule 51 of their 2011 FIR. The next lowest at-large capital costs per person are quite low. The Town of Conmee report a per capita cost of $1.05 and the Township of Chamberlain reported a similarly low value of $1.43. This is compared with the lowest per capita capital costs on the ward side of $85.16, found at the Township of the North Shore, and $55.11 at the Township of Black River Matheson. Taking the lowest cost per person for each category results in a difference of 55,010% (if we assume that the zero reported capital expenses are accurate), and 5148.57% if we use the next lowest figure of $1.05.

There are also significant differences at the more expensive per capita cities. The highest per person city is the at-large municipality of the Township of Ear Falls at a cost of $8474.18 per person. The next highest is substantially lower at $3981.15, which is the cost of living in the Township of Nipigon. The top two ward cities are the Municipality of Killarney at $4071.48, followed by the Township of the Archipelago at a cost of $2521.27. Although this difference may be explained because only year of capital expenditure was used as the base, this effect would have been equally and consistently applied to all of the cities in the study. Regardless of whether or not spreading the capital expenditures out over a five year period and then taking the average, the one year limitation was applied consistently to all cities and this should nullify or at least equalize this effect on each of the election types. In any event, in terms of comparison between the two most expensive cities from each election type, residents in the ward based Municipality of Killarney pay 51.95% less for their capital expenses than those in the Township of Ear Falls.

Section 4.5: ANOVA Analysis

It is clear from reviewing the results of the first four steps of the analysis that there is a measurable financial difference between the at-large and the municipalities with wards. When using the lower tiers as a data set, the at-large municipalities expend more per person then their ward counterparts. Specifically, in terms of operating spending, it costs a resident 25.24% more to live in an at-large city. Also, a resident pays 6% more for their capital projects. That being said, once the sample set was reduced to remove the potential impact on capital spending of the upper tiers, this trend reversed itself. When only looking at the single tiers, it was more expensive to live in the ward municipalities. Operating costs per capita were 13.4% more

expensive on average in the ward municipalities and costs 9.2% more for capital spending. Therefore, it appears that the financial impacts can be measured; however, the questions remains will these results stand up to statistical analysis.

Analysis of variance testing, also known as ANOVA calculations, is a statistical calculation that is used to test the differences between two different groups using one static variable. This form of testing assumes that a significant difference between the groups can be explained by differences within the groups selected (Van Thiel, 2014). Thus, ANOVA's are utilized when attempting to determine whether the statistical variation between the two selected groups is greater than the variation within the groups. It does this by analyzing the mean score of the two data sets chosen in comparison to the overall mean of the all of the data that is used in the calculation. In short, it takes the actual mean of the two groups and compares them to what the mean of the overall data set should be if the distribution of data was consistent within the entire group.

The first ANOVA that was run utilized operating expenditures per capita as a dependent variable. It was determined that two separate ANOVA's would be calculated using the variable. The first would be with four groups. These groups consisted of the two measurable units that that have been the focus of the study thus far: at-large municipalities and ward municipalities. However, a hybrid group was also included. This group consists of those municipalities who were identified in the AMO survey as using both methods of elections and this data was confirmed by further website investigations. Lastly, the upper tier municipalities, who had thus far been removed from this study in its entirety, have been included.

Figure 6- ANOVA of Operating Expenditures- 4 groups

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
At- Large	239	554926.472	2321.86808	1931704.75
Ward	155	279574.423	1803.70596	1842108.3
Hybrid	17	41291.3958	2428.90564	2358095.36
Upper Tier	32	37066.4212	1158.32566	372647.733

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	54900737.6	3	18300245.9	10.1345858	0.00	2.62522338
Within Groups	792712014	439	1805722.13			
Total	847612752	442				

As with all ANOVA's, we begin with a null hypothesis which is the belief that there is no difference between the four groups. Also, this calculation is a single factor ANOVA because there is only one dependent variable (operating expenditures per capita). Finally, alpha was kept at .05. The first interesting factor of note is that the P-Value in this calculation is 0.00. When interpreting ANOVA's, if the P Value is less than Alpha, which in this case is .05, then there is a significant difference between the groups. Therefore, as the P-Value is less than .05, we can conclude that the hypothesis is disproved as there is a statistically significant difference between the groups. That being said, in ANOVA analysis, the F ratio is the ratio that measures the variability between the groups versus the variability within the groups. For a finding of significance, we would expect that the F ratio would be higher than the F crit. In this case F is 10.1345858 and F crit is 2.62522338, which is quite a bit larger. This means that one of the differences between the groups is significant, unfortunately, using this form of statistical analysis does not tell you which two groups are not equal.

Figure 7- ANOVA of Operating Expenditures, 2 groups

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
At-Large	239	554926.472	2321.86808	1931705
Ward	155	279574.423	1803.70596	1842108

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	25244380.1	1	25244380.1	13.310993	0.00	3.86529011
Within Groups	743430409	392	1896506.14			
Total	768674789	393				

In an attempt to clarify and identify which of the two groups were statistically different from one another, a second ANOVA analysis was conducted. Once again, the dependent variable was the operating expenditures per capita. However, in this calculation only two groups were used as categorical variables: at-large municipalities and ward based municipalities. Alpha remained the same at .05. In this analysis, the P Value is once again less than Alpha, which means that the hypothesis which states that there is no difference between the two separate groups must be rejected and there is a significant statistical difference between the mean of the at-large municipalities and the ward based municipalities. However, once again, F is higher than F crit. This confirms that one of the relationships is significant. As there is only one relationship that was studied in this assessment, it can be concluded that the difference between the operating expenditures per capital is statistically significant.

Figure 8- ANOVA of Capital Expenditures

SUMMARY

Groups	*Count*	*Sum*	*Average*	*Variance*
At-Large	239.00	162640.60	680.50	3175612.09
Ward	187.00	101406.8	542.28	357354.17

ANOVA

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2004393.34	1.00	2004393.34	1.03	0.31	3.86
Within Groups	822263553.48	424.00	1939300.83			
Total	824267946.82	425.00				

The second analysis of variance was conducted in the same manner as the first, but using capital expenditures per capita instead of operating expenditures as the dependent variable. In this instance, only two groups were used in the calculation. Those two groups, at-large and ward, were the groups that were identified as having a statistically significant difference between their operating per capital spending in the previous variance calculation.

In contrast to the previous assessments, the P Value in this ANOVA is .31. This is higher than the Alpha of .05. Therefore there is no statistically significant difference between the per capita capital spending between the two groups. In this instance the F ratio, 1.03, is less than F crit, which is 3.86, which confirms that when using capital expenditures per capita, there is no significant difference between the two electoral formats.

Section 4.6: Data Regression Analysis

Figure 9- Regressions-Operating Expenditure Per Capita

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.59026696
R Square	0.34841508
Adjusted R Square	0.33487175
Standard Error	1129.38055
Observations	443

ANOVA

	df	*SS*	*MS*	*F*	*ignificance F*
Regression	9	295321068.1	32813452	25.72594	1.81709E-35
Residual	433	552291683.5	1275500.42		
Total	442	847612751.7			

	Coefficients	*tandard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*Upper 95.0%*
Intercept	2970.32	299.82	9.91	0.00	2381.04	3559.59	2381.04	3559.59
ward	93.76	126.95	0.74	0.46	-155.75	343.27	-155.75	343.27
Western	181.56	170.43	1.07	0.29	-153.41	516.52	-153.41	516.52
Eastern	72.19	173.10	0.42	0.68	-268.03	412.41	-268.03	412.41
Northwestern	108.69	335.20	0.32	0.75	-550.14	767.52	-550.14	767.52
Northeastern	74.92	313.26	0.24	0.81	-540.77	690.61	-540.77	690.61
Lower	-1636.61	240.81	-6.80	0.00	-2109.92	-1163.30	-2109.92	-1163.30
Upper	-2045.98	333.84	-6.13	0.00	-2702.12	-1389.84	-2702.12	-1389.84
Pop2011	0.00	0.00	0.63	0.53	0.00	0.00	0.00	0.00
DensityKM2	-0.09	0.17	-0.51	0.61	-0.42	0.25	-0.42	0.25

A regression analysis is a statistical tool that is used to measure and examine the strength of relationships between variables. In a regression, the mean of various groups is compared along certain variables. The test then provides a statistical analysis for the chance of the variance being random, or whether it is related. If the variables are determined to be systematically related, then it can be concluded that there is a relationship between the dependent variable and the independent variable against which it is being measured (Van Thiel, 2014).

For this analysis, it was determine to use the operating expenditure per capita as the dependent variable. Several independent variables were also chosen. They included a dummy variable of at-large, with a categorical group of ward system, the physical location of the municipalities: western, eastern, northwestern, and northeastern, with a dummy variable of central. The type of municipality was measured with the municipalities being divided up into groups including upper tier or lower tier with the dummy variable being single tier. Finally, the population and the density per kilometer were also inputted to determine if operating expenditure had any impact of these variables.

The first observation drawn from this regression is the overall accuracy of the regression being calculated. This information is obtained by looking at the R Square figure which explains to what extent the difference in one variable can be explained by difference in another. In this case, R Square is .334871749. Thus, 33% of the changes in operations spending can be explained by the independent variables. Next we must determine the probability level that the output generated is not random. This is achieved by looking at the Significance F. In Figure 9, the Significance F is 1.18709E-35 (or zero). Therefore, based on this calculation there is a zero percent chance that the conclusions drawn from the regression are created by chance.

The final conclusion to be drawn from the regression involves determining the significant effect of the independent variables on the dependent variable. This is achieved by first looking at the P-values. As in the ANOVA analysis, the P value must be less than .05 in order for the relationship to be considered statistically significant. Using this data set, it is apparent that ward in relation to at-large has no significant effect on operating expenditures, nor does the geographical location, population, or density per kilometer. The only independent variables which have a significant effect on per capita operating expenditures are upper and lower tier

municipalities, relative to single tier. Both of these variables had a P value of 0. Therefore, one could expect a per capita cost of $1636.61 less if the municipality were a lower tier in relation to the cost of a single tier, and respectively $2045.98 less in per capita operating expenses if the municipality were an upper tier.

Figure 10- Regression Capital Expenditures Per Capita

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.2444761
R Square	0.05976857
Adjusted R Square	0.04022565
Standard Error	1341.43295
Observations	443

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	9	49529495.27	5503277	3.0583237	0.001453263
Residual	433	779158547	1799442		
Total	442	828688042.3			

	Coefficients	*Standard Erro*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1971.24	356.11	5.54	0.00	1271.32	2671.16	1271.32	2671.16
ward	-112.22	150.78	-0.74	0.46	-408.58	184.14	-408.58	184.14
Western	54.94	202.43	0.27	0.79	-342.92	452.79	-342.92	452.79
Eastern	-264.36	205.60	-1.29	0.20	-668.45	139.74	-668.45	139.74
Northwestern	-996.44	398.14	-2.50	0.01	-1778.97	-213.91	-1778.97	-213.91
Northeastern	-1372.12	372.07	-3.69	0.00	-2103.41	-640.82	-2103.41	-640.82
Lower	-1267.73	286.03	-4.43	0.00	-1829.90	-705.56	-1829.90	-705.56
Upper	-1615.70	396.52	-4.07	0.00	-2395.04	-836.36	-2395.04	-836.36
Pop2011	0.00	0.00	-0.31	0.75	0.00	0.00	0.00	0.00
DensityKM2	-0.21	0.20	-1.05	0.30	-0.61	0.19	-0.61	0.19

A similar analysis was also conducted using the per capita capital expenses as the dependent variable. The same independent variables were maintained from the previous regression and the same types of data extrapolation will occur, however, this regression displays a much different set of results than its operating counterpart.

In terms of the overall regression accuracy, the Adjusted R Squared, which reflects the percentage of variance explained by the independent variables, is only .04022565. Thus, this model only explains 4% of the outputs. Therefore, when looking at capital expenditures per capita, this regression explains only a very small percentage of how one variable can be impacted by another. Secondly, the data shows that once again there is a small probability that the output is not random. In this analysis, the Significance F factor is 0.001453263. This means that there is almost a zero percent probability that randomness explains the results.

Finally, the effect of the independent variables against the dependent variable must be measured in order to glean any statistical significance from this data. To do this, once again the P Value must be measured against the Alpha, which remains .05, in order to determine if there are any statistically significant relationships. It is clear when using this form of analysis that the ward system relative to the at-large system does not have any statistically viable relationship to per capita capital expenditures, as the P Value is .46. Similarly, there is no statistical relevance to being located in Western and Eastern Ontario relative to Central Ontario. Nor is there any impact based on population or density per kilometer. However, there is statistical relevance based on being located in Northwestern Ontario, Northeastern Ontario, and once again being upper and lower tier.

The P Value of zero when reviewing the independent variables of Northwestern and Northeastern Ontario is of note because this variable had no impact on the operations expenditures. Also of note, is that the general direction of western and eastern does not have an impact outside of the northern parameters. Thus, it can be inferred that something about being geographically located in the north of Ontario has a statistical impact on capital expenses. In

contrast, similar to the previous regression analysis, both being an upper tier municipality and a lower tier municipality resulted in a significant P Value of 0.

Therefore, it can be expected that for a municipality located in Northwestern Ontario, it will have a reduced cost of $996.44 per capita for capital expenditures relative to Central Ontario. Correspondingly, a reduction in capital expenditures in the amount of $1372.12 per person can be expected in municipalities located in the Northeastern part of the Province. In terms of upper and lower tier, those residing in an upper tier municipality will pay $1615.70 for capital expenditures than their counterparts in the single tier cities. Furthermore, lower tier cities would expect to pay $1267.73 less than those in single tier cities.

The completion of the data analysis in terms of quantitative assessments and then statistical analysis have revealed that there is a measurable financial difference between at-large and ward based municipalities, although arguably, it is much less clear and more complicated than the American literature suggests it should be. When restricting the analysis to a purely quantitative data review, the at-large lower tier municipalities were measurably more expensive on a per capita basis than the ward based cities. This was contrary to what was expected based on the literature review. However, once the study was reduced to only contain the single tiers, the results revered and the ward based municipalities were more expensive on both a capital and operational level. The ANOVA analysis confirmed these finding by concluding that there was a statistically significant variation between the two types of cities. However, when attempting to determine why there was a variation through using regression analysis, the conclusions once again changed. The regressions, when using both operating and capital as dependent variables, did not identify being ward based or at-large as being a statistically relevant relationship. We

now need to turn our attention back to the scholarship in an attempt to explain these unexpected conclusions.

Section 5: Theoretical Implications

The utilization of fiscal municipal data in comparison to population allowed a long established theory of the expensiveness of the ward based municipal system to be tested in a way that had not been previously proposed. Hitherto, small scale capital project monitoring or self-reflective surveys and interviews had been conducted in order to investigate the financial reality behind this issue. Thus, the proposal to conduct a fiscal quantitative assessment of the budgeting and spending habits of all lower tier municipalities was unique in that it would provide a large scale picture involving all of the lower tier municipalities across the Province. However, the picture depicted was somewhat surprising. The analysis of the lower tier municipalities indicated that their residents paid twenty five percent more for operations expenses and six percent more for capital projects. This was the opposite of what the hypothesis suggested the results would be. However, when the influence of the upper tiers was controlled and they were removed from the analysis, the outcomes inverted. When focusing solely on the single tier municipalities, the analysis revealed that ward based residents paid thirteen percent more for operations costs and nine percent more on capital spending per capita.

The conclusions reached from the large scale financial data review were surprising in that it was not what was expected based on the established scholarship. Everything written on this topic to date indicates that the study should have provided the statistical data to back up the previous investigations into this topic. Namely that the type of electoral system has a measurable fiscal effect on the financial reality of the local government in which it exists. Taking this one

step further, the results should have concluded that ward based municipalities were more expensive for residents to live in then at-large municipalities. Based on the literature, this should have occurred because of logrolling and pork barrel spending that follows the ward based election model. The fact that the evidence supports a much weaker conclusion, forces us to question why the reasoning behind this reality in the American context has much less of a quantifiable impact on Ontario local government finances. In order to do this we will look at three assumptions made by previous studies in this topic area.

The paper written by Dalenberg and Duffy-Deno introduces the concept that the ward elections systems result in higher capital expenditures due to logrolling and vote trading (Dalenberg & Duffy-Deno, 1991). In the context of their paper, the intended definition of logrolling is the exchange of favors. In this particular case, councillors would provide assistance to each other in the form of votes, or support on certain projects, with the expectation that the support would be reciprocated at some point in the future.

The Dalenberg & Duffy-Deno article is able to conclusively state that the ward electoral system does result in a difference in spending. Although this study also found that on average, single tier municipalities featuring ward electoral systems use more on both operations and capital spending, the fact that the statistical analysis indicated that there was no statistically significant relationship between the two. So what can account for the difference?

The scope of the article could provide some explanation for the discrepancy in findings. The Dalenberg article uses a random sample of 30 American cities versus the scope of this study which incorporated the financial data from at lower tier cities. It is possible that the data from the 30 cities was just not broad enough to capture the information. The variable being measured

was also difference. In the article, capital spending was measured by measuring public capital stocks per person, as opposed to capital betterments and improvements. Therefore, it is plausible that changing the variable being measured could change the conclusions drawn from the output. Finally, the assumption that local politicians are involved in vote trading could be more prevalent at the local government level in the United States than in Canada. Or, in the alternative, the vote trading in Canada could be occurring, but the type of vote trading engaged upon does not result in increased capital expenditures.

Southwick arrives at the same conclusions as Dalenberg and states that at-large local councils seem to reduce both capital spending and tax levels within their municipalities. He also postulates that this occurs due to logrolling as well (Southwick, 1997). However, his article goes one step further and attempts to identify ways in which the councillors in questions accomplish this. Mainly, he argues that ward councillors increase cost by increasing service levels through enforced interaction with civil servants and through gerrymandering. When seen through an Ontario local government lens, there are difficulties with both of the theories.

Firstly, Southwick states that local councillors are able to increase service levels within their wards by having relationships with local government employees. These relationships are seen to be a method in which councillors can influence the employees to manage the administration of the government in a way that will benefit them and their constituents. Although fraternizations between senior staff and local politicians do occur in the Ontario context, the professionalization of the municipal public service has discouraged the type of behavior being referred to by Southwick. Also, with increased scrutiny on local politicians with the introduction of the integrity commission (Municipal Act, 2001) and more and more governments introducing code

of conduct policies, the freedom of individual politicians to enforce their own political agenda is made that much more difficult.

Southwick's other theory for how the politicians are able to legitimize their vote trading behavior is through gerrymandering (Southwick Jr, 1997). Gerrymandering is the act of manipulating a geographical divide for one's own advantage. In this case, the argument is that local councillors change their ward boundaries in order to ensure re-election in districts that they know favor them because of their promise, or history of, provide increased service levels. This type of boundary manipulation is also used in the United States when vote dilution is preferred. Modification of electoral boundaries in order to dilute the vote is unheard of in Canada. There is just no evidence to support the idea that this sort of behavior occurs. Secondly, restrictions under the Municipal Elections Act provide significant barriers to the possibility of changing ward boundaries for political gain (Municipal Election Act, 1996). The most significant effect of the Act is to lay out timelines for ward boundary changes relative to the next upcoming election. No boundary changes are allowed within the same year as an election. Therefore, anyone attempting to manipulate the system would need to have sufficient forethought to arrange for them to be changed in advance. However, the boundary changes do not come into effect until after the next election. Thus, a politician would need to enact the desired changes a year before the election and subsequently get re-elected without the changes in order for them to occur. Due to the cumbersome nature of this legislative set-up, it is highly unlikely that it occurs in the same magnitude as it does in the United States. Furthermore, it is even more tenuous to theorize that it transpires to such a degree that it is able to impact overall local government spending.

However, the one article on this topic that had a Canadian focus also seemed to support the conclusion that there should have been a statistically significant difference between the two types

of electoral systems. After conducting a survey of city Councillors from 52 Canadian cities Canadian context, Koop and Kraemer conclude that the system of election determines the focus of the political representation (Koop & Kraemer, 2016). Thus, ward based politicians have confirmed that their focus is their ward, whereas at-large politicians agreed that they take a much broader view of who they represent. Therefore, according to these findings, it would logically follow that the conclusion from this study should have confirmed these findings. The fact that on average single tier municipalities with ward electoral systems do have higher costs per capita would seem to generally support Koop's study. However, because there is no statistically relevant relationship between the type of electoral system and expenditures as a variable, it is not as clear cut as Koop and Kraemer state.

One explanation of the divergence in results between the two studies could be that one study featured a research design based on interviews and surveys, whereas the other was a quantitative statistical analysis of financial data. Because the two sets of results reflect different deductions, it is possible that despite the fact that the politicians interviewed in Koop's study indicated that they were focused on solely their ward, the statistical evidence indicates that they in fact maintained a much broader scope than they admitted. This could be as a result of an attempt to make them appear to be more focused on their wards then they actually were. Another explanation could be that, despite their political focus, they were simply unable to successfully champion causes for their wards. An individual councillor only has one vote on council and the limitations that accompany this reality can have a sobering effect on politicians. For whatever reason, it appears that the political focus reported does not translate into financial impacts. This could be due to the fact that the issues that the politicians are focused on do not have financial outcomes. They could be helping with a service or providing information. It could also be as a

result of the constant pressure on local politicians to keep tax increases to a minimum. The very loud demand on all ward councillors to keep tax increases to a minimum may be over riding any political interest in local capital based spending.

References

AMOpen. (2017). Retrieved June 2, 2017, from https://amopen.amo.on.ca.

AMO- Ontario Municipalities, retrieved June 7, 2017 from https://www.amo.on.ca/AMO-Content/Municipal-101Ontario-Municipalities.aspx

Association of Municipalities of Ontario, (2014). AMO 2014 Election Survey.

Bledsoe, Timothy (1986). A research note on the impact of district/at-large elections on black political efficacy. *Urban Affairs Quarterly,* Volume 22 Number 1, 166-174.

Bunch, Jaclyn (2014). Does local autonomy enhance representation? The influence of home rule on county expenditures. *State and Local Government Review,* Volume 46(2), 106-117.

City of Brantford Budget Overview (2017) retrieved on July 25, 2017 from http://www.brantford.ca/Budget%20%20Finance%20%20Documents/2017%20Operating%20Budget%20for%20Estimates.pdf

City of London City Council (n.d.) retrieved on May 15/17 from https://www.london.ca/city-hall/city-council/Pages/default.aspx

City of Markham Mayor and Council (n.d), retrieved on May 15, 2017 from https://www.markham/ca/wps/portal/Markham/MunicipalGovernment/Mayorandcouncil

City of Thunder Bay Council (n.d), retrieved on May 15/17 from https://www.thunderbay.ca/City_Government/Your_Council.htm

City of Vaughan Election Results (n.d.), retrieved on May 15/17 from https://www.vaughan.ca/elections/Pages/Results.aspx

The Corporation of the Town of Huntsville Municipal Election Results (n.d), retrieved on May 15, 2017 from https://huntsville.ca/en/townhall/resources/clerks_2014municipalelectionresults

Dalenbergy, Douglas R & Duffy-Deno, Kevin (1991). At-large versus ward elections: Implications for public infrastructure. *Public Choice,* 70, 335-342.

Haselswerdt, Michael V. (1984).Voter and candidate reaction to district and at-large elections, Buffalo, New York. *Urban Affairs Quarterly,* Vol 20 No 1, 31-45.

Koop, Royce and Kraemer, John (2016). Wards, at-large systems and the focus of representation in Canadian cities. *Canadian Journal of Political Science,* 49:3, 434-448. Doi:10.1017/S0008423916000512.

Langbein, Laura I., Crewson, Philip, & Brasher, Charles Niel (1996) Rethinking ward and at-large elections in cities: total spending, the number of locations of selected city services, and policy types. *Public Choice*, 88, 275-293.

Ministry of Municipal Affairs, (2017), View FIRS by Schedule, retrieved from https://efis.fma.csc.gov.on.ca/fir/ViewSchedules09.htm.

Municipal Act 2001, S.O. 2001, C.25, retrieved from https://www.ontario.ca/laws/statute/01m25.

Municipal Election Act 1996, S.O. 1996. C.32 Schedule, retrieved from https://www.ontario.ca/laws/statute/96m32.

Municipality of Central Manitoulin Municipal Election Results (2014), retrieved on May 15, 2017 from https://www.centralmanitoulin.ca/news/2014-municipal-election-results

Municipality of Kincardine Election Results 2014 (2014), retrieved on May 15, 2017 from http://kincardine.net/kme2014.cfm

Municipality of Neebing Your Council (n.d), retrieved on May 15/17 from http://www.neebing.org/your-council/html

Municipality of Strathroy-Caradoc Mayor & Council (n.d.) retrieved on May 15/17 from http://www.strathroy-caradoc.ca/en/city-hall/Mayor-and-Council.aspx

Municipality of Thames Centre (n.d.) retrieved on May 15/17 from https://www.thamescentre.on.ca/index.php/council

Municipality of Trent Lakes (n.d.) retrieved on May 15/17 from http://www.trentlakes.ca/council/council-members/

Municipality of West Elgin Council (n.d.), retrieved on May 15/17 from http://www.westelgin.net/council

New Tecumseth Certificate of Office Election Results (2014), retrieved on May 15/17 from www.newtecumseth.ca/town-hall/electon-2014

Norman, Paul, Purdam, Kingsley, Tajar, Abedelouahid, and Simpson, Ludi (2007) Representation and local democracy: geographical variations in elector to councillor ratios. *Political Geography*, 26, 57-77.

North Huron Council (n.d), retrieved on May 15/17 from http://www.northhuron.ca/council.php?area=c101

North Middlesex Mayor and Council (n.d), retrieved on May 15/17
from https://www.northmiddlesex.on.ca/en/your-government/Mayor-and-Council.aspx

North Perth Office Election Results (2014), retrieved on May 15/17
from www.northperth.ca/en/municipalservices/resources/clerk_2014/official_results.pdf

Port, Jeffrey, (2016), The Township of Sioux Narrows-Nestor Falls Strategic Plan and Vision Statement:2021, retrieved July 14, 2017 from https:/snnf.ca.
Sioux Lookout Municipality. (2017) Retrieved July 11, 2017
from https://siouxlookout.ca/en/your-local-government/council.asp.

Sioux Lookout Council (n.d.) retrieved May 15/17
from http://www.siouxlookout.ca/en/your-local-government/council.asp

Smith, Matt & Alan Walks, (2013) *Visible Minority Electability in Urban Local Government in Ontario*, CERIS Working Paper No 97.

Smith, Matthew (2011), *Desperately Seeking Representation: An Investigation into Visible Minority Electability Under Vancouver's At-Large Electoral System*, (Masters Thesis for University of Toronto).

Southwick, Lawrence Jr. (1997). Local government spending and at-large versus district representation; do wards result in more "pork"? *Economics and Politics*, Volume 9 Number 2, 173-203.

Statistics Canada. 2011. *Population and Dwelling Counts, for Canada, Provinces, and Terriroties, 2006 and 2011 Censuses.* http://www.statcan.ca/census-recensement/2011/dp-pd/hlt-fst/pd-p;/Table-Tableau.cfm?LANG=Eng&T=702&SR=1&S=51&0=A&RPP=9999&PR=35&CMA=0. (accessed November 15, 2016.)

Tassonyi, Almos (2002), Municipal Budgeting: A Topic of Concern for Over 60 Years, *Canadian Tax Journal*, Volume 50 Number 1, 181-198.

Town of Georgina Elections (n.d), retrieved on May 15, 2017
from https://www/georgina.ca/municipal-government/elections

Town of Mississipi Mills Meet Your Council (n.d) retrieved on May 15/17
from http://www.missisipimills/ca/en/townhall/meetyourcouncil.asp

Town of Newmarket Mayor and Council (n.d.), retrieved on May 15/17
from http://www.newmarket.ca/towngovernment/pages/mayor-and-council.aspx

Town of Penetanguishene Certificate of Election Results (2014), retrieved on May 15/17
from www.penetanguishene.civicwet.net

Town of Richmond Hill Mayor and Council (n.d.), retrieved on May 15/17
from https://www.richmondhill.ca/en/our-services/Mayor-and-Council.aspx

Town of Saugeen Shores Mayor and Council (n.d.) retrieved on May 15/17 from http://www.saugeenshores.ca/en/our-town-hall/mayor-and-council.asp

Town of Tecumseh (n.d.) retrieved on May 15/17 from http://www.tecumseh.ca/townhall/council

Town of Whitby Mayor and Council (n.d.), retrieved on May 15/17 from http://www.whitby.ca/en/townhall/mayorandcouncil.asp

Township of Brock Elections, (n.d), retrieved on May 15, 2017 from https://townshipofbrock.ca/municipality/elections/

Township of Douro-Dummer Contact (n.d), retrieved on May 15, 2017 from http://www.dourodummer.on.ca/contact/

Township of Ewardsburgh/Cardinal 2014 Municipal Election Results (2014), retrieved on May 15, 2017 from http://www.twpec.ca/government/2014-election-results/

Township of Georgian Bay, (2014) Township of Georgian Bay Community Based Economic Development Strategy 2014-2017, retrieved from https://gbtownship.ca

Township of Georgian Bay, (2016) Township of Georgian Bay Corporate Strategic Plan 2016-2019, retrieved from http://gptownship.ca.

Township of George Bay, (2017) Township of Georgian Bay Profile, retired July 14, 2017 from http://www.gbtownship.ca/content/township-gorgian-bay-profile.

Township of Havelock-Belmont-Methuen Elections (n.d.), retrieved on May 15, 2017 from http://www.hbmtwp.ca/en/township-services/electons.aspx

Township of Killaloe, Hargarty and Richards (n.d), retrieved on May 15, 2017 from http://www.killaloe-hargarty-richards.ca

Township of Laurentian Valley 2014 Municipal Election (n.d.) retrieved on May 15, 2017 from http://www.lvtownship.ca/council/2014-municipal-election/

Township of Leeds and the Thousand Islands Official Results (n.d), retrieved on May 15/17 from http://www.leeds1000islands.ca/en/governing/election-History.aspx

Township of Malahide 2014 Election Results (n.d) retrived on May 15, 2017 from http://www.malahide.ca/2014-municipal-election/2014-election-results-0

Township of McMurrich/Monteith Unofficial Result of 2014 Municipal Electon (2014), retrieved on May 15, 2017 from www.mcmurrichmonteith.com

Township of Minden Hills Certificate of Election Results (2014), retrieved on May 15/17 from https://mindenhills/ca/assets/cerfiticate-of-election-results.pdf

Township of Muskoka Lakes Council 2014-2018 (n.d), retrieved on May 15/17 from https://www.muskokalakes.ca/node/33

Township of North Glengarry 2014 Municipal Election Results (n.d.) retrieved May 15/17 from http://www/northglengarry.ca/en/townhall/2014municipalelection.asp

Township of North Kawartha Meet Your Council (n.d), retrieved on May 15/17 from http://www.northkawartha.on.ca/en/council/meetyourcouncil/asp

Township of the North Shore (n.d.) retrieved on May 15/17 from http://www.townshipofthenorthshore.ca/aboutus/about.html

Township of Oro Medonte Meetings (n.d.) retrieved on May 15/17 from https://oromedonte.civicweb.net/Portal?meetingTypeList.aspx

Township of Perth East (n.d) retrived on May 15/17 from http://pertheast.ca/en/councilstaff/council.asp

Township of Scrugog 2014 Official Election Results (n.d.) retrieved on May 15/17 from www.scugog.ca/en/township-office/election-history.aspx

Township of Selwyn Council Members (n.d.) retrieved May 15/17 from http://www.selwyntownship.ca/en/townshiphall/Township-Council.asp

Township of Sioux Narrows-Nestor Falls (2015), 2015 Community Profile, retrieved July 14, 2017 from www.snnf.ca.

Township of Sioux Narrows-Nestor Falls Municipal Council (n.d.) retrieved on May 15/17 from https://www.snnf.ca/town-hall/municipal-council/

Township of St. Clair Mayor & Council (n.d.), retrieved on May 15/17 from http://www.stclairtownship.ca/government/council/mayor-council/

Township of Tay Valley Township Council (n.d.) retrieved on May 15/17 from http://tayvalleytwp.ca/en/municipal-government/council.asp

Township of Uxbridge Council (n.d.), retrieved on May 15/17 from http://town.uxbridge.on.ca/council

Walawender, Richard A. (1985). At-large elections and vote dilution: an empirical study. *Journal of Law Reform*, Volume 19:4, 1221-1242.

West Lincoln Certificate of Election Results (2014), retrieved on May 15/17 from www.westlincoln.ca/~west172/wp

Woolwich Township Mayor and Council (n.d.), retrieved on May 15, 17 from http://www.woolwich.ca/en/township-services/Mayor-and-Council.aspx

Van Thiel, Sandra, (2014), *Research Methods in Public Administration and Public Management* ,New York: Routledge.

Village of Merrickville-Wolford Municipal Office (n.d), retrieved on May 15, 2017 from https://www.merrickville-wolford.ca/office-and-council/municipal-office