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The Effects of Income Inequality on Social Assistance Services Caseload: A Local Perspective of London, Ontario Using Multiple Linear Regression Statistical Model

Juan Cardona
Western University

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The Effects of Income Inequality on Social Assistance Services Caseload

A Local Perspective of London Ontario

Using Multiple Linear Regression Statistical Model

MAJOR RESEARCH PROJECT

Submitted to

The Local Government Program

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The University of Western Ontario

Juan Cardona

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ABSTRACT

The purpose of this paper is to explore the relationship between income inequality and social assistance caseload, controlling for unemployment, population and GDP, in the context of the city of London, Ontario, from 1993 to 2013. How does an increase or decrease in income inequality affect the Social Assistance Services caseload in local governments? Gini coefficients, social assistance caseload, and control variables data have been gathered and calculated. As research design, it has been used a multiple linear regression statistical analysis, and academic investigation. The results of the major research project suggest there is a 68% correlation of the regression model with the independent variable of social assistance caseload, but being unemployment the strongest explanatory variable. A negative relationship between income inequality and social assistance caseload variables was found, but important endogenous variables such as policy interventions and macroeconomic cycles have played an important role in altering this relationship. On the other hand, the Gini coefficient analysis reveals an important and growing income inequality gap, where in average the top 1% Londoner's earns 72.33% of the total incomes in the City of London, or even more dramatic the 50% of the bottom poorest have only left the 3.86% of total income. The academic research also showed that most social assistance recipients are receiving incomes below the poverty line. This paper makes some local government recommendations such as graduated property tax and the implementation of the Ending Poverty Initiative. At the federal and provincial level a comprehensive tax reform is recommended. We conclude by acknowledging the complexity of the relationship between variables, and the impact of localized economic dynamics. It is encouraged for all levels of government to pay attention to this current historical moment to solve the increasing income inequality gap and social assistance caseloads with policies that have the public good in mind.

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INTRODUCTION

As per Natalie Mehra from the Ontario Common Front, Ontario's income gap between the richest and poorest families is now at levels not seen since the Great Depression of the 1930s. "Today, the average CEO takes home 250 times the income of the average Canadian, while a generation ago that ratio was 25 times the average; in contrast, 40% of Ontario's families have seen almost no income gains or, worse, actual income losses compared to their predecessors 30 years ago" (Mehra, 2012).

Municipalities have not been immune to this social and economic problem. The Ontario's increasing of Social Assistance Services caseload since 2004 by 32% is of great concern to the local government. Attempts have been made to link the increasing caseload levels with several variables in order to provide forecasting predictive value, and social policy responsiveness, yet unsuccessful. Local Governments will benefit greatly from being able to predict caseload and budget more appropriately while searching for ways to improve local communities applying **innovative** social local policies such as progressive revenue tools.

There is empirical evidence that income inequality directly puts pressure in the Social Assistance Services system. In the seminal work by the Nobel Laureate Joseph Stiglitz, *The Price of Inequality*, he states that high and sustained levels of inequality, especially inequality of opportunity can entail large social costs. Entrenched inequality of outcomes can significantly undermine individuals' educational and occupational choices (Stiglitz, 2012). Pandej Chintrakarn points out that income inequality as one of the malaises of the XXI century, and emphasizes the importance of reducing income inequality not only as a fundamental goal of

long-term economic development, but also a means to achieving the other development goals relating to poverty reduction. (Chintrakarn , 2011).

Many research studies about income inequality focus have been the world at large, national or provincial level, but I have yet to found one study focused on local governments, and particularly studying the relationship between income inequality and social assistance services caseload. The study then will fill the gap not only studying this important relationship, income inequality and Social Assistance caseload, but also within a local government perspective.

Other reasons to undertake this study at the local government level, particularly the city of London is to advance the variables forecasting predictive value, and to learn how these relationships play, affect, and can be potentially solved in the local government environment.

The roadmap of this paper will introduce you first to the research question, hypothesis and policy questions; then we will present you to the academic review in a fascinating travel exploring different dimension of income inequality and social assistance caseload for the province of Ontario. Later London's empirical data will be studied, its findings and analysis of evidence undertaken. Afterward we will analyze Gini coefficient data evidence, social assistance caseload, unemployment rate, and GDP, population levels, and present the overall multiple linear regression findings.

Federal, Provincial, and local government level policy recommendations will come before, we finally conclude after examining various data sources suggesting there is 68% correlation of the regression model with the independent variable of social assistance caseload for the period

1993-2013. Also, the Gini coefficient reveals an important and growing income inequality for the city of London; yet, lower than most neighboring municipality. Social assistance caseload is affected by a myriad of variables including local economic dynamics, provincial socio-economic policies and global economic cycles.

Research question

How does an increase or decrease in income inequality affect the Social Assistance Services caseload in local governments in London, Ontario?

Hypothesis

The rise in the Gini Coefficient of Income Inequality has increased the Social Assistance Services caseload in London-Ontario since 1993 until 2013.

ACADEMIC REVIEW

The reason for conducting the academic review of Social Assistance (AS) and Income Inequality (II)¹ variables in the context of the Province of Ontario is due to availability of material sources. This will present a good theoretical framework to introduce the local level study.

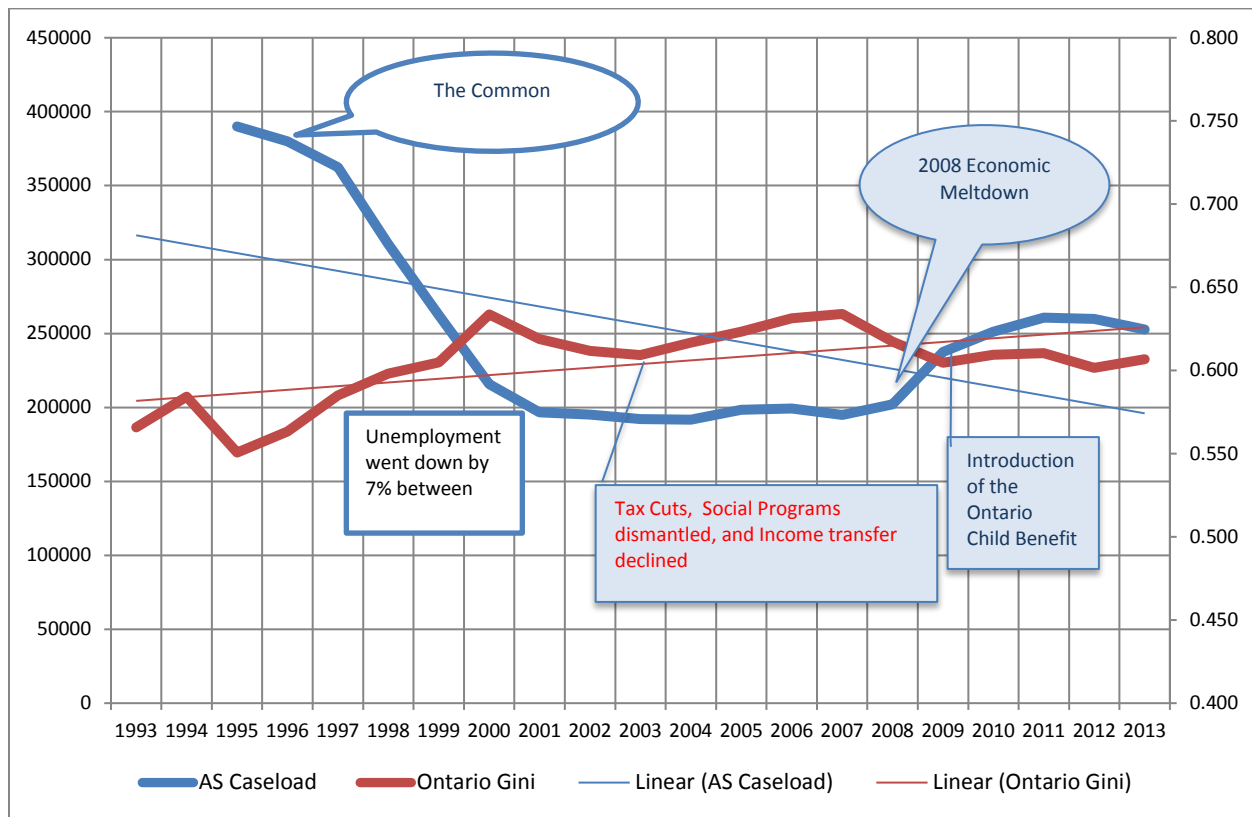
The following is a compilation of relevant academic research made in the areas of social assistance and income inequality in Ontario from the early 80's into the present 2015. It also explores the relationship with control variables such as unemployment, poverty and immigration. The review covers a total of a 16 references among which we can find: journal papers, peer reviewed papers, association and think-thank reports, newspapers, online references, and books. The academic review is subdivided in the following 6 sections: (1) Statistical Data Review on the evolution of Income Inequality (II) and Social Assistance (SA) rates in Ontario, (2) Literature Review on factors that influence II, (3) Ontario's policy evolution in relation to II, (4) Review literature on factors that influence SA rates, (5) Review of Ontario's SA policy evolution in relation to SA rates, and finally (6) Concluding insights.

¹ II or IE can be used interchangeably in reference to Income Inequality / Equality

STATISTICAL DATA REVIEW ON THE EVOLUTION OF INCOME EQUALITY GINI COEFFICIENT AND SOCIAL ASSISTANCE CASELOAD IN ONTARIO

Figure 1 shows the graphic evolution of both the Social Assistance caseload and the Gini coefficient of income inequality for Ontario. The chart highlights some of the most important social and economic policies affecting both indicators from 1993 to 2013. Please see Table 3 in the Appendix section for detailed Ontario's Social Assistance & Income Inequality data values.

Figure 1: Ontario's Historical Income Inequality Gini & Social Assistance Caseload Trends 1993 to 2013



Sources: (Bollman , 2015), (Caledon Institute of Social Policy, 2015). Caseload for 1993 & 1994 is not available.

CANSIM Table 326-0021 Consumer Price Index (Percentage Change (period-to-period)), annual (2002=100)(2,9)

Table 204-0002 High income trends of tax filers in Canada, provinces and census metropolitan areas (CMA), specific geographic area thresholds, annual (1,2,3,4)

The relationship between SA caseload and Inequality appears to be inverse for all the period under analysis; in fact it produces a 91% inverse correlation. The SA caseload seems to have a general trend downwards, while the Gini coefficient of inequality has an upward trend. The relationship between these two variables is complex due to the introduction exogenous variables². In particular, the social assistance (SA) trend behaviour has been affected for several policy and macroeconomic factors. The policy change happened in 1995 under the Harris' government and the implementation of the "Common Sense Revolution" which cut welfare rates by 21.6%; consequently triggered a decline of 51% in the total SA caseload. (Finnie & Irvine , 2008). Similar effect had the reduction of the unemployment rate by 7% between the years 1993 to 2005 (Tiessen, 2016). Another factor affecting greatly the SA caseload was the 2008 world financial crisis, prompting an increase of about 25% in the Ontario's caseload. Also, the introduction of the childcare benefit between 2009 and 2012 help improve the welfare families income; thus constraining the exit of families from the SA caseload. (Tiessen, 2016)

On the other hand, the Gini coefficient of income inequality shows an increase from 56% in 1993 to 60.7% in 2013, and increase of 7.3%, it seem small for this period, however to be fair, it has had a persistent growth since the previous two decades. Some of the policy factors affecting this coefficient are: Tax Cuts, Social Programs dismantled, and Income transfer declined. (Tiessen, 2016)

Will the Ontario's trends equate with the city of London findings?

The following sections will study the in detail the different variable evolution and factors affecting social assistance in Ontario.

² A factor whose value is determined by **variables** outside the causal system under study.

LITERATURE REVIEW OF FACTORS THAT INFLUENCE INCOME EQUALITY

The chief factors contributing to increasing income inequality among Ontarians are the different labour, fiscal and economic policies implemented in the last decades. Factor such as labour policies are not constrained to the provincial realm, but more the result of a worldwide movement toward globalization. Fiscal and economic policies appear to be more a function of the provincial political fluctuations between conservative and liberal governments. Finally some alternatives policies offer solutions for the increasing income inequality will be presented.

Labour Policy

The evidence suggests that globalization has affected income inequality. Trade openness is clearly an important factor behind the rise in inequality across Canadian provinces. The findings also clearly indicate that other factors have had a large impact on income inequality. In particular, the **decline of manufacturing employment** (deindustrialization) appears to have had a strong negative impact on inequality. Increases in the unemployment rate, technological change and educational heterogeneity also contributed to rising inequality. In contrast, the influence of increasing female participation rates seems to have dampened total income inequality. There is some evidence that **de-unionization** increased inequality although the results are not robust across inequality measures. (Breau, 2007)

Other causes of inequality, dominant among those would be variables reflecting the changing nature of employment relations, for example, contract or **part-time work**, etc. (Feenstra and Hanson 1996, 1999; Morris and Western 1999), and international capital flows (FDI) on a provincial basis. Closer investigation of the relative impact of these factors at the provincial

level (see, for instance, Davis 1980) and the sub-provincial level is also warranted. (Breau, 2007)

Fiscal, Economic, and Restructuring Policies

Undeniable, also, is the fact that it is not the inexorable march of global economics alone, but rather *choices* – choices in public budgets, and in economic and social policy – that have failed to rein in the increasing income inequality distributed by the private market and aided in propelling us down this path.

Growing inequality resulting from runaway incomes at the top and a harshly restructured labour force for middle and lower income earners, have meant that almost half the population of an entire generation of Ontario's families has worked harder but not enjoyed the rewards of their increased labour. The long stretches of economic growth experienced in this province since 1980 have been hijacked by the wealthiest at the expense of middle and lower income brackets. In fact, most of these families are falling behind, despite putting more hours into the workforce. These trends have disproportionately impacted women, racialized communities, aboriginals, seniors and children. (Mehra, 2012)

Ontario's governments have failed to mitigate the growing inequality distributed by the private market. Government choices – in budgets and in economic and **social policy** – have relentlessly favored the interests of the wealthy over the rest. Ontario's budgets for the last fifteen years have repeatedly **prioritized tax cuts** while casting concomitant cuts to social programs as necessities rather than choices. Social policies that temper inequalities experienced by women and racialized communities have been dismantled. Social programs that benefit all Ontarians and redistribute income through free public services such as education and health care face

relentless budget pressure. **User fees and requirements for out-of-pocket payment** for public services are on the rise. (Mehra, 2012)

Public sector restructuring is aping the private sector trend of soaring incomes at the top and precarious job security for many. Income transfer programs such as social assistance and disability have declined precipitously as inflation has outpaced meager increases. Paltry support for assisted housing and cuts to community service budgets has left families and individuals to suffer the impacts of growing inequality without aid. Federal program **cuts to unemployment insurance** have had a grave impact on Ontario workers suffering from the 2008 recession. The result is that Ontario has the fastest growing income inequality and among the largest leaps in poverty rates of anywhere in Canada. (Mehra, 2012)

Policy Alternatives

There is no question that Ontario can and should take action to improve our record on equality. Across Canada, many provinces are doing much better than Ontario in supporting **income transfers and public programs**. Around the world, even in this era of global economic restructuring, there are plentiful examples of countries that develop economic policies to benefit the public interest and social policies that promote social inclusion and relative equity. Currently, within Ontario, policy recommendations have been made by academics, policy experts, and public interest groups to pay attention to the choices that our governments are making policies that benefit the few at the expense of the public interest. (Herd, 2003). *We all* have the ability to pressure our governments to make better choices. Indeed, it is our obligation to the next generation to do so. (Mehra, 2012)

There are alternatives. No province is perfect, but trends from across the country shows that Ontario's budget and social policy choices are just that – choices. Ontario – a province with a relatively large GDP, extraordinary education attainment levels and vast economic resources -- now ranks at the very bottom of Canada in funding all social programs and services. Corporate tax cuts have dominated Ontario's budgets to the point that this province is now one of the lowest tax jurisdictions in all of North America, despite evidence that corporations are not using their largess to invest in Ontario. Economic strategy is rarely debated – and aside from continual tax cuts and privatization of social programs, it appears to be virtually nonexistent. Ontario ranks at or near the bottom of the country in funding for vital public programs such as housing and health care while tuitions and user fees here are the highest in Canada. (Mehra, 2012)

As if it is not enough that “the poor are always with us”; today's poorest families rising children are much poorer than the families that preceded them a generation ago. The after-tax income gap is at a 30-year high and tracking higher than the national trend. Ontario is one of the most prosperous jurisdictions in the world. Is this as good as it gets? The vital role of government is to **redistribute incomes**, to whatever degree society deems acceptable. It is required to keep the whole production/consumption machine humming through the ups and downs of the business cycle. (Yalnizyan , 2007)

ONTARIO'S POLICY EVOLUTION IN RELATION TO INCOME EQUALITY

Although, the study examines the evolution of Income Equality since 1993, the preceding decade has been included as it sets important antecedents for the years to come. For a year-by-year summary of IE policies evolution please see Table 4 in the Appendix section.

Within the period from **1981 to 1999** cutbacks to government spending on social programs also contributed to the rise in inequality. The more difficult question to answer here is to what extent rollbacks in government spending can be associated with global pressures to reduce deficit loads and efforts to make provincial economies more competitive (via lower tax burdens) on the international arena. (Breau, 2007)

In Breau's article, panel data methods were used to investigate the factors behind the rise of total income inequality across Canadian provinces from **1981 to 1999**. Overall, the results suggest that a combination of several factors contributed to rising income inequality, in line with results from previous studies also suggesting there is no single 'smoking gun' (Gustafsson and Johansson 1999).

In **2012**, six hundred thousand Ontario families find their incomes stalled or falling behind, while the richest ten per cent gallop away with the bounty from the sustained period of economic growth stretching from the **mid-1990s to 2008**. A decade-and-a-half of budgets that, with few exceptions, prioritized tax cuts for the wealthy over equality-creating public programs, have elongated the gap. These policy choices have helped turn surpluses into deficits at both the provincial and federal levels. Now, having deliberately emptied its cupboards, the Ontario

government's commitment to reduce child poverty by 25 per cent by **2013** is being swept aside. (Mehra, 2012)

In a departure from previous generations ranging back to the post-World War era, Ontario's rising income inequality has persisted for an entire generation. It has now outpaced the rest of the country.

From **1945 to 1980**, all across Canada, economic growth was accompanied by increasing income shared by a comparatively wide segment of the population (though of course this sharing was uneven and historically marginalized groups continued to experience real disproportionate disadvantage): children of all economic classes were expected to live better lives than their parents. But over the last 30 years an immoderate proportion of the yields from economic growth have been taken by the wealthiest. Today, the average CEO takes home 250 times the income of the average Canadian, while a generation ago that ratio was 25 times the average. The chief means by which families have stabilized their incomes is through putting more hours into the workforce. But despite the intensification of work among the middle and lower income brackets in the last generation, Ontario has seen among the biggest jumps in poverty rates and intensity of all provinces. (Mehra, 2012)

When the wave of downsizing of public and private enterprises in Ontario subsided in the late-1990s and the province's economy began to enjoy sustained growth. **Post-1998**, Ontario's earnings gap shrank back to below national levels. But that has not translated to a better-than-average distribution of incomes at the end of the day, in after-tax terms. (Yalnizyan , 2007)

Between **1976 and 1996**, Ontario's after-tax income gap between the richest and poorest 10%

of families raising children was in step with the national trend. But after the mid-**1990s**, Ontario shot past the national average, and there is no sign of reversal in sight. Poverty is, of course, the greatest concern in growing income inequality. Stubborn poverty is always of concern, but it makes a difference if it occurs in generalized poor economic conditions or in generally buoyant economic conditions. That's why it is important to understand **what happens along the full breadth of the income distribution**, not just focus on what happens at the bottom. (Yalnizyan , 2007)

In after-tax terms, the fortunes of the bottom 40% of families raising children in Ontario have stalled over the course of a generation. This despite steady economic growth in Ontario **post-1998**. It appears more than 600,000 families at the bottom end of the income spectrum are falling behind, shut out from the fruits of sustained growth. (In 2004, there were slightly more than 1,530,000 families raising children under 18 in Ontario. There are roughly 153,000 families in each decile.) In after-tax terms, Chart 3 indicates only clear winners, **post-1998**, were those families who already were at the upper end of the income scale. (Yalnizyan , 2007)

The greatest increase in incomes occurred for the richest 10% of Ontario's families raising children. The median earned family income for the richest 10% grew by 41% in inflation-adjusted terms between the **late-1970s and early 2000s**, to around \$181,000 — a rate of increase that is unparalleled in Canada. Families in the bottom 40% of the income spectrum actually lost ground despite the fact that they worked more weeks, on average, in the labour market. In **1976**, families that earned less than approximately \$17,000 in Ontario (in inflation-adjusted 2004 dollars) fell into the category of the poorest 10% of families raising children under 18. By 2004, the threshold had dropped considerably: the poorest 10% of families raising

children in Ontario earned less than \$10,700. (Yalnizyan , 2007)

The story is similar for the poorest three deciles. The upper limits of earnings in those deciles fell in response to the recession of **1981–82**, then recovered slightly, only to fall even more dramatically after the **1990–91** recession. Almost 30 years later (**2010's**), with economic conditions that have been compared to the glory days of 40 years ago, those markers of what denotes the poorest and the near poor have still not rebounded from the impact of profound labour market restructuring that has taken place over the past two decades. (Yalnizyan , 2007)

Ontario's slow recovery from the **2008** recession and devastating losses to employment in the manufacturing and resource sectors will now be further challenged by cuts in the public sector and income transfer programs. Ontario's austerity budget – heralding five years of retrenchment and a government -created recession in the public sector - will undoubtedly accelerate Ontario's growing inequality and poverty unless a more balanced approach to public policy is restored. Ontario's current sprint toward austerity is occurring in the context of grave inequality. Income inequality has outpaced the rest of the country since the **1990s**. While the wealthiest have bolted ahead, the bottom 40 per cent of Ontarians' incomes are flagging. This province has seen the biggest jump in poverty rates in Canada. Yet Ontario's budget plan asks almost nothing of high-income Ontarians who are taking home more than ever. In fact, the province's **2008** five-year commitment to reduce child poverty by 25 per cent has been abandoned in the budget; rather, child benefits have been cut and delayed. The province's deficit will be paid primarily through job cuts in public sector, service cuts, and public funding curtailments to income support and other programs. (Mehra, 2012)

In her **2007** study of Ontario's growing gap in income and wealth economist Armine Yalnizyan reports that even prior to the economic recession of **2008**, in a period of prolonged economic growth, income inequality worsened in Ontario:

“Income disparities in Ontario have soared for the past decade, though the economy has been strong. And it’s not just a story about the tail ends of the distribution, the richest and the poorest. Fully 40% of Ontario’s families have seen almost no income gains or, worse, actual income losses compared to their predecessors 30 years ago.

These kinds of trends are expected during recessionary periods, but this is occurring during one of Ontario’s most sustained periods of economic expansion.

In **2012**, Ontario is at or near the bottom of the country in measures of income inequality and economic security. The Gini coefficient measures income inequality. Statistics Canada uses after-tax income to construct the Gini coefficient.

For only a short period of time—between **1993 and 1997**—Ontario’s earnings gap between the top 10% and bottom 10% was dramatically higher than the Canadian earnings gap in most provinces. This is one indication of the severity of the recession of the early **1990s**, which starkly recast the labour market and left so many Ontarians jobless and underemployed.

(Yalnizyan , 2007)

LITERATURE REVIEW ON FACTORS THAT INFLUENCE SOCIAL ASSISTANCE

As per the evidence presented in this academic review, the main factors affecting social assistance are the introduction of the rate-reduction, which triggered reduction of SA caseloads by 51% from 1994 to 2004. The opposite effect was gained in the 2008 global financial crisis that elevated the unemployment rates, consequently, increasing SA caseload by 32%. Also the introduction in 2012 of the Ontario's child Benefit had important effects in the SA caseload.

Mike Harris' and his Progressive Conservative Party promised voters a "common sense revolution" that included income tax reductions, cuts in welfare rates and mandatory work-for-welfare programs. Subsequently, welfare benefits were cut in October 1995 by 21.6 percent for all recipients, aside from people with disabilities and seniors. (Finnie & Irvine , 2008).

Kaylie Tiessen from the Canadian Centre for Policy Alternatives concludes that the poverty gap—the distance between total benefit income and the poverty line—for people who qualify for social assistance has worsened over time, especially so for single people receiving Ontario Works. Some of society's harshest judgments are reserved for people who receive social assistance benefits. What is clear from this analysis is that those judgments have influenced the policy of successive governments, which, in turn, has resulted in the **gross inadequacy of total benefit incomes** for this group of people. As a result, they have become some of the most marginalized and vulnerable in our communities. If the government is serious about its commitment to improve income security for adults, this is a file that must be addressed. (Tiessen, 2016)

Macroeconomic conditions have an extremely strong impact on SA rates. The decline in the

unemployment rate from a high of 12 percent in 1993 to between 6 and 7 percent at the end of the analysis in 2005, it was the single most important factor in reducing the incidence of SA benefits, as well as the underlying annual entry rates that play such an important role in driving those annual levels. In the early 1990s, the federal government introduced the GST credit in an effort to redress the regressive nature of the GST on low-income people. (Tiessen, 2016)

Then in 2008, the principal factors that have driven the increase the number of welfare-dependent individuals, include economic conditions (as captured by the unemployment rate), the levels of benefits available to SA recipients, the generosity of the EI system (on the assumption that SA and EI may be functionally related for potential SA recipients), and a set of calendar year variables to capture other policy-related developments. (Finnie & Irvine , 2008)

The Fraser Institute authored a report called *Welfare—No Fair: A Critical Analysis of Ontario’s Welfare System (1985-1994)*. In this report the ideological seeds for the cuts in welfare rates have been planted. Here some of the arguments: “The Institute has been concerned about the conditions under which welfare is advanced in Canada. There are two reasons for this. First, generous welfare programs can have a negative effect on recipients. Second, the conditions under which welfare is delivered may create an inequity between donors and recipients. For a long time, economists and sociologists have recognized that the availability of support from the state creates an incentive for people to organize their lives in such a way as to take advantage of the benefits available. At the margin, people’s decisions are influenced by the incentives that are provided. Young people faced with what they regard as a “tyrannical regime” in their home, opt for an independent life at the tax expense of their parents and their neighbors. Workers with seasonal employment begin to rely on, and then plan on, collecting welfare as bridging

financing to tide over them from when their unemployment insurance runs out to when their next job starts. Single mothers, seeing no husbands with equal earning power, in effect marry the state as their best available option” (Sabatini & Nightingale , 1996).

The report challenges our welfare assumptions with the following question:

Why should we accept that welfare recipients are the most vulnerable in our society, as liberals suggest—as opposed to children, seniors, people with disabilities, or the working poor, for example? (Sabatini & Nightingale , 1996)

ONTARIO'S POLICY EVOLUTION IN RELATION TO SOCIAL ASSISTANCE RATES

This section examines the Ontario’s policy evolution of Social Assistance. For a year-by-year summary of SA policies evolution please see Table 3 in the Appendix section.

In **1989** the total benefit income from these Social Assistance sources as a share of the Low Income Measure After Tax (LIM-AT) was much higher than it is today: a single person qualifying for the equivalent of Ontario Works (OW) in **1989** could expect a total benefit income that was about 40% below the poverty line. The gap was 10% for a single person with a disability and 20% for a couple with two children. By **2014**, the gap had widened dramatically to 59%. People receiving benefits from Ontario’s social assistance programs are living in a greater depth of poverty now than a generation ago. (Tiessen, 2016)

Ontario was hit particularly hard by the recession that began in **1990**, and unemployment increased dramatically – virtually doubling between **1989 and 1991**. The number of welfare-

dependent individuals climbed to 929,900 in **1991** and further to almost 1.4 million by **1994**. Meanwhile, the government's finances were sharply affected by the federal government's decision in **1990** to limit increases in federal SA cost sharing to Ontario, Alberta and BC to 5 percent per annum. (Finnie & Irvine , 2008).

The decline in the unemployment rate from a high of 12 percent in **1993** to between 6 and 7 percent at the end of the analysis in **2005**, it was the single most important factor in reducing the incidence of SA benefits, as well as the underlying annual entry rates that play such an important role in driving those annual levels. In the early **1990s**, the federal government introduced the GST credit in an effort to redress the regressive nature of the GST on low-income people. This new credit had the impact of increasing total benefit income for people who qualified for social assistance. In **1993**, three federal child benefits were replaced by a single benefit targeted to low-income families. Called the Child Tax Benefit, this change resulted in increased income for the working poor, but left unchanged the total benefit income for families who qualified for social assistance. In **1995**, a new provincial government dealt a severe blow to the incomes of any Ontarian qualifying for social assistance: the rate for basic assistance (what became OW) was cut by 21.6%. That was the single biggest cut to social assistance incomes in the province's history. That government then froze both OW and ODSP rates for the rest of its time in office. (Tiessen, 2016)

The cutbacks to welfare in Ontario, in contrast to Alberta, came primarily in the form of rate reductions, and secondarily in the form of increased barriers to reciprocity. In the June **1995** election campaign Mike Harris and his Progressive Conservative Party promised voters a "common sense revolution" that included income tax reductions, cuts in welfare rates and

mandatory work-for-welfare programs. Subsequently, welfare benefits were cut in October **1995** by 21.6 percent for all recipients, aside from people with disabilities and seniors, which represented a dramatic change of direction from the preceding New Democratic Party and Liberal Party governments. (Finnie & Irvine , 2008).

In **1997** the Progressive Conservative provincial government joined forces with Andersen Consulting to design a new delivery system for SA. Front and center in the business transformation (BTP) were concerns about rising caseloads and costs, notably from perceived fraud. Consequently, the new system was design to combine new technology with tighter verification procedures to meet its goals of reducing costs and improving both program integrity and client service. The new system has been in operation since 2002 and includes the following key features: (1) A common province-wide database; (2) Two-step intake process to reduce number of client interviews; (3) third party interfaces to provide automated verification of client information; and (4) streamlined case management to reduce staff time. (Herd, 2003)

In **1998**, the federal and provincial governments joined together on the creation of the National Child Benefit Supplement (NCBS), an additional income benefit for families with children in low income. The NCBS, however, specifically allowed the provinces to claw back that benefit from families who were receiving social assistance. It wasn't until **2004** that Ontario families on social assistance saw the benefit of a small increased flow through amount, while most of the NCBS continued to be deducted from their OW or ODSP benefits. In **2008**, with the advent of the Ontario Child Benefit, the NCBS clawback was ended. Basic needs benefits for families with children have been reduced since then to take all benefits for children out of the OW and ODSP systems. While there has been much movement in the different policy tools used to deliver

total benefit income for people who qualify for social assistance, progress towards any measure of adequacy has been stilted. Inadequate income for Ontarians who qualify for social assistance benefits—who are among the province’s poorest Ontarians—remains one of the longest lasting legacies of the “Common Sense Revolution” of the mid-1990s. (Tiessen, 2016)

In **2003**, a new provincial government, led by former Premier Dalton McGuinty, was elected. It was expected that this new government would reverse at least some of the damage to social assistance, but progress has been halting, to say the least. By **2011**, the total benefit income for an adult qualifying for OW benefits fell to 60% below the poverty line, making the poverty gap for those who qualify for social assistance in Ontario considerably larger than it was a generation ago. (Tiessen, 2016)

The McGuinty government was elected in **2003** with the expectation that the erosion of income security for those who qualify for social assistance would be reversed. The erosion of rates compared to the poverty line may have slowed after that election, but only couples with two children on OW experience a smaller poverty gap today compared to **2003**. Looking back to 2008, when the first poverty reduction strategy was implemented, there has since been some improvement in the poverty gap for all family types except single people who qualify for ODSP. These gains were not due to a restoration of social assistance rates, though they have increased slightly. For families with children, most of the improvement in the poverty gap has come through federal and provincial child benefits. Both the provincial and federal governments have invested in increased child tax benefits, which are also delivered outside of the social assistance system. (Tiessen, 2016)

Social Assistance (SA) participation rates appear to be significantly affected by the dollar value of the benefits available from the program, and the fall in the real dollar value of SA benefits after the **mid-1990s** played an important role in reducing SA rates over our period of analysis. Furthermore, a less generous EI system appears to *decrease* (not increase) SA rates, suggesting the programs are complements rather than substitutes, and changes in the EI program also contributed to the decline in SA rates. Welfare reforms that limited eligibility or otherwise made it more difficult to collect SA, as well as changes in other income support programs such as the CTB/NCB appear to have further driven SA rates downward. (Finnie & Irvine , 2008).

The Ontario Child Benefit has proven to be a real workhorse: in **2009**, the OCB was increased to a maximum of \$1,100 annually per child in that year. By **2013**, more than 530,000 families received a benefit worth a maximum of \$1,210 per child. The benefit increased to \$1,310 in **2014**. And in **2015**, the Ontario Child Benefit was indexed to inflation to ensure families don't lose the value of the benefit to the rising cost of living. In the **2011** budget, Ontario introduced the Trillium Benefit. It combined three pre-existing tax credits available to all low-income Ontarians. These credits were formerly paid out either quarterly or in an annual lump sum after-tax filing, but starting in **2012**, they began to be paid on a monthly basis. The change did not increase total benefit income, but the monthly delivery provided a more stable source of funds to mitigate cost of living. The Trillium Benefit and the federal GST credit are both adjusted for inflation to protect against the erosion of their value due to the rising cost of living. (Tiessen, 2016)

In an effort to recognize the extent of the poverty gap experienced by single people receiving Ontario Works—the poorest of all who qualify for social assistance—the government invested

in annual top ups of \$14 a month in **2013**, \$25 a month in 2014 and \$20 a month in 2015. Unfortunately, for all other family types, rate increases have not been robust enough to even compensate for the rising cost of living, let alone move total benefit income toward any measure of adequacy. Revealing just how complicated this file has become, here are a few more changes made by government since the poverty reduction strategy began: The current provincial government has made some effort to raise both OW and ODSP rates, with 1% increases in each of the past three years and 1.5% to come this fall. But the dependants of people qualifying for ODSP have not been subject to the 1 per cent increase, leaving families receiving ODSP further behind. (Tiessen, 2016)

Economist Hugh Mackenzie reports *“by the end of the **2012-13** fiscal year, Ontarians who rely on social assistance and disability benefits will have lost \$200 million to inflation, thanks to only a 1 per cent increase in benefits in 2011 and none in 2012”*

Other reforms have taking place in **2013**, such as increased employment exemptions, asset levels and gift amounts, were welcomed by advocates as positive contributions to improving the programs. However, benefit reductions proposed or enacted in 2012 and 2014 were met with significant resistance. Government either abandoned these changes or mitigated the negative impact of the changes with new investments. By **2014**, the gap had widened dramatically to 59%. People receiving benefits from Ontario’s social assistance programs are living in a greater depth of poverty now than a generation ago. As of December 2015, there were 900,000 Ontarians—654,000 adults and 253,000 children—relying on Ontario Works and ODSP to meet their basic needs. (Tiessen, 2016)

REVIEW OF CONTROL VARIABLES FACTORS & EVOLUTION

This study has included additional control variables such as Unemployment Rate, Population Growth and GDP in order to better understand their relationship with Social Assistance Caseload in Ontario. It is also studied the relationship between poverty, income inequality and social assistance. Lastly, an integrative local perspective is considered as well.

Unemployment

The decline in the unemployment rate from a high of 12 percent in **1993** to between 6 and 7 percent at the end of the period of analysis was the single most important factor in reducing the incidence of Social Assistance benefits, as well as the underlying annual entry rates that play such an important role in driving those annual levels (Finnie & Irvine , 2008). This suggests a clear connection between employment and social assistance caseload.

There is some evidence of a direct correlation between unemployment and under-employment with in social assistance caseload increases. The downward pressure on incomes at the low end of the income scale has major implications for social assistance recipients trying to move into employment as, increasingly, —work doesn't pay (Lankin & Sheikh , 2012).

Population

The relationship between Population growth and Social Assistance Caseload may be coming from the characteristics of new immigrants, which according with the Social Assistance Review Report, 13% of primary applicants to social assistance services are newcomers who have been in Canada for five years or less. Newcomers who are refugee claimants make up about 7% of

primary applicants to social assistance services while newcomers who are sponsored immigrants represent less than one per cent (Lankin & Sheikh , 2012). Newcomers are accounting for a total 21% of the increase in the social assistance caseload.

Regarding the direct relationship between population growth and income inequality, there are oppose research results. For example, Lankin’s study links population growth and poverty with the rise in income inequality. Newcomers are accounting for a total 21% of the increase in the social assistance caseload (Lankin & Sheikh , 2012); however, in another Breau’s research the influence of immigration on inequality across Canadian provinces was found to be insignificant. (Breau, 2007).

Poverty

Regarding the relationship between poverty and social assistance, the Report from the Commission for review of Social Assistance, *Brighter Prospects: Transforming Social Assistance in Ontario* concludes the following: “The changes in the labour market over the last 20 years have been significant, in Ontario and throughout Canada. The prevalence of temporary and part-time jobs, often at low wages and without stability or health benefits, directly affects people’s ability to exit social assistance.” (Lankin & Sheikh , 2012). Temporary-low-pay-jobs have been usually been linked to be a factors exacerbating income inequality; hence, this relationship underlines the unexplored deeper correlation between factors associated with income inequality and the increase of social assistance caseloads in Ontario during the last two decades. Furthermore, the report also identifies the urgent need to address increasing income inequality and the erosion we have seen, over time, in the effectiveness of our tax-transfer system in dealing with this growing challenge. The downward pressure on incomes at the low

end of the income scale has major implications for social assistance recipients trying to move into employment as, increasingly, —work doesn't pay. (Lankin & Sheikh , 2012)

Multiple studies prior to the **2008** worldwide financial crisis, pointed out to the fact that social assistance caseload have gone down due to the changes in policies introduced in Ontario during the government of Mike Harris, which not only reduced the assistance amounts, but also made more stringent for applicants to access the welfare system. (Finnie & Irvine , 2008)

CONCLUDING INSIGHTS

In our study of the Ontario's policy evolution in the fronts of social assistance and income inequality, we ask the research question in the provincial context: Is income inequality affecting the social assistance caseload in Ontario? The academic research suggests that in Ontario, the 1995 provincial policy to cut the social assistance rates has triggered not only an abrupt diminution in the caseload levels, but also a wave of poverty that currently places a single person receiving social assistance at a staggering 59% below the poverty line (Tiessen, 2016).

Hence, it is suggested by the empirical findings that income inequality may have been increased in the last 20 years by the rise in poverty as a result of inadequate levels of social assistance payment rates. As per Breau 2007 states "Cutbacks to government spending on social programs also contributed to the rise in inequality".

Another factor that seems to have had an important effect in skyrocketing the social assistance

caseload and income inequality was the 2008/09 economic crises. At this point the income inequality levels, and social assistance caseload start having a closer association. Furthermore, the income inequality coefficient seems to have been affected directly by provincial policies in the last 15 years, which prioritized tax cuts while casting simultaneous cuts to social programs. Income transfer programs such as social assistance and disability have declined precipitously as inflation has outpaced meager increases (Mehra, 2012).

In addition, the introduction of the monthly Ontario Child Benefit in 2011 payment, and the decision to stop its claw back from the total social assistance payment, seems to have had a positive effect on improving the income for families, and also reduced the need for them to drop from welfare; consequently, increasing social assistance caseload.

The evidence suggests that macroeconomics³ alone is not to blame for the inequality and social assistance caseload current provincial status, but very significantly, the policy choices made by the provincial governments of the day— choices in public budgets, and in economic and social policy. “Policies that have relentlessly favored the interests of the wealthy over the rest.” (Mehra, 2012).

³ Some of them are Unemployment, technological change, de-unionization, and education heterogeneity.

LOCAL PERSPECTIVE

Subsequently, in London in the year **2012**, the social assistance caseload began to increase, and as per Patrick Maloney, from The London Free Press in **2012** article: “While much of Canada has shaken off the brutal after-effects of the **2008-09** economic meltdown, London’s welfare load — the last-resort safety net after the jobless exhaust all their benefits — remains stubbornly high, up 47% since **2006**.” A direct consequence of economic meltdowns is the increase in unemployment rates, previously demonstrated to have a direct correlation with increases in social assistance caseload. Thousands of jobs, especially in manufacturing, were wiped out, leaving London with one of Canada’s highest big-city jobless rates. Estimates are the city has shed \$1 billion in annual payroll since **2007**, and tough-times barometers such as food-bank usage remain persistently high. (London Free Press, 2012). As previously stated, here we not only observed the same relationship between employment and Social Assistance levels, but also the connection with poverty.

EMPRIRICAL DATA

Methodology

The Reason to undertake this study at the local government level, particularly the city of London is twofold: (1) as former member of City of London's Community Services Department, I experienced first hand the strategic importance of good social assistance caseload projections; therefore, finding new variable relationships may considerably help to improve the forecasting process, (2) knowing this as a result of the academic research, there is no precedent of studying these variable relationships (Social Assistance and Income Equality) at the municipal level; therefore, it is just appropriate trying to learn how these, often higher level of government issues, affect and can be potentially solved in the local government environment.

Data Sources

Unemployment rate, GDP, and population data required for the regression analysis was obtained from the Canadian Socio Economic Database from Statistics Canada (CANSIM). The Gini coefficient was calculated using the Lorenz curve methodology, and using data from the CANSIN tables. The social assistance caseload was obtained directly from the Ministry of Community and social Services, and through the City of London's Planning and Research Department. Once the previous data was ready, we have proceeded to calculate the multiple linear regressions.

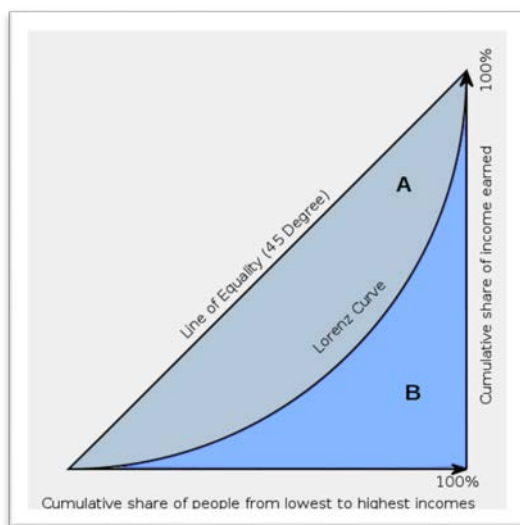
The multiple linear regressions were calculated using the statistical software XLSTAT, which is an add-in for Microsoft Excel.

Following, we will briefly describe the most important elements of the data methodology:

Gini Coefficient

According to the Dictionary of Economics, the Gini Coefficient is usually defined mathematically based on the Lorenz curve, which plots the proportion of the total income of the population (y axis) that is cumulatively earned by the bottom x% of the population (See Figure 2). The line at 45 degrees thus represents perfect equality of incomes. The Gini coefficient can then be thought of as the ratio of the area that lies between the line of equality and the Lorenz curve (marked A in Figure 2) over the total area under the line of equality (marked A and B in Figure 2); i.e., $G = A / (A + B)$.

Figure 2: Lorenz Curve



Source: Wikipedia (Wikipedia, 2015)

Using the methodology suggested by the Australian data scientist Peter Rosenmai; we have calculated the Gini coefficient, as follows the calculation steps:

Once n incomes have been supplied. Then, $n+1$ points may then describe the Lorenz

curve. Call these $(x_1, y_1), \dots, (x_{n+1}, y_{n+1})$. To determine these points, first we have reordered the supplied incomes smallest to largest. Next, determined the cumulative totals for the incomes. Call these c_1, \dots, c_{n+1} . We then have $x_i = 100(i-1)/n$ and $y_i = 100(c_i/c_{n+1})$ for $i=1, \dots, n+1$.

Note, of course, that $(x_1, y_1) = (0, 0)$ and $(x_{n+1}, y_{n+1}) = (100, 100)$. Also note that c_{n+1} is the sum of all incomes. The Gini index equals $100 + (100 - 2S)/n$ where $S = y_1 + \dots + y_{n+1}$. This can easily be proved using basic mathematics. The Gini coefficient is the Gini index divided by 100.

The Gini Coefficient has been calculated using an Excel spreadsheet model provided by Peter Rosenmai. (Rosenmai, 2012)

The same methodology was used across all calculated Gini Coefficients (Canada, Ontario, Toronto, London, Kitchener region, and Windsor). It has been used five of the available income percentiles such as top 1%, bottom 99%, bottom 95%, bottom 90%, and bottom 50% of the income after tax with capital gains spectrum.

Top 1 percent income group

Bottom 99 percent income group

Bottom 95 percent income group

Bottom 90 percent income group

Bottom 50 percent income group

This previous methodology; although consistent for this study calculations, and is mathematically correct; it does not guarantee comparability with similar Gini Coefficient

estimates outside this paper, as the income percentiles selected for the calculation could have been different, which can yield different Gini Coefficient results.

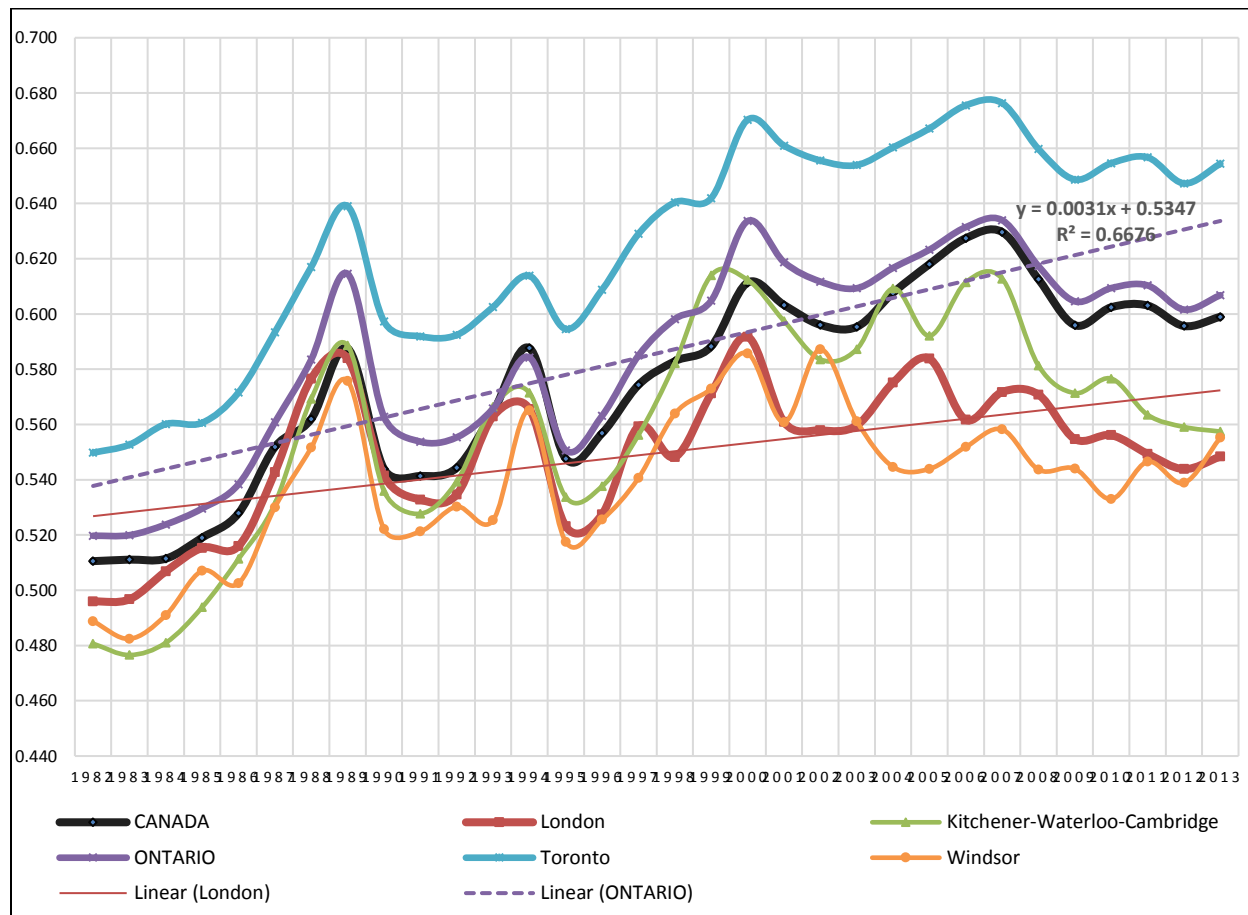
Social Assistance Caseload

The social assistance caseload was obtained in monthly caseloads since 1991. The annual SA caseload was obtained by averaging the twelve months caseloads for every year. The social assistance caseload is composed of various categories of participants both independent, and families.

FINDINGS AND DATA ANALYSIS

Comparative Gini Coefficient Analysis⁴

Figure 3: Gini Coefficient Comparative adjusted by consumer index 1982 to 2013 (Income After Tax with Capital Gains)



Sources:

CANSIM Table 326-0021 Consumer Price Index (Percentage Change (period-to-period)), annual (2002=100)(2,9)

Table 204-0002 High income trends of tax filers in Canada, provinces and census metropolitan areas (CMA), specific geographic area thresholds, annual (1,2,3,4)

The same methodology was used across all Gini Coefficients. We have used five of the available such as top 1%, bottom 99%, bottom 95%, bottom 90%, and bottom 50% of the income after tax with capital gains spectrum.

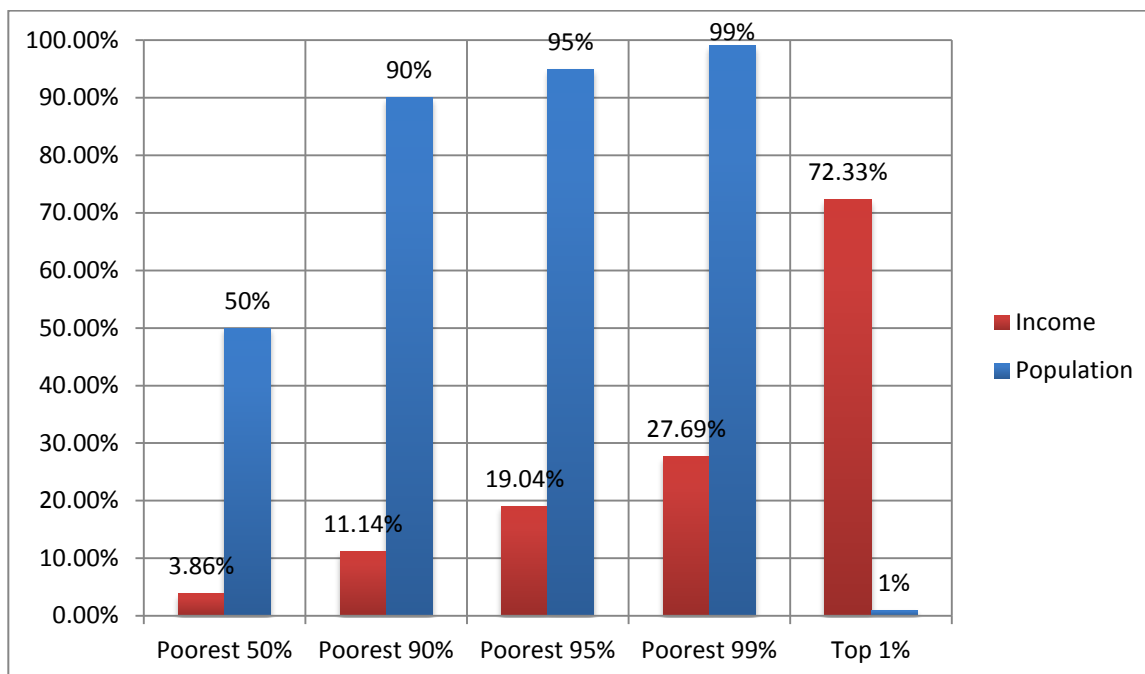
⁴ The calculated Gini Coefficients are not intended to be comparable with outside of this paper's coefficients, but only within this research study.

The rationale for analysing the Gini Coefficients in this section since 1982 is to show a more contextualized period of time where the rising trend is clear, and expose the limitations associated with short spans-of-time analysis, and data availability.

The analysis of the data evidence shows that the city of Toronto tops the income inequality rank in the last 32 years, since 1982 with a Gini coefficient of 0.55 up to 0.654 in 2013; in contrast, the city of London had a Gini coefficient of 0.548 in 2013. London's coefficient is at the bottom of the five different city/regions analysed. It is important to indicate the degree of London's change in the coefficient since 1982, when it was 0.496, which represents an increase of 11.5%⁵ in the last 32 years. This increase is considerably lower than city-region of Kitchener-Waterloo-Cambridge with an overall increase of 18.3% or Toronto with an increase of 15.3%. Nevertheless, London's Gini coefficient in 2013 ranks lower than the Canadian coefficient of 0.599 or the Ontario's at 0.607, it still shows erosion in the level of income equality in the last 31 years at a rate of 11.5%⁶, this translates in the following income distributions averages for the year 2013:

The poorest 50% of the population have 3.86% of total income in London
The poorest 90% of the population have 11.14% of total income in London
The poorest 95% of the population have 19.04% of total income in London
The poorest 99% of the population have 27.69% of total income in London
The Top 1% of the population have 72.33% of total income in London

⁵ & ⁵ Percentage of Gini Coefficient increase from 1982 to 2013

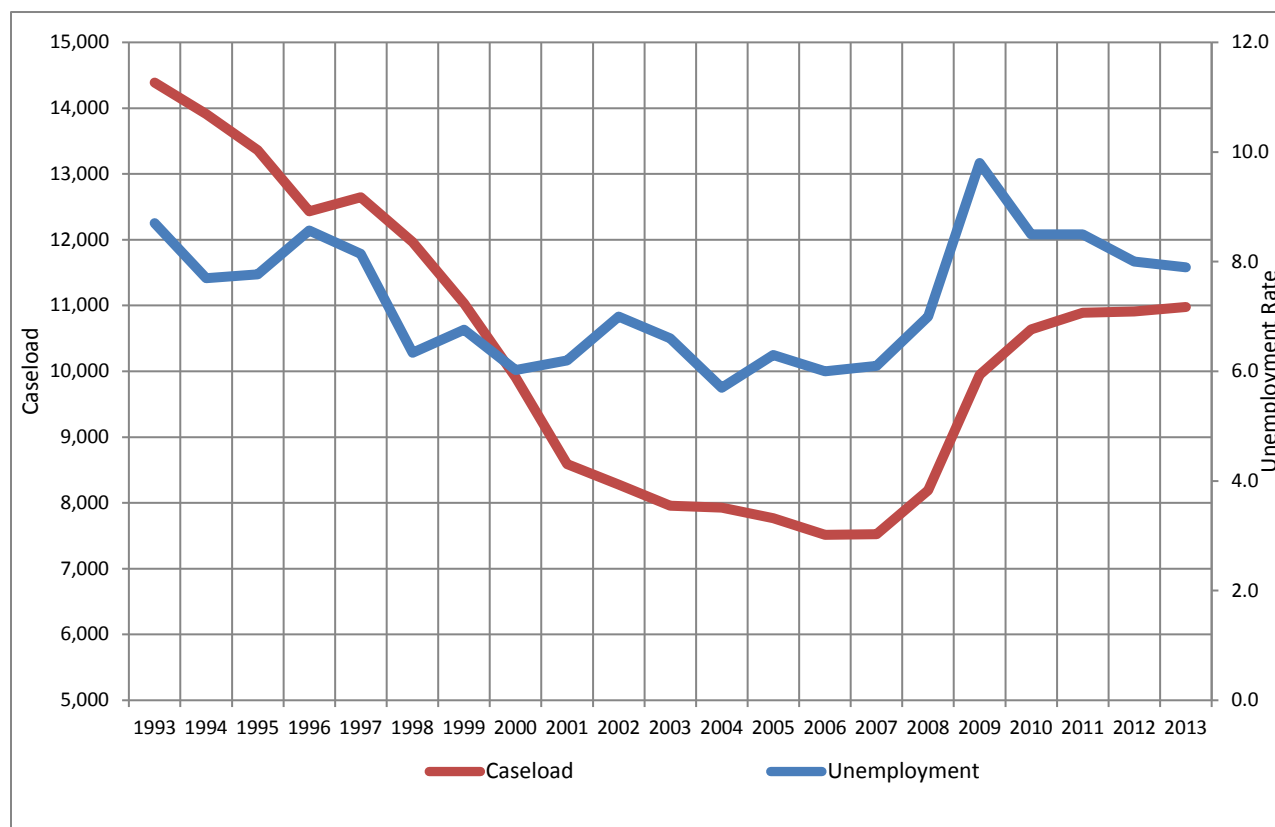
Figure 4: Gini Coefficient Interpretation

Reiterating, in average the top 1% of population have 72.33% of the total income in the City of London, or even more dramatic the 50% of the bottom poorest have only left the 3.86% of the total available income to survive. The data shows an upward trend for the Canadian coefficient, and certainly for all of them. It seems, as 2007-08 was a year when income equality starts to improve; however it could presumably be linked to the global 2007-08 financial crisis. It is considered for many economists to have been the worst financial crisis since the great depression of the 1930s. The trend analysis after 2007-08 shows a flat trend, in other words, despite the terrible effects of the crisis, seemingly it has affected in greater proportion the ones at the top, curtailing somehow the gap between the haves and haves-Nots.

Another aspect to highlight is the importance of studying the income of individuals in its after-tax form. This allows the study to measure the actual effects of taxation on inequality, by removing the tax paid from the total income.

Comparative Social Assistance Caseload and Unemployment Analysis

Figure 5: London's average annual Social Assistance Caseload and unemployment from 1993 to 2013



Sources:

Caseload:

Data provided by the City of London's planning and Research Department

Unemployment:

CANSIM Table 282-0123 Labour force survey estimates (LFS), by provinces, territories and economic regions based on 2011 Census boundaries, annual (1,2,3,4,5)

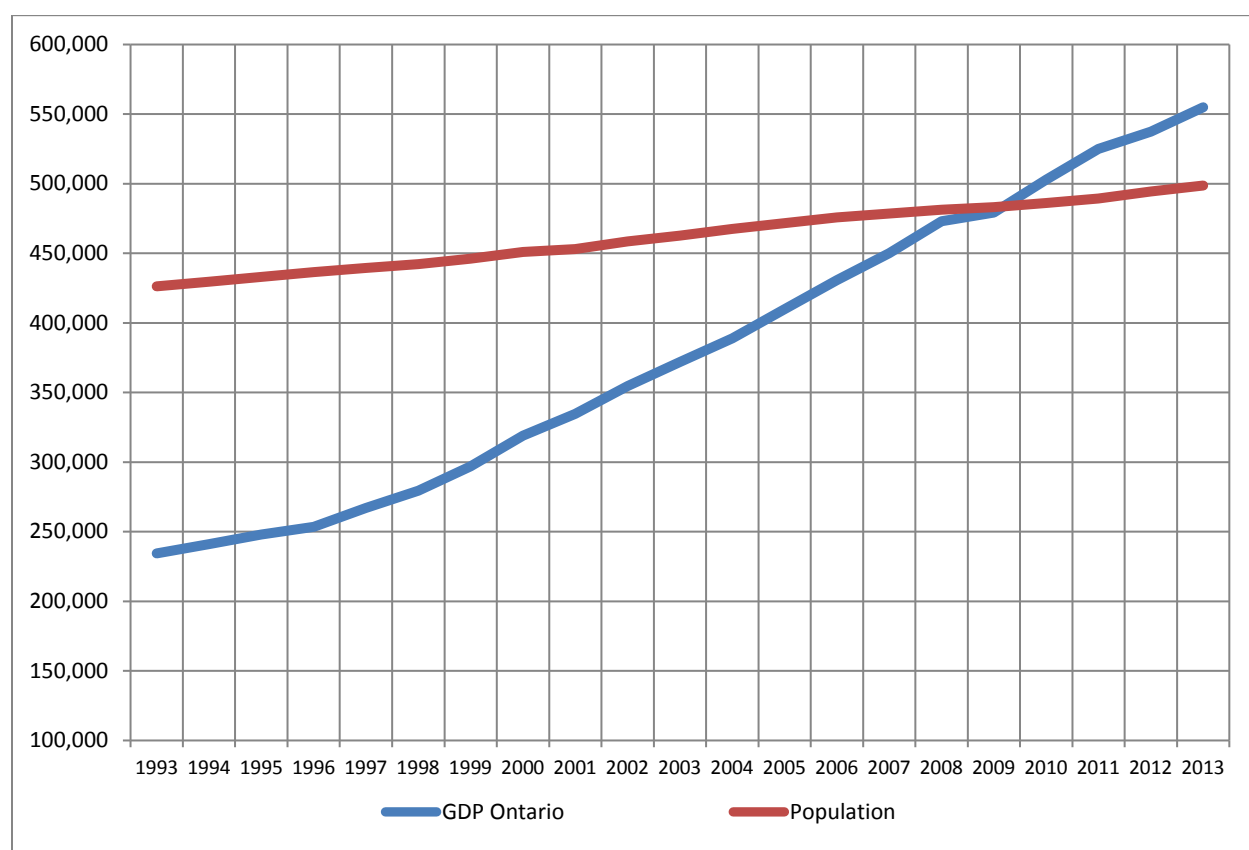
Survey or program details: Labour Force Survey – 3701, Geography (2,6), London, Ontario [3560]

The analysis of the Social Assistance Caseload data evidence for the city of London shows a similar behaviour as the previously Ontario analysis in figure 1. When comparing both SA caseload and unemployment, there is a visual direct correlation of 61.6%, which will be confirmed in the multiple regression analysis. The reason behind this close correlation could be found in the logic of the higher the unemployment the higher the need to request social

assistance help, after exhausting employment insurance. Due to the gravity of the 2007-08 global financial crisis, it is expected, that unemployment would last more than a year, the average employment insurance time coverage would have run out; therefore, requiring further aids, such as social assistance.

Comparative GDP and Population Analysis

Figure 6: Ontario's GDP and London's population from 1991 to 2003



Sources:

Population:

CANSIM Table 051-0056 Estimates of population by census metropolitan area, sex and age group for July 1, based on the Standard Geographical Classification (SGC) 2011, annual (persons)(1,2,3,4,5,7,8)

Survey or program details:

Estimates of Population by Age and Sex for Census Divisions, Census Metropolitan Areas and Economic Regions (Component Method) – 3608

Estimate: Due to lack of data, it was necessary to estimate the first 3 years using the 20 years average growth (0.8%)

GDP:

CANSIM Table 282-0123 Labour force survey estimates (LFS), by provinces, territories and economic regions based on 2011 Census boundaries, annual (1,2,3,4,5)

Survey or program details: Labour Force Survey - 3701

Two important disclosures here: (1) There was not available consistent population data for the years 1991, 1992, and 1993, therefore, it was necessary an estimate using the last 20 year growth rate average; (2) there was not GDP available for the city of London alone, in which case it was necessary to use the Ontario's GDP as a proxy for the city of London.

It appears to be some direct correlation between GDP and population growth. There is some evidence in UK that partially links population growth with improvements in GDP, "The fact that populations and economic output tend to grow in tandem, albeit at different rates, has been well-documented" (Berry, 2014)

MULTIPLE LINEAR REGRESSION RESULTS

Table 1: Correlation Matrix

		GINI	Unemployment Rate	GDP Ontario	Population	Caseload
		X1	X2	X3	X4	Y1
GINI	X1	100.0%	-57.9%	21.5%	35.3%	-44.3%
Unemployment Rate	X2	-57.9%	100.0%	-0.3%	-14.4%	61.6%*
GDP Ontario	X3	21.5%	-0.3%	100.0%	93.3%	-47.0%
Population	X4	35.3%	-14.4%	93.3%	100.0%	-43.3%
Caseload	Y1	-44.3%	61.6%*	-47.0%	-43.3%	100.0%

Given the R Squared (R²), **68%** of the variability of the dependent variable Y1, SA Caseload, is explained by the 4 explanatory variables. Given the p-value of the F statistic computed in the ANOVA table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than what a basic mean would bring.

Based on the Type III sum of squares, the following variables bring significant information to explain the variability of the dependent variable caseload: Unemployment rate, GDP and population.

Among the explanatory variables based on the Type III sum of squares, variable

Unemployment: X2 is the most influential.

Based on the Type III sum of squares, the variable GINI do not bring significant information to explain the variability the dependent variable caseload.

The following is the resulting Equation of the model (Y1):

$$Y1 = -13961.9449508123 - 10227.4355517304 * X1 + 1343.72401566956 * X2 - 0.0252155117156789 * X3 + 0.0642544729951804 * X4$$

Y1: London's Caseload; X1: London's Gini Coefficient; X2: London's Unemployment rate; X3: GDP Ontario; X4: London's Population. The equation model would allow us to predict the dependent variable Y1 given X values for the independent variables.

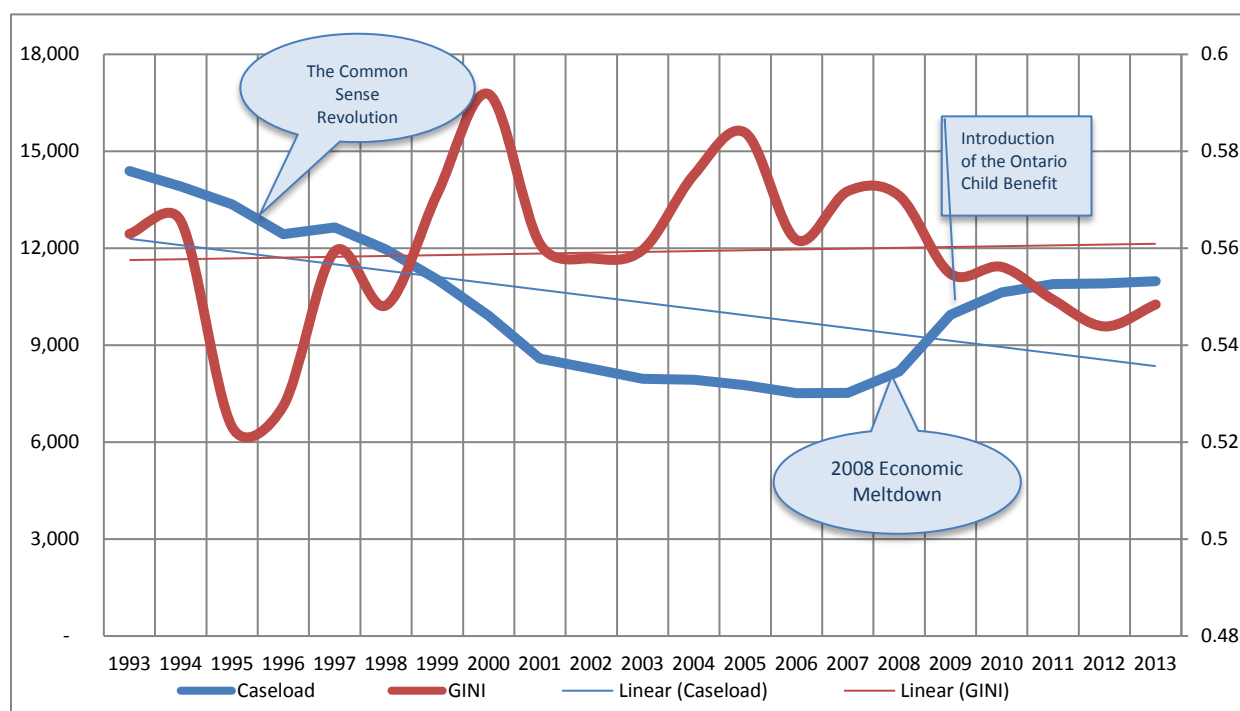
Using the predictive value of the equation, if unemployment rate rises by 1 percent point, it is expected to increase the average SA caseload in 1,343 additional cases. For the GDP, by increasing 10%, the SA caseload goes down by 554 cases. Finally, when the population increases by 10%, the SA caseload is expected to increase by 2,484 cases.

For more details on how to use the predictive value of the equation, please see predictions and residuals (Y1) in the appendix.

MULTIPLE LINEAR REGRESSION ANALYSIS

Comparative Dependent and Independent Variable Analysis

Figure 7: London's Gini Coefficient and Social Assistance Caseload from 1993 to 2013



Sources:

Caseload: Data provided by the City of London's planning and Research Department

Gini Coefficient: CANSIM Table 326-0021 Consumer Price Index (Percentage Change (period-to-period)), annual (2002=100)(2,9)

Table 204-0002 High income trends of tax filers in Canada, provinces and census metropolitan areas (CMA), specific geographic area thresholds, annual (1,2,3,4)

As per the correlation matrix model results, the independent variable X1 – Gini coefficient does not bring significant information to explain the dependent variable Y1 – Social assistance caseload. However, the model as a whole well explains the dependent variable in 68%.

Likewise, as previously stated in the Ontario's social assistance caseload and Gini coefficient analysis, London's results coincide in an inverse correlation, this time of 44.3%. Again, The relationship between these two variables is complex due to the introduction exogenous variables such as policy interventions and macroeconomic cycles. London's social assistance (SA) caseload has been affected for policy and macroeconomic factors, equally shared at a Provincial, and Federal level.

Although, local income levels and structures of wealth affecting the Gini coefficient are still affected by Federal and Provincial fiscal policies and macroeconomic cycles, there are local economic dynamics influencing income equality such as cost of living and unemployment⁷. It is important to highlight that although, the Gini Coefficient for London decreased since 1993 to 2013 by 2.3%, that the total increase since a decade before is considerably higher at 11.53%, displaying an upward trend. Even though, there is no causality between variables, income inequality by itself is an important measure of the economic health of the local population, and it is at this level where opportunities for municipal government policies could impact positively.

London's Social Assistance caseload was equally affected by the Provincial policy changes introduced in 1995 with the implementation of the "Common Sense Revolution" which cut welfare rates by 21.6%; thus prompting London's SA caseload decline of 44%. Another worldwide factor affecting greatly the SA caseload was the 2008 financial crisis, prompting an increase of about 46% in the London's total caseload.

⁷ Please see Local Perspective Section for more detail

CONCLUSIONS

For the City of London's data study in the areas of social assistance, unemployment, population, and income inequality, we ask the research question in the local government context: Is income inequality affecting the social assistance caseload in London, Ontario? The data evidence suggests that income inequality alone is perhaps not the most important driver of social assistance caseload, but instead the unemployment rate variable with 61.6% correlation; however, the four variables together as a model (Income inequality, unemployment, GDP⁸ and population) show a strong 68%⁹ in explaining the total variability of social assistance caseload.

The literature review alerted us about finding a negative relationship between income inequality and social assistance caseload variables, which are explained by important endogenous variables such as socio-economic policy interventions and macroeconomic cycles have played an important role in altering this relationship.

Aside from the variable relationships, important Gini coefficient data has been collected, shedding light on London's state of the Income Inequality. The data evidence for the Gini Coefficient of Income Inequality shows that in average the top 1% of Londoners have 72.33% of the total income of the city, or even more dramatic 50% of the bottom poorest Londoner have only left the 3.86% of the total available income to survive. Although, the research study does not show causal relationship between income inequality and social assistance caseload, or vice versa, they illustrate a reciprocal dependence to each other. Furthermore, it is important to recognize the overall important challenges that income inequality has in the local socio-

⁸ GDP data pertains to Ontario, as specific data for London was not available.

⁹ Given the R Squared (R2), **68%** of the variability of the dependent variable Y1, SA Caseload, is explained by the 4 explanatory variables

economic upward mobility spectrum.

This Major Research Project concludes with a qualified refusal of the paper's thesis: has the rise in the Gini Coefficient of Income Inequality has increased the Social Assistance Services caseload in London-Ontario since 1993 until 2013? No, because the data evidence shows no effect of Gini coefficient over the dependent variable of social assistance for this period; and yes, because the variable relationship seems to have been altered by endogenous factors such as policy intervention and macroeconomic cycles, which are not easily quantifiable by statistical methods alone

Social assistance caseload is affected by a myriad of variables including local economic dynamics, provincial socio-economic policies and global economic cycles.

Chief among socio-economic policies: Subsidy rates reduction, introduction of child benefit, tax cuts, social programs dismantlement, Income transfer decline; and amongst economic cycles: unemployment, deindustrialization, de-unionization and globalization.

As per evidence shows, in term of anticipating social assistance caseload value, unemployment rate will provide a good forecasting statistical tool.

It is paramount to recognize for federal, provincial and local policy makers the historical importance of paying attention to current problems such as mounting income inequality gap; increasing poverty and social assistance caseloads, because of their effective control depends the achievement of the Canadian ideals of a diverse and prosperous modern society or the contrary, a society where few wealthy impose their priorities, compromising the Canadian democratic values and the sustainability as a fair society where we all can dare to dream to build a richer and stronger society where the public good wins over private interests.

POSSIBLE DIRECTIONS FOR ACTION

When designing public policy at the local government level that reduces the level of income inequality, and social assistance caseloads, the Provincial and Federal levels of government have real policy jurisdiction and scope to affect its desired effects; instead, local governments are left with very few policy tools to try to affect socio-economic results. Starting by the federal and Provincial level and then following by a collection of creative local policy changes that may provide progressive socio-economic effects:

Federal and Provincial Policy Recommendations

Trish Hennessy is Director of Strategic Issues with the Canadian Centre for Policy Alternatives, asked Canadian leading experts about how to solve the worsening income inequality problem, and solicited them to submit an idea they think would contribute to reducing inequality. The experts weighed in as follows:

Closing the gap between rich and poor requires government to take action at both ends of the income scale. To reduce incomes of the top 10% we need progressive tax policies, many of which were described in the Alternative Federal Budget 2012 tax chapter. (Canadian Centre for Policy Alternatives, 2016). In brief they include:

(1) Increasing tax rates on top incomes; (2) Reversing the race to the bottom with corporate tax cuts; (3) Eliminating unfair tax preferences, closing tax loopholes and access to tax havens; (4) Applying financial activities or transactions taxes; (5) Introducing an inheritance tax on large

estates. (Howlett, 2012)

It is important to point out that simply raising the income tax rate on the top income brackets will not do the job as the wealthiest get most of their income from investments, not salary, and because they will use loopholes and tax havens to avoid paying taxes. That is why we put forward a package of tax measures that would together do the job. More progressive taxes are probably the most effective way governments can fix the damage done by the market, which is accelerating income inequality. But there are several other ways government can try to rein in the inequality-creating market. (Howlett, 2012) These would include:

- (1) Enacting laws that would support unions, their ability to organize and to bargain collectively;
- (2) Ensuring that immigration policies and temporary worker programs do not under-cut wages of Canadian workers;
- (3) Investing in training and higher education to ensure that there is a highly skilled work force and making sure that higher education is fully accessible to all;
- (4) Adopting an industrial strategy that supports job creation and full employment by diversifying the economy away from over-reliance on resource extraction, investing in public infrastructure, and promoting the green economy. (Howlett, 2012)

To raise the incomes of those on the lower end of the scale we need a national poverty reduction plan that would include the following:

- (1) Implement a national housing strategy that would involve building a minimum of 25,000 social housing units per year (this will likely require expenditures of \$1.5 billion annually);
- (2) Implement a national child care and early childhood education program, which will especially help low-income single parents in their ability to get jobs (Saulnier, 2012);
- (3) Improve the

Employment Insurance program so that more of those who become unemployed can qualify for benefits and are prevented from falling into poverty, from which it can be difficult to escape; (4) Reinstating a federal minimum wage and indexing it to inflation to ensure that someone working full-time will be able to escape poverty; (5) Create a national pharmacare plan that would provide first-dollar coverage for prescription drugs, (7) removing a major barrier to employment for those on welfare; (8) Implement a plan to reduce First Nations and Aboriginal poverty (MacKinnon, 2012); and (9) a fully-funded higher education (university and college) would allow students to graduate without carrying crippling debt, ensuring that society would realize full and immediate economic and social returns of a highly educated society. (Hennessy, 2012)

Local Policy Recommendations

Progressive Taxation: Graduated Property Tax

Canadian municipalities have limited revenue tools with a vast array of service demands. How can we create more revenue generating options, but most importantly, how to make them less regressive, which disproportionately hurt the citizens with the lowest incomes, and to adopt a more progressive system which taxes higher the most able to pay. (Thompson, 2014).

A progressive residential property tax that is geared-to-income would align very well with London's Ending Poverty Initiative goal to ending poverty within one generation.

The possibility for the City of London to adopt a graduated residential property tax as a tool that both can boost revenues and improve income equality, and end poverty. A graduated

property tax method is tax with an incremental rate. It is a proxy for a geared-to-income system in the sense that the tax rate is progressive to the value of the residential dwelling, that is, the more expensive the dwelling the higher the property taxes, similarly as the federal and provincial income taxes currently do. (Cardona, 2016).

City of London - Ending Poverty Initiative

As one of the City of London, Mayor Matt Brown's staple policies of his administration, the Ending Poverty Initiative has potential to decrease poverty and social assistance caseloads, one of the components of income inequality.

The aim is to end poverty in London in 20 years, which means removing 3,100 Londoners from poverty each year (as measured by Statistics Canada's low-income measure)

The goal in the next 12 months for this initiative is to: develop a campaign to educate the community on poverty; accelerate skills-training programs to meet local labour market needs, become a basic income guarantee pilot site, invest in housing allowances to support flexible permanent residency; leverage funding and investing in redeveloping social housing; reduce transit costs for low-income earners; allow children under 12 to ride public transit for free; increase number of licensed childcare spaces; reduce wait time to receive childcare subsidy; and support development of regional food policy council charged with developing food security. (City of London, 2016)

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APPENDIX

Multiple Linear Regression

Table 2: Multiple Regression Variable Data Values

Years	Caseload	GINI	Unemployment Rate	GDP Ontario	Population
1991	8,789	0.533	7.758	219,686	386,591
1992	12,823	0.535	8.858	227,305	391,037
1993	14,389	0.563	8.700	234,403	426,265
1994	13,910	0.566	7.700	241,060	429,640
1995	13,361	0.523	7.767	247,916	433,042
1996	12,434	0.528	8.567	253,468	436,471
1997	12,644	0.559	8.142	266,936	439,584
1998	11,965	0.548	6.341	279,540	442,122
1999	11,031	0.571	6.758	296,908	446,122
2000	9,909	0.592	6.025	319,116	450,871
2001	8,588	0.561	6.200	334,692	453,092
2002	8,276	0.558	7.000	354,572	458,647
2003	7,959	0.560	6.600	371,905	462,738
2004	7,929	0.575	5.700	388,809	467,622
2005	7,765	0.584	6.300	409,736	471,711
2006	7,515	0.562	6.000	430,671	475,903
2007	7,524	0.572	6.100	450,039	478,492
2008	8,192	0.571	7.000	473,150	481,249
2009	9,945	0.555	9.800	479,175	483,045
2010	10,636	0.556	8.500	502,831	486,129
2011	10,889	0.549	8.500	524,915	489,461
2012	10,911	0.544	8.000	537,329	494,437
2013	10,976	0.548	7.900	554,911	498,687

Descriptive Statistics

Summary statistics (Quantitative data)

	Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Caseload	Y1	23	0	23	7,515	14,389	10,363	2,206
GINI	X1	23	0	23	0.523	0.592	0.557	0.017

Unemployment Rate	X2	23	0	23	5.700	9.800	7.401	1.137
GDP Ontario	X3	23	0	23	219,686	554,911	365,177	111,305
Population	X4	23	0	23	386,591	498,687	455,781	30,265

Multicollinearity statistics:

	GINI	Unemployment Rate	GDP Ontario	Population
	X1	X2	X3	X4
Tolerance	0.574	0.627	0.109	0.102
VIF	1.743	1.596	9.138	9.789

Regression of variable Y1:

Goodness of fit statistics (Y1):

Observations	23
Sum of weights	23
DF	18
R ²	0.677
Adjusted R ²	0.605
MSE	1920184.580
RMSE	1385.707
MAPE	10.234
DW	1.125
Cp	5.000
AIC	337.125
SBC	342.802
PC	0.502
Press	68796568
Q ²	.566
	0.357

Analysis of variance (Y1):

Source	DF	Sum of squares	Mean squares	F	Pr > F
Model	4	72495537.605	18123884.401	9.439	0.000

		34563322.4	1920184.
Error	18	46	580
Corrected		107058860.	
Total	22	051	

Computed against model $Y=Mean(Y)$

Type I Sum of Squares analysis (Y1):

	Source	DF	Sum of squares	Mean squares	F	Pr > F
			20985914.6	20985914		
GINI	X1	1	57	.657	10.929	0.004
Unemployment Rate	X2	1	22	.622	10.819	0.004
			22236527.1	22236527		
GDP Ontario	X3	1	33	.133	11.580	0.003
			8499221.19	8499221.		
Population	X4	1	4	194	4.426	0.050

Type III Sum of Squares analysis (Y1):

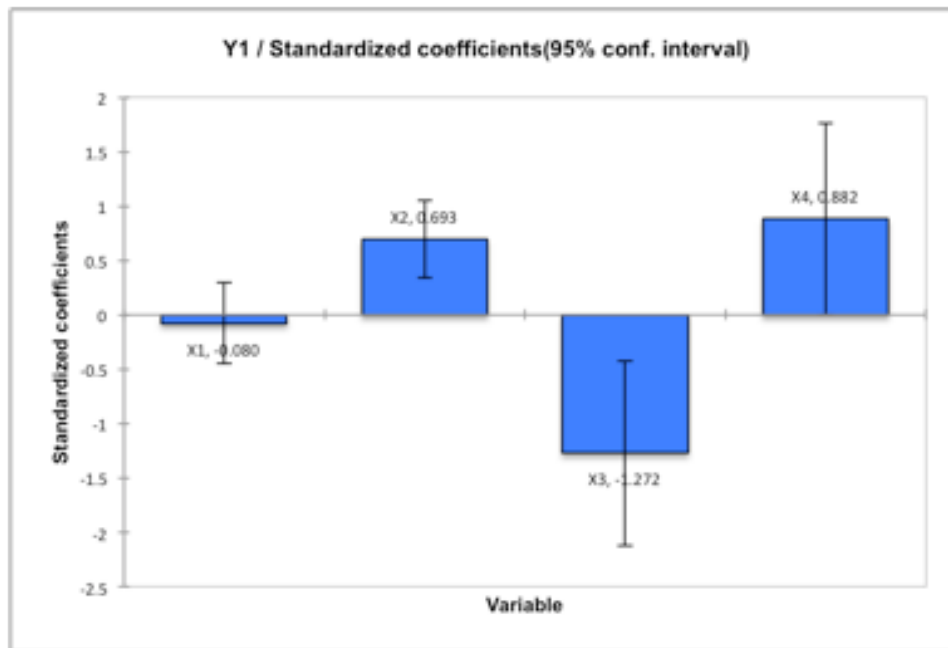
	Source	DF	Sum of squares	Mean squares	F	Pr > F
				391284.8		
GINI	X1	1	391284.897	97	0.204	0.657
Unemployment Rate	X2	1	32	.232	16.763	0.001
			18963534.9	18963534		
GDP Ontario	X3	1	37	.937	9.876	0.006
			8499221.19	8499221.		
Population	X4	1	4	194	4.426	0.050

Model parameters (Y1):

	Source	Value	Standard error	t	Pr > t	Lower bound (95%)	Upper bound (95%)
		-					
	Intercept	13961.94	15767.680	-0.885	0.388	-47088.611	19164.721
		-					
		10227.43					
GINI	X1	6	22656.441	-0.451	0.657	-57826.853	37371.982
Unemployment Rate	X2	1343.724	328.194	4.094	0.001	654.213	2033.235
GDP Ontario	X3	-0.025	0.008	-3.143	0.006	-0.042	-0.008
Population	X4	0.064	0.031	2.104	0.050	0.000	0.128

Standardized coefficients (Y1):

	Source	Value	Standard error	t	Pr > t	Lower bound (95%)	Upper bound (95%)
GINI Unemployment Rate	X1	0.080	0.177	0.451	0.657	-0.451	0.292
	X2	0.693	0.169	4.094	0.001	0.337	1.048
GDP Ontario Population	X3	1.272	0.405	3.143	0.006	-2.123	-0.422
	X4	0.882	0.419	2.104	0.050	0.001	1.762



Predictions and residuals (Y1):

Observation	Weight	GINI	Unemployment Rate	GDP Ontario	Population	Caseload	Pred(Y1)	Residual	Std. residual	Studentized residuals	Std. dev. on pred. (Mean)	Lower bound 95% (Mean)	Upper bound 95% (Mean)	Std. dev. on pred. (Observation)	Lower bound 95% (Observation)	Upper bound 95% (Observation)	Adjusted Pred.	Cook's D
		X1	X2	X3	X4	Y1												
1991	1	0.53	7.76	219686.0	386591.0	8789.2	10314.6	-1525.5	-1.1	-1.7	1040.3	8129.1	12500.1	1732.7	6674.3	13954.9	12284.5	0.7
1992	1	0.53	8.86	227305.0	391037.0	12823.0	11867.2	955.8	0.7	0.9	937.1	9898.6	13835.9	1672.8	8352.8	15381.7	11061.9	0.1
1993	1	0.56	8.70	234403.0	426264.6	14388.7	13449.6	939.1	0.7	0.8	745.4	11883.6	15015.6	1573.5	10143.9	16755.3	13067.2	0.1
1994	1	0.57	7.70	241060.0	429639.9	13910.4	12127.7	1782.7	1.3	1.4	565.4	10939.8	13315.7	1496.6	8983.4	15272.0	11771.6	0.1
1995	1	0.52	7.77	247916.0	433042.0	13360.8	12697.6	663.2	0.5	0.6	841.5	10929.6	14465.6	1621.2	9291.5	16103.6	12310.1	0.0
1996	1	0.53	8.57	253468.0	436471.0	12433.7	13808.2	-1374.5	-1.0	-1.2	796.3	12135.2	15481.1	1598.2	10450.4	17165.9	14485.9	0.1
1997	1	0.56	8.14	266936.0	439584.0	12644.0	12771.7	-127.7	-0.1	-0.1	577.9	11557.5	13985.8	1501.4	9617.4	15926.0	12798.5	0.0
1998	1	0.55	6.34	279540.0	442122.0	11964.7	10311.4	1653.3	1.2	1.3	608.1	9033.9	11588.9	1513.3	7132.2	13490.6	9917.1	0.1
1999	1	0.57	6.76	296908.0	446122.0	11031.0	10455.1	575.9	0.4	0.4	457.1	9494.8	11415.5	1459.2	7389.6	13520.7	10384.8	0.0
2000	1	0.59	6.03	319116.0	450871.0	9908.9	9005.3	903.6	0.7	0.8	718.2	7496.3	10514.3	1560.8	5726.2	12284.4	8673.3	0.0
2001	1	0.56	6.20	334692.0	453092.0	8588.3	9306.3	-718.0	-0.5	-0.5	452.9	8354.7	10257.9	1457.9	6243.5	12369.2	9392.2	0.0
2002	1	0.56	7.00	354572.0	458647.0	8276.0	10267.7	-1991.7	-1.4	-1.5	341.4	9550.4	10985.0	1427.1	7269.4	13266.0	10396.4	0.0
2003	1	0.56	6.60	371905.0	462738.0	7958.6	9538.1	-1579.5	-1.1	-1.2	382.8	8733.9	10342.3	1437.6	6517.8	12558.4	9668.6	0.0
2004	1	0.58	5.70	388809.0	467622.0	7929.4	8057.8	-128.4	-0.1	-0.1	535.1	6933.6	9182.1	1485.4	4937.0	11178.6	8080.3	0.0
2005	1	0.58	6.30	409736.0	471711.0	7765.3	8510.3	-745.1	-0.5	-0.6	550.3	7354.2	9666.4	1491.0	5377.9	11642.7	8649.8	0.0
2006	1	0.56	6.00	430671.0	475903.0	7514.7	8074.9	-560.2	-0.4	-0.4	539.3	6941.8	9208.0	1487.0	4950.9	11198.9	8174.9	0.0
2007	1	0.57	6.10	450039.0	478492.0	7524.0	7784.3	-260.3	-0.2	-0.2	511.5	6709.7	8859.0	1477.1	4681.1	10887.6	7825.4	0.0
2008	1	0.57	7.00	473150.0	481249.0	8191.9	8597.8	-405.8	-0.3	-0.3	468.0	7614.5	9581.0	1462.6	5524.9	11670.6	8650.0	0.0
2009	1	0.55	9.80	479175.0	483045.0	9944.8	12488.2	-2543.4	-1.8	-2.3	830.3	10743.7	14232.7	1615.4	9094.3	15882.1	13913.0	0.6
2010	1	0.56	8.50	502831.0	486129.0	10636.1	10328.6	307.5	0.2	0.2	556.0	9160.5	11496.7	1493.1	7191.7	13465.5	10269.6	0.0
2011	1	0.55	8.50	524915.0	489461.0	10889.1	10055.0	834.1	0.6	0.7	595.3	8804.2	11305.7	1508.2	6886.4	13223.6	9866.2	0.0
2012	1	0.54	8.00	537329.0	494437.0	10910.6	9446.2	1464.4	1.1	1.2	636.0	8110.0	10782.4	1524.7	6243.0	12649.5	9055.4	0.1
2013	1	0.55	7.90	554911.0	498687.0	10976.0	9095.3	1880.7	1.4	1.5	638.8	7753.3	10437.2	1525.8	5889.6	12300.9	8587.8	0.1

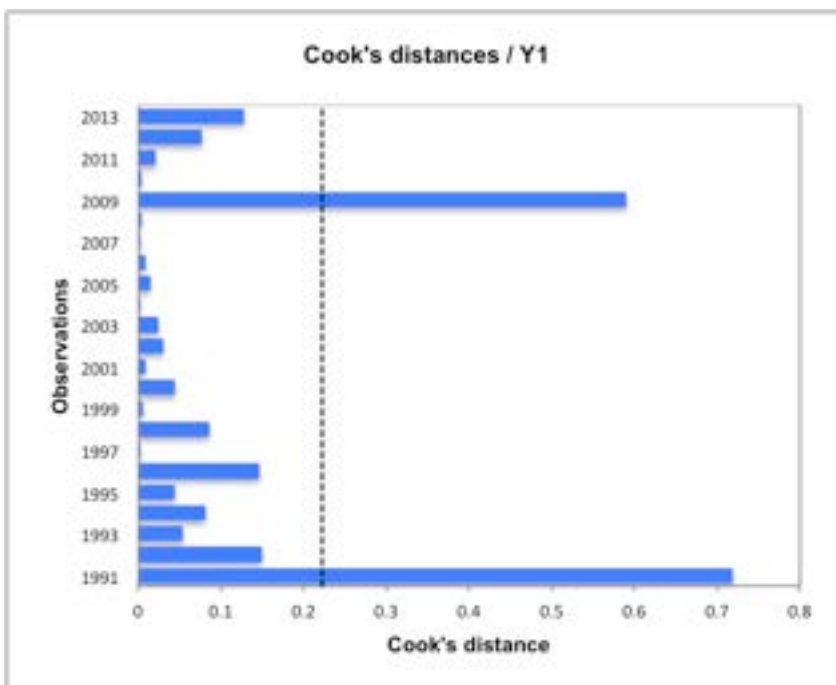
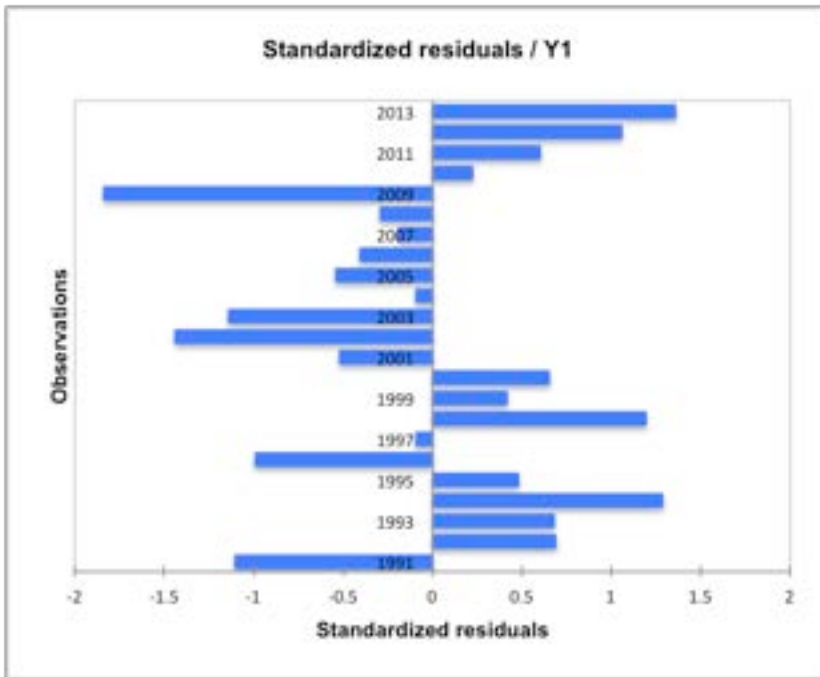


Table 3: Ontario's Social Assistance & Income Inequality data values from 1993 to 2013

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Caseload M	N/A	N/A	390	380	362	310	262	216	197	195
Gini	0.57	0.58	0.55	0.56	0.58	0.60	0.60	0.63	0.62	0.61

Year	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Caseload M	192	192	198	199	195	202	238	251	261	260	253
Gini	0.61	0.62	0.62	0.63	0.63	0.62	0.60	0.61	0.61	0.60	0.61

Table 4: Summary of Ontario's Social Assistance and Income Inequality Policy Evolution

Year	Ontario Social Assistance Policies	Ontario Income Equality Policies
1989	A number of progressive welfare reforms took place in Ontario in 1989 and 1991 as a direct result of the Transitions report of the Social Assistance Review Committee in 1988	Within the period from 1981 to 1999 cutbacks to government spending on social programs also contributed to the rise in inequality. The evidence suggests that globalization has affected income inequality. Trade openness is clearly an important factor behind the rise in inequality across Canadian provinces.
1990	The 1990s recession hit Ontario hard - welfare dependency skyrocketed and the cap on CAP added more fiscal pressure on the province	
1991	When the NDP came to power in 1991, they improved earnings exemptions, increased rates of assistance and made the system more equitable	
1992	A 1992 advisory group report commissioned by the government advocated more spending on benefit improvements and social supports to help people to move to self-sufficiency; the government ignored the report because it had already shifted into cost-containment mode. The Provincial Auditor General's Reports in 1992 and subsequent years said the province	

Year	Ontario Social Assistance Policies	Ontario Income Equality Policies
	was losing hundreds of millions of dollars to fraud and program mismanagement	
1993	In 1993, the government released Turning Point, a discussion paper that included proposals for an Ontario Child Income Program, an Ontario Adult Benefit and Job Link; the new programs were to take effect in 1995, but only Joblink would survive the transition to the new Tory government that year.	
1994	1994 - a few cuts in basic and special assistance, but much more emphasis on fraud Investigations and more rigid application of controls.	
1995	<p>1995 - Harris government won the provincial election (June).</p> <p>21.6% welfare rate cut (October 1995) for everyone (except seniors and disabled) on welfare.</p> <p>Thousands of single parents in common-law relationships saw their benefits cut off (FBA) or cut back; formerly, the province had a three-year grace period, but the second adult was considered a boarder.</p> <p>Youth were cut off welfare except in exceptional cases.</p> <p>October 1995 - province-wide welfare fraud line introduced.</p>	
1996	<p>By 1996, the province had saved \$8.6 million (one-third of original estimated savings).</p> <p>Cuts in direct funding to municipal social services agencies and cuts in transfers to municipalities, resulting in lower municipal grants to those same agencies.</p>	
1997	Ontario signed a six-year deal with Andersen Consulting to find efficiencies in the system and to improve the computer technology.	
1998	June 1997: the government introduced its	Post-1998, Ontario's earnings gap shrank back

Year	Ontario Social Assistance Policies	Ontario Income Equality Policies
	<p>welfare reform legislation, the Social Assistance Reform Act, to take effect in January 1998</p> <p>In 1998, the federal and provincial governments joined together on the creation of the National Child Benefit Supplement (NCBS), an additional income benefit for families with children in low income. The NCBS, however, specifically allowed the provinces to claw back that benefit from families who were receiving social assistance.</p>	<p>to below national levels. But that has not translated to a better-than-average distribution of incomes at the end of the day, in after-tax terms</p>
2003	<p>In 2003, a new provincial government, led by former Premier Dalton McGuinty, was elected. It was expected that this new government would reverse at least some of the damage to social assistance, but progress has been halting, to say the least</p>	
2004	<p>The McGuinty government was elected in 2003 with the expectation that the erosion of income security for those who qualify for social assistance would be reversed. The erosion of rates compared to the poverty line may have slowed after that election, but only couples with two children on OW experience a smaller poverty gap today compared to 2003</p>	
2008		<p>Federal program cuts to unemployment insurance have had a grave impact on Ontario workers suffering from the 2008 recession</p>
2009	<p>The Ontario Child Benefit has proven to be a real workhorse: in 2009, the OCB was increased to a maximum of \$1,100 annually per child in that year. By 2013, more than 530,000 families received a benefit worth a maximum of \$1,210 per child.</p>	<p>Ontario's slow recovery from the 2008 recession and devastating losses to employment in the manufacturing and resource sectors will now be further challenged by cuts in the public sector and income transfer programs.</p>
2011	<p>In the 2011 budget, Ontario introduced the Trillium Benefit. It combined three pre-existing tax credits available to all low-income Ontarians. These credits were formerly paid out either quarterly or in an annual lump sum</p>	<p>Ontario's budget plan asks almost nothing of high-income Ontarians who are taking home more than ever</p>

Year	Ontario Social Assistance Policies	Ontario Income Equality Policies
	after-tax filing	
2012	Starting in 2012, they began to be paid on a monthly basis. The change did not increase total benefit income, but the monthly delivery provided a more stable source of funds to mitigate cost of living. The Trillium Benefit and the federal GST credit are both adjusted for inflation to protect against the erosion of their value due to the rising cost of living	Today, 2012, Ontario is at or near the bottom of the country in measures of income inequality and economic security
2013	Other reforms were introduced in 2013, such as increased employment exemptions, asset levels and gift amounts, were welcomed by advocates as positive contributions to improving the programs. However, benefit reductions proposed or enacted in 2012 and 2014 were met with significant resistance. Government either abandoned these changes or mitigated the negative impact of the changes with new investments Annual top ups of \$14 a month in 2013.	Ontario's budgets for the last fifteen years have repeatedly prioritized tax cuts while casting concomitant cuts to social programs as necessities rather than choices. Social policies that temper inequalities experienced by women and racialized communities have been dismantled. Social programs that benefit all Ontarians and redistribute income through free public services such as education and health care face relentless budget pressure.
2014	By 2014, the gap had widened dramatically to 59%. People receiving benefits from Ontario's social assistance programs are living in a greater depth of poverty now than a generation ago Annual top ups of \$25 a month in 2014	Income transfer programs such as social assistance and disability have declined precipitously as inflation has outpaced meager increases.
2015	As of December 2015, there were 900,000 Ontarians—654,000 adults and 253,000 children—relying on Ontario Works and ODSP to meet their basic needs. Annual top ups of \$20 a month in 2015	

Sources: (Mehra, 2012), (Yalnizyan, 2007), (Tiessen, 2016), and (Lankin & Sheikh, 2012) & http://www.canadiansocialresearch.net/1990s_welfare_reforms.htm