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**MAJOR RESEARCH PAPER:**  
**Enhancing the Working Income Tax Benefit to Influence Income  
Inequality in Canada: A Comparative Program Review and  
Exploration of Possible Reforms**

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Presented to Professor Miles Corak

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## Abstract

Income inequality is an important public policy issue because of the negative effects it can have on social mobility, the economic performance of a country, and social cohesion. Inequality has increased in Canada over the last 30 years because of changes in the labour market, demographics, and redistributive policies. These trends have led to increasing incomes at the top of the distribution and stagnant or decreasing incomes in the middle and bottom of the distribution. By supplementing the wages of workers at the bottom of the distribution, the Working Income Tax Benefit can help to counteract the increasing divergence between the incomes of skilled and unskilled workers, which is an important driver of inequality. Findings of a comparison of the WITB and the Earned Income Tax Credit in the United States show how possible reforms to the program could have an equalizing effect on the bottom half of the income distribution.

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# **Enhancing the Working Income Tax Benefit to Influence Income Inequality in Canada: A Comparative Program Review and Exploration of Possible Reforms**

## **Introduction**

Income inequality has emerged as an important public policy issue in Canada, gaining particular media attention since the “Occupy” movement in the fall of 2011. In part this was spurred by the important job losses during the recession unleashed by the 2008 financial crisis. Although Occupy focused mostly on the United States, the gap between rich and poor has been growing in most OECD countries during the last two decades. Canada has not escaped this trend.

Income inequality is considered to be a complementary measure to income per capita as a measure of well-being. Per capita income is based on the total amount of income in a country, but does not reveal how it is distributed. Inequality is often framed in the context of how much income the richest fraction of society possesses in comparison to the poorest. It is important to distinguish inequality from poverty. Even if those in the lowest income groups are making small economic gains, these gains should be considered in relation to those obtained by other income groups because “rising income inequality creates economic, social and political challenges. It can stifle upward social mobility, making it harder for talented and hard-working people to get the rewards they deserve.” (OECD 2011, p. 40) Though the relationship is not straightforward, if rising inequality leads to inequality of opportunity, it can impact the economic performance of a country.

There is also a risk that higher levels of inequality can cause political instability because of the social resentment that it breeds (OECD 2011).

This paper explores the evolution of income inequality in Canada, with a particular focus on those at the bottom of the income distribution. The main argument is that the federal government could enhance the Working Income Tax Benefit (WITB) to counteract some of the driving trends of inequality. This argument is explored in two parts. The first part is an overview of indicators of inequality, an analysis of changes in these indicators and trends driving inequality. These provide context and show the scope of the issue in Canada. The second part is a policy response to the issue, which introduces WITB and describes how it can influence certain drivers that are widening the income distribution. It also provides a comparative review of the program design with that of the Earned Income Tax Credit in the United States. It concludes with an exploration of possible reforms that can further influence these drivers.

There are several indicators that can be used to measure income inequality. All measures presented help to show how the income distribution in Canada has widened over the last 30 years. An overview of net receipt of government public services and transfers by income quintile highlights that those at the bottom of the income distribution are not the largest beneficiaries of redistribution. There are a number of social and economic factors driving the widening of the income distribution in Canada, including changes in the labour market, demographic structure, and the redistribution of the tax and transfer system.

Improving government redistribution is a policy pillar recommended by the OECD to reduce inequality (OECD 2011). Cash transfers, such as refundable tax credits, can counteract inequality by increasing the earnings of those at the bottom of the income distribution. The Working Income Tax Benefit (WITB) is one of the transfers offered by the Canadian federal government that could be enhanced for this purpose. A description and theoretical analysis show that it is designed to encourage low-income individuals to participate in the labour market by supplementing earnings received through employment. However, this analysis demonstrates that the benefits rate is too low, and coverage is restricted to people too far down the income distribution for the policy to effectively influence some of the driving trends of inequality.

A brief description of income inequality in the United States, including a discussion of changes to the income distribution over time and a review of findings on the Earned Income Tax Credit (EITC), a transfer program similar to the WITB, serves as a reference for possible reforms to the WITB. Although the US has a wider income distribution than Canada, trends in the level of inequality in both countries have been similar in recent years. Furthermore, it was found that the EITC reduces after-tax income inequality in the US. This is likely because of its effects on labour market participation and poverty reduction. Given the similar trends in recent changes to the income distribution in both countries, the reforms to the EITC and their effects may provide some insight for Canadian policymakers and offer some justifications for enhancing the WITB.

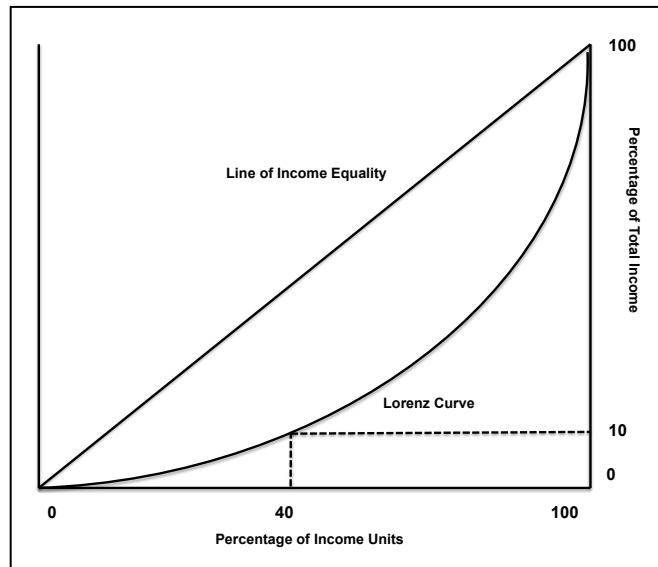
The possible changes explored in this paper include: increasing the generosity of the WITB, extending the maximum benefit plateau, eliminating the minimum income eligibility requirement, and adjusting phase-out rates. A discussion on possible reforms and an analysis of the desired effect of these reforms consider the tradeoffs faced by policymakers and how the reforms could influence certain drivers of inequality in Canada.

## **1. Measurement, historical development, and drivers of income inequality in Canada**

### **Measures of Inequality and Historical Trends**

There are several ways to measure income inequality. Each has its own advantages and disadvantages. The most commonly used indicator is the GINI Coefficient: “The coefficient may be seen to range from 0 when incomes are equal to 1 at the other extreme.” (Atkinson 1975, p. 45)

Figure 1  
Lorenz Curve



(Source: Atkinson 1975, p.15)

It is calculated by dividing the area between the Lorenz curve and the 45-degree diagonal by the total area under the diagonal. The Lorenz curve is a figure used to visualize an income distribution, by indicating “the share of total income which is received by the  $x$  bottom percent of income units.” (Atkinson 1975, p. 15) Figure 1 provides an illustration of a Lorenz curve. It can be used to compare the distribution of income across different countries or over time within a country.

It is important to note “if Lorenz curves for two distributions do not intersect, then we can say unambiguously that the distribution closer to the diagonal is less unequal than the other.” (Atkinson 1975, p. 47) However, if the Lorenz curves do intersect, the equality of two distributions cannot be compared unless some form of social welfare weight for different income levels is used. That is to say, there needs to be “an implicit judgement

about the weight to be attached to inequality at different points on the income scale.” (Atkinson 1975, p. 47) Another limitation of the GINI coefficient as measure of income inequality is “that it places disproportionate weight on movements in inequality in the centre of the distribution and less at the extreme ends.” (Fortin, Green, Lemieux, Milligan, and Riddell 2012, p. 122) Given these limitations, the GINI coefficient is best used in combination with other measures of income inequality.

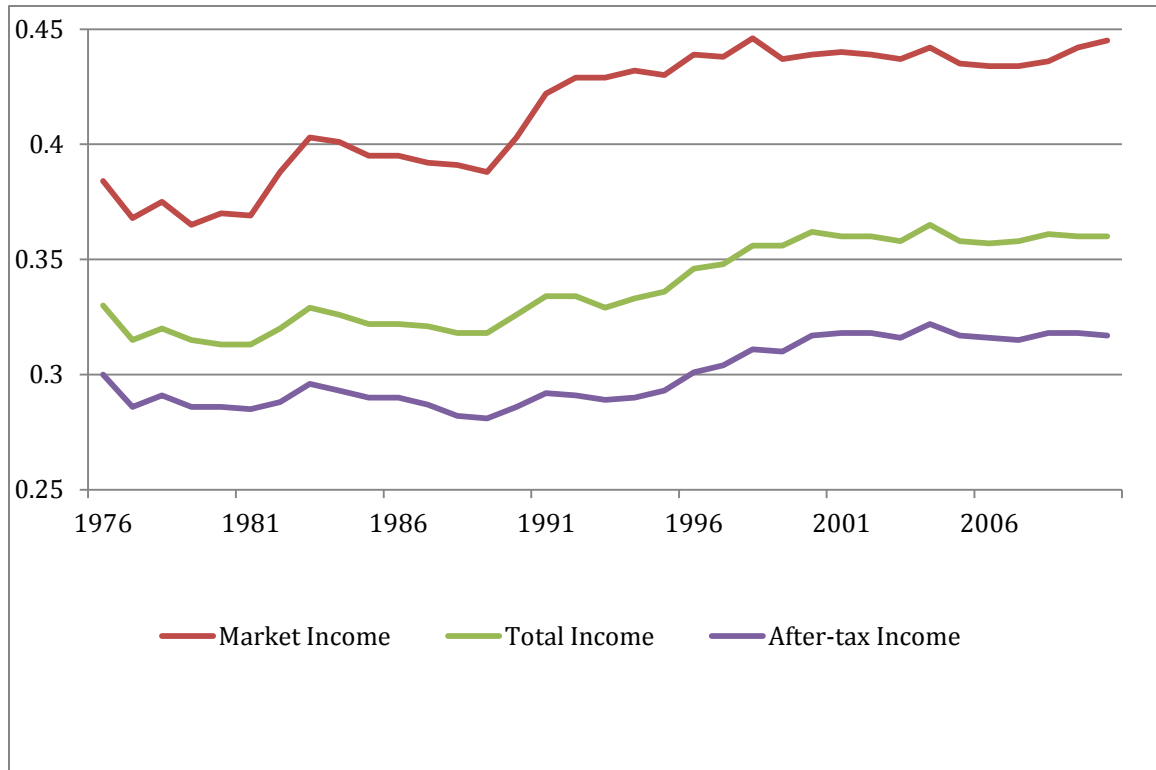
The GINI coefficient for after-tax income in Canada was 0.28 in 1989 and rose to 0.32 in 2010 (Statistics Canada 2012). This implies that inequality of after-tax income has increased by roughly 14% in the last 21 years. When comparing the increase of inequality in Canada to other OECD countries, it can be seen that the level of inequality in Canada is now above the average. “The GINI coefficient stood at an average of .29 for working-age persons in OECD countries in the mid-1980s. By the late 2000s, it had increased by almost 10% to .316” (OECD 2011, p. 22). Canada has thus gone from having below average income inequality to being above the average. The percentage increase is also above the OECD average (OECD, 2011). Appendix 1 provides the change in GINI coefficients of select OECD countries.

An important factor to consider when calculating or analysing a GINI coefficient, and other measures of inequality for that matter, is the type of income that is being used in the calculations. The three measures of income used in Canada to calculate income distribution are market income, total income, and after-tax income. Market income includes earnings plus net investment and private income, total income includes market

income plus transfer payments, and after-tax income accounts for income after all total taxes and transfers (Statistics Canada 2012). Comparing the three types of income helps to highlight the impact of labour markets and the effect of government taxes and transfers on the total income distribution. Canada's GINI coefficient in 2010 using market income was 0.45, 0.36 for total income and 0.32 for after-tax income. Income inequality as expressed by the after-tax GINI coefficient was thus roughly 71% of the level of inequality for market income (Statistics Canada 2012).

Figure 2 shows that income inequality in Canada has experienced an increasing trend since the mid-1970s. The increase was particularly pronounced during the mid-1990s, though it levelled off slightly in the mid-2000s. The sharp increase in the mid-1990s can be explained by a reversal of tax and transfer policies at the provincial level as governments began to scale back social assistance transfers and raise/lower taxes on top earners (Fortin, Green, Lemieux, Milligan, and Riddell 2012). Since the mid-1990s, total tax revenue in Canada has fallen from 36% to 33% of GDP and spending on social programs and transfers has fallen from 19% of GDP to 17% (OECD 2011). These policies among others consequently led to higher levels of inequality in Canada. The GINI for market income began to increase more sharply as of 2008, which can be attributed to the economic downturn.

Figure 2  
 Increase in Income Inequality in Canada measured by a GINI Coefficient for Market Income, Total Income and After-Tax Income 1976-2010

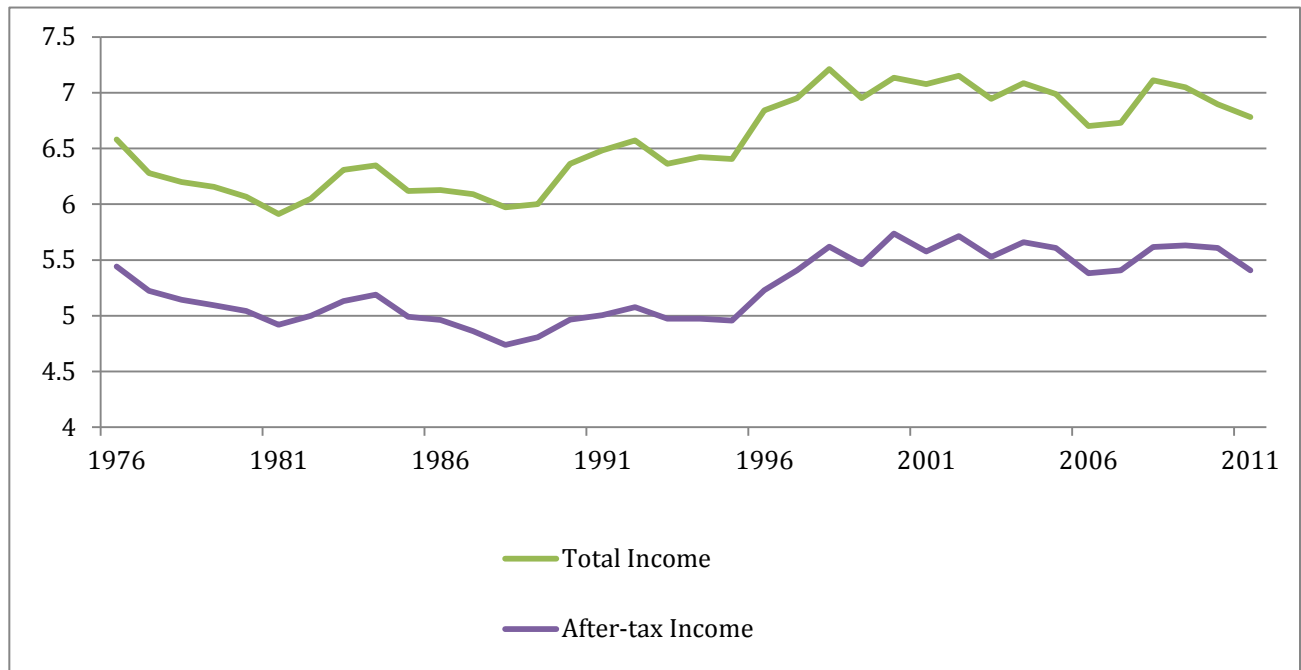


(Source: Statistics Canada 2012, CANSIM Table 202-0709)

However, it remained constant for the other two measures of income. This would suggest that taxes and transfers cancelled out the increase inequality for these years.

Another useful indicator of inequality is the ratio of top to bottom income, which shows the changes to the income distribution at the extreme ends of the income scale and highlights the gap between those best and worse off. This measure can be calculated by dividing the population into any fraction, but quintiles will be used throughout this paper.

Figure 3  
Ratio of Top-to-Bottom quintiles for Total and After-Tax Income of Economic Families in Canada 1976-2011



(Source: Statistics Canada 2012, CANSIM Table 202-0701)

Note: The ratio is calculated by dividing the average income of economic families in the top income quintile by the average income of economic families in the bottom quintile. This figure shows the changes in the ratio from 1976 to 2011 for the three types of income measures used in Canada.

To obtain the ratio, the average income in the top quintile is divided by the average income in the bottom quintile. The ratio gives the amount of income a top earner receives on average for every \$1 earned by an individual in the lowest quintile. As illustrated in Figure 3, the growth of the inequality varies depending on the type of income.

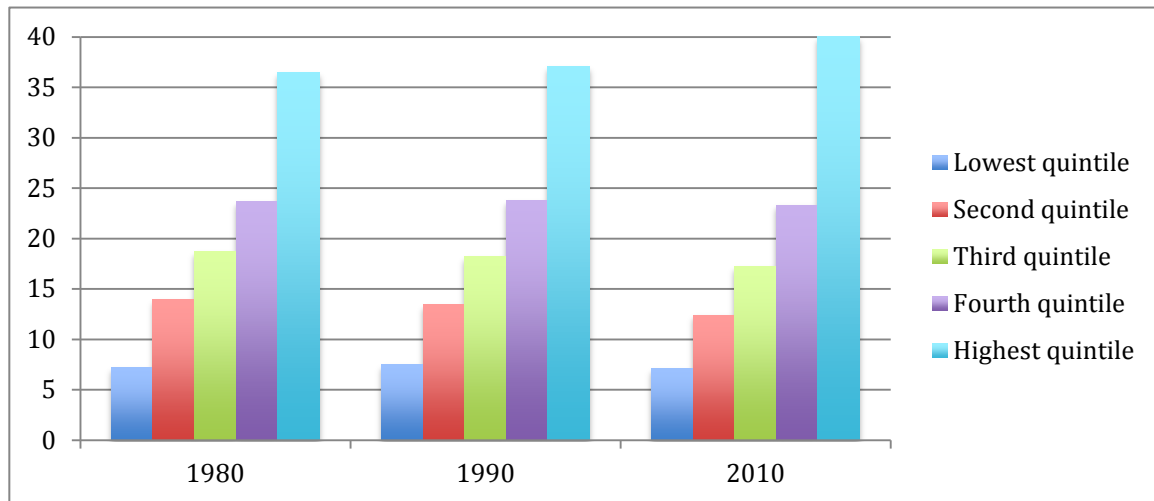
Government taxes and transfers compress the wage distribution. In 2011, the top-to-bottom income ratio was 17.2 for market income and 5.4 for after-tax income (Statistics Canada 2012). When placed into a historical context, the top-to-bottom income ratio has been steadily increasing in recent years for total and after-tax income, particularly during

the 1990s and early 2000s. For after-tax income, the top-to-bottom income ratio was 4.9 in 1981, 5.0 in 1991, 5.6 in 2001 and 5.4 in 2011 (Statistics Canada 2012). This indicator reveals much more volatile changes in inequality of market income. The ratio for market income increased sharply in the late 1980s and early 1990s, but decreased throughout the early to mid-2000s. It then increased from 2006 to 2010. Appendix 2 provides a visualization of changes to the ratio for all three types of income.

A third measurement of inequality is the share of national after-tax income earned by a given fraction of the population. Changes in inequality can be measured by the change in the share earned by a particular fraction of the population over time. For example, the top income quintile in Canada currently earns 39.7% of all after-tax income compared to 7.3% for the bottom 20%. As illustrated in Figure 4, this measure also displays an increase in inequality in recent decades as the share of all after-tax income captured by the top income quintile grew more steadily relative to the other quintiles. In 1990, the top earners' share was roughly 37% and increased to 40% in 2010, which represents an 8% increase (Statistics Canada 2012).

It is difficult to capture a very significant increase in top income shares using data derived from surveys since there tends to be under-reporting of incomes at the top of the distribution. In addition, relatively few of the highest earners are captured in surveys based upon random sampling of the population. Administrative data associated with the tax system reveals more significant gains for the top 1% of earners in Canada.

Figure 4  
Share of After-tax Income by Quintile of Economic Families in Canada in 1980, 1990, and 2010



(Source: Statistics Canada 2012, CANSIM Table 202-0701)

The top 1% of tax filers alone accounted for 10.6% of total income in 2010. This is a decrease from the peak of 12.1% in 2006, but it is significantly higher than the 7% held in 1980 (Statistics Canada 2013). The income threshold to be part of the 1% of top earners was \$147,500 in 1982, and increased to \$201,400 in 2010.

The median income of the top 1% of tax filers also increased disproportionately more than that of the other 99% of tax filers. In 1982 the median income of the top 1% of earners was \$190,600, compared to \$28,000 for the remaining tax filers. In 2010, the median income of the top 1% of tax filers was \$283,400 compared to \$28,400 for all other tax filers (Statistics Canada 2013). All of these figures are expressed in 2010 constant dollars. The median income of the top 1% has thus gone from being seven times more than that of the rest of tax filers to 10 times more. This suggests that the income

gains at the very top of the income distribution drove the gains of the top 20 percent of earners.

While the total share of after-tax income of lower earners may have diminished relative to those at the higher end of the income distribution, it does not mean that they are worse off in absolute terms. It is rather that they have not benefited as much from the recent period of economic growth. The median after-tax income adjusted for inflation of Canadians increased from \$48,000 in 1976 to \$50,700 in 2011, which represents a gain of 5.6% over 35 years. The average income level of the poorest income quintile also rose over this time period, but only marginally. It rose from \$13,000 in 1976 to \$15,100 in 2009 (Statistics Canada 2012). Although Canadians at the bottom of the income distribution made absolute gains in real net income, they did get poorer in a relative sense. The gap between the after-tax average income of the richest quintile and the poorest quintile for all family units grew by \$27,600 from \$96,700 in 1976 to \$124,300 in 2011 (Statistics Canada 2012). They thus became relatively worse off as the gap between the rich and poor widened.

The increase in average after-tax income made by the bottom 20% of earners masks some of the losses incurred within this segment of the population. Changes in market income show that the labour market outcomes of people in the three bottom income quintiles worsened. Average market income for all family units of the bottom three income quintiles has fallen. From 1981 to 2011, it fell by 21% for those in the bottom quintile, 16% for those in the second, and 7% for those in the third. These groups only

experienced income increases once taxes and transfers were factored in. New low-skilled labour market entrants have also experienced a loss in recent years. Fortin et al. (2012) found that men with only a secondary education entering the labour market are receiving lower wages than those in previous generations. They attributed this to a drop in starting wages following the recessions of the 1980s and the 1990s. Starting real wages for this group were 20% lower in the early 1990s compared to the early 1980s. In the early 2000s, there was a slight increase in starting wages for this cohort, but they were still 10% below 1980s levels. The authors go on to suggest that the full effect of these wage decreases will not be felt until later on since older workers have successfully retained their wages levels, but “as the older cohorts retire, average wages will fall and overall inequality could increase further.”(Fortin, Green, Lemieux, Milligan, and Riddell 2012, p. 130)

All of these measures show an increase in the level of income inequality in Canada according to market incomes. This outcome occurred because top earners have captured the largest portion of earnings growth in since the 1980s and particularly after about 2000. Other income cohorts have seen their earnings stagnate or increase only modestly, while some factions at the bottom of the income distribution saw their wages fall.

### **Government Expenditure**

Taxes, transfers, and public services play an important role in reducing income inequality in Canada. For example, the top to bottom income quintile ratio is reduced by more than 50% after taxes and transfers. Sharpe (2011) examined the net redistributive effects of government expenditure in the form of cash transfers and public services. Public services

were given a cash value in order to be incorporated into the calculations. It was found that in 2005 net government expenditures were \$2,557 per household, consisting of \$11,653 in government transfers (e.g. income support programs), \$9,306 in public consumption (e.g. education, health), and -\$18,401 in taxes (Sharpe 2011). These figures were calculated in 2000 US dollars. These expenditures are not distributed evenly among income quintiles. The middle quintile benefits the most, receiving net expenditures of \$7,588, it is followed by the 4<sup>th</sup>, second, and then finally the bottom quintile, whose net public expenditure receipts were \$4,245.

Table 1  
2005 Levels of Net Receipt of Government Transfers and Public Services by Income Quintile for all Households in Canada (measured in 2000 US Dollars)

Income Quintile	2005 Government Expenditure (2000 US Dollars) Per Household
1 <sup>st</sup>	4,245
2 <sup>nd</sup>	6,065
3 <sup>rd</sup>	7,588
4 <sup>th</sup>	4,707
5 <sup>th</sup>	- 9,821

(Source: Sharpe 2011, p. 11)

Note: The figures were calculated as part of Levy Institute’s Measure of Economic Well-Being and are therefore calculated in US dollars to facilitate the comparison of levels of economic well-being between countries.

In contrast, the top income quartile experiences a net loss of \$9,821 because of taxes. This loss can be explained by the higher tax rate paid by top earners and the fact that they consume less public services and benefits. Net government expenditures for all income quintiles are summarized in Table 1. This highlights the redistributive effect of government taxes and expenditures across income quintiles and serves as a starting point

for examining conditional cash transfers as a means to influence levels of inequality. It complements the fluctuation of inequality measures presented earlier that showed how government taxes and transfers lowered income inequality in every case.

### **Drivers of Inequality**

The growth of income inequality in Canada cannot be attributed a single factor or policy. Many economic and social trends are at play. The drivers of income inequality in Canada can be grouped into to three broad categories: changes in the in the labour market, changes in household structure, and changes to government tax and transfer systems (OECD 2011).

According to the OECD, “the single most important driver has been inequality in wages and salaries.”(OECD 2011, p. 2) On average, three quarters of household income in OECD countries is acquired through wages. In OECD countries, wage increases at the top of the income distribution were larger than for lower earners. This led to a decline in the share of all wages earned by those at the bottom of the income distribution (OECD 2011). The labour market drivers are globalization, technical change, and institutional changes in the labour market.

Globalization is a broad concept that is not easy to narrowly define. In the context of income inequality, globalization refers to trade integration, financial integration, technological transfers, production relocation, and international migration (OECD 2011).

The labour market trend most commonly cited as having widened the income distribution is the divergence in returns to skilled and unskilled labour caused by globalization and technological progress. The effects of technological progress on inequality are grouped with those of globalization because the OECD has found that “it is very difficult to disentangle technological change from globalisation patterns that also increase the value of skills.” (OECD 2011, p. 26) Since the 1980s, the global integration of trade and financial markets and the technological progress that has led to new production technologies have created a shift in labour demand towards highly skilled labour (OECD 2011). The increase in demand for highly skilled labour and decrease in demand for low skilled labour create a larger wage premium on skilled labour, thus increasing the inequality of earnings across skill groups. The earnings premiums for skilled labour have created greater wage dispersion, particularly in the upper half of the income distribution (OECD 2011, p. 123). The globalization of trade has also allowed employers to “offshore” their low skills jobs to countries with lower wages. This has also reduced the domestic demand for low skilled labour. It has contributed to a larger earnings gap between low and high skilled workers and has left relatively unskilled workers at a disadvantage compared to highly educated ones.

The “offshoring” trend has been far more pronounced in the United States than in Canada. Canada has experienced increased wages and demand for highly skilled labour, but not at the expense of low skill and low-paying jobs (Fortin, Green, Lemieux, Milligan, and Riddell 2012). In Canada, there has been more of a “hollowing out” of middle income jobs and “over the period from 1980 to 2005 the share of employment

accounted for by high-wage high-skill and high-wage jobs increased relative to middle and low wage jobs, while the employment share of the lowest paid jobs increased slightly or remained stable” (Fortin, Green, Lemieux, Milligan, and Riddell 2012, p. 131). The wage gap is primarily created by the presence of a higher proportion of high-skilled and high paying jobs in the economy. This is reflected in the earnings premium earned by workers who have completed some form of tertiary education. In Canada, the earnings premium of a worker with a tertiary education is 40% and it has remained relatively stable in the last 10 years (OECD 2013).

The OECD found that there were a number of institutional drivers that led to changes in the labour market and resulted in a widening of the income distribution in OECD countries. These institutional reforms include the loosening of employment protection legislation for workers with temporary contracts, a decrease in union membership, an increase in non-standard work, a decrease in unemployment benefit replacement rates and a relative decline of minimum wages relative to median wages (OECD 2011). Several of these drivers are noticeable in Canada.

There has been a decrease in unionized jobs in Canada, which means, “that fewer workers enjoy the benefits of collective bargaining, an equalizing force in income distribution.” (Sharpe 2011, p. 7) Unionization tends to compress the wage structure for those at the bottom of the income distribution relatively more than those in the middle or top. Studies have concluded that there is a correlation between the decline of unionization and the growth in income inequality. This study concluded that 15% of the growth in

inequality in Canada was caused by a decrease in unionization (Fortin, Green, Lemieux, Milligan, and Riddell 2012).

The decline in unionized jobs in Canada has been accompanied by an increase in non-standard labour, such as part-time work, self-employment, and contract work, that offers little or no non-wage benefits. The number of part-time workers in Canada increased from 2.6 million in 1997 to 3.3 million in 2012, a 27% increase. The percentage increase of part-time workers in Canada is above the OECD average of 16% (OECD 2011). While the availability of part-time employment has been credited with allowing some underrepresented groups to increase their participation in the labour market, it has also led to a widening of the income distribution. While self-employment is disproportionately concentrated in lower income groups, it is considered to be a minor factor in the growing levels of income inequality because income from self-employment accounts for a very small portion of all labour income (OECD 2011). Based on OECD calculations, the GINI coefficient in Canada for gross income moves from 0.36 when it only includes full-time workers, to 0.413 when also includes part-time workers, and then to 0.44 when it includes self-employed workers (OECD 2011). If non-wage benefits were given a monetary value and included in the calculations, this increase inequality would likely be larger.

Another institutional driver of increasing income inequality is minimum wages, which have not increased in proportion to the total gains made in the economy. Minimum wages reduce inequality by “compressing the wage structure at the bottom of the distribution,

and countries that impose high minimum wages (relative to the average wage) – such as many European countries – tend to have less earnings inequality than Canada.” (Fortin, Green, Lemieux, Milligan, and Riddell 2012, p. 132) Since 2008, minimum wages have increased in almost all provinces. However, the annual wages earned by a full-time worker are below the Low Income Cut-off (LICO). The average annual minimum wage income in Canada is approximately \$19,125<sup>1</sup> whereas the LICO is approximately \$19,191<sup>2</sup> for a single person, and 24,297<sup>3</sup> for couples (Statistics Canada 2013).

Two demographic factors have been driving higher levels of inequality since the 1980s in OECD countries in addition to these labour market forces. The first is the increase in “assortative mating.” Assortative mating means that two spouses are in the same income bracket or in the income brackets income bracket directly above or below their partner’s (OECD 2011). This has led to a widening of the household income distribution given that there are now more couples with both partners being high or low earners. In Canada, the percentage of couples with both partners in the same income decile increased from 6.7% in 1987 to 9.1% in 2004. Within the same time period, couples with both partners within the same decile or plus/minus deciles increased from 36.8% to 43.8% (OECD 2011). The second demographic trend is the increase in single-headed households with and without children. “Smaller households are less able to benefit from the savings associated with pooling resources and sharing expenditures.”(OECD 2011, p. 33) From 1987 to 2004, the number of single-headed households in Canada increased by 5.2 per

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<sup>1</sup> Calculated by taking the average minimum wage of all provinces and territories (\$10.20) multiplied by 37.5hours/week multiplied by 50 work weeks/year

<sup>2</sup> Calculated by taking the average of before tax LICOs for each community size

<sup>3</sup> Same calculation as for single people

cent from 20.3% to 25.5% (OECD 2011). While these trends had some effect, the OECD has found that when changes in the labour market were controlled for, “ household structure changes played a much more modest part in rising inequality in all OECD countries.”(OECD 2011, p. 34)

Income taxes, public cash transfers, and social security contributions also play an important role in equalizing the income distribution in Canada. Taxes and transfers reduce inequality in Canada by about 29%. This represents the proportion by which the market income GINI coefficient is reduced to obtain the after-tax income GINI. The OECD found that in most countries, taxes and transfers were able to effectively offset increases in market income inequalities until the mid-1990s. “However, while market income inequality continued to rise after the mid-1990s, much of the stabilising effect of taxes and benefits on household income inequality declined.” (OECD 2011, p. 37) The compensation ratio is an indicator that shows the percentage of increased market income inequality, as measured by a GINI coefficient, which is offset by the tax and transfer system. In Canada, this ratio increased until 1991 and has since declined steadily (OECD 2011). The decrease in the compensation ratio parallels the decrease in tax revenue and social spending that occurred in Canada during this period. Tax revenue decreased from 36% of GDP in 1995 to 33% of GDP in 2005 and was accompanied by a reduction in social spending from 19% of GDP to 17% of GDP (OECD 2011). These reforms were of a much smaller benefit to lower earners. The decrease in public revenue received from top earners, combined with the reduction in social assistance transfers allowed after-tax and transfer income inequality to increase. The reduction in redistribution combined with

the decrease in market income earned in the labour market leaves lower earners relatively worse off.

Table 2  
Changes in the Distributive Effect of the Taxes and Transfers in Canada 1981-2004  
(measured by compensation ratio)

Year	Change in % Market Income GINI compared to 1981 [1]	% Change in Redistribution in relation to 1981 [2]	Compensation Ratio <sup>4</sup> (2/1)*100
1987	7	5	63
1991	13	10	81
1994	16	13	77
1997	14	9	68
1998	21	12	55
2000	19	7	39
2004	19	7	36

(Source: OECD 2011, p.269)

Note: The compensation ratio is the ratio of the percentage increase in market income inequality that is offset by the tax and transfer system. The percentage changes are calculated in relation to the base year, not annual changes.

[1]: Obtained by calculating the percentage change in the market income GINI of a given year in relation to the base year (1981).

[2]: Obtained by calculating the percentage change in redistribution in relation to 1981. Redistribution is expressed as the percentage reduction of the market income GINI to obtain the after-tax income GINI.

## 2. Possible Policy Response

There is no single policy response that can counteract widening of the income distribution, given the number and diversity of drivers. The OECD has identified three policy pillars that should be used to reduce inequality. The first pillar is more intensive investment in human capital, the second is more inclusive employment promotion, and the final one is well-designed tax and transfer redistribution policies (OECD 2011).

<sup>4</sup> Calculations may differ due to rounding

Investment in human capital can reduce inequality by boosting the productivity potential and future earnings of low-skilled working (OECD 2011). Inclusive employment promotion can have an equalizing effect on the income distribution by facilitating access to employment for under-represented groups, such as youth, older workers, women and migrants (OECD 2011).

The OECD argues that:

Reforming tax and benefit policies is the most direct and powerful instrument for increasing redistributive effects. Large and persistent losses in low-income groups following recessions underline the importance of well-targeted income-support policies. Government transfers – both in cash and in-kind – have an important role to play in guaranteeing that low-income households do not fall further back in the income distribution. (OECD 2011, p. 40)

The trends driving inequality in Canada make people at the bottom of the income distribution relatively worse off because their market income has stagnated or decreased, and the bottom income quintile receives less redistribution compared to the middle-income quintiles. A benefit like the WITB could help mitigate the effects of the drivers that leave those at the bottom of the income distribution relatively worse by supplementing their market income. This could have an equalizing effect on the earnings gap from the bottom up.

### **The Working Income Tax Benefit**

The decreasing returns to low skilled labour are identified as one of the drivers of income inequality. This is reflected in the decrease in market income of low earners and the increasing wage gap between low earners and higher earners in Canada. Enhancements to a benefit such as the Working Income Tax Benefit could help to counteract this driver.

The WITB is an earnings supplementation program for low-income individuals and couples. It is part of the *Income Tax Act* and provides refundable tax credits to low earners. This type of benefit has been identified as a strategy to address “important changes in the market for low-skilled workers, in particular a reduction in their relative earnings.”(Barr 2012) These credits are also designed “to encourage social assistance recipients to engage in paid employment through the provision of an earned income supplement that offsets the loss of benefits and/or increased taxation and other costs associated with employment.” (Starky 2006, p. 2) It is argued that, “well-designed tax credits can enhance employment prospects and improve the well-being of lower income families.” (Fortin, Green, Lemieux, Milligan, and Riddell 2012, p. 138)

Working tax credits have existed in other countries for some time. They were originally introduced in the United States. “In 1975, the Earned Income Tax Credit (EITC) was enacted as a refundable tax offset for low income workers as a work oriented alternative to existing welfare programs.” (Ventry 1999, p. 1) The idea of using the income tax system as a redistributive tool was initially proposed by Milton Friedman. Friedman suggested that the United States implement a “negative income tax” to help alleviate poverty. The way the negative tax works is that any person whose earnings are below a predetermined tax-exemption level would have a negative amount of tax owing, thus meaning they would receive a subsidy. The example Friedman used is that any person earning less than the \$600 tax-exempt income amount would receive 50 percent of the difference between their income and the exemption amount. A person earnings \$300 would therefore receive a transfer of \$150 (Friedman 1962, p. 192). Friedman argued that

this was a more efficient means of alleviating poverty because it did not “distort the market or impede its functioning.”(Friedman 1962, p. 191) He argued that minimum wages and price supports had a distorting effect on prices and incentives. He also believed that a negative income tax would be less costly than the existing welfare programs at the time.

The concept influenced the Nixon administration as they proposed the “Family Assistance Plan” in 1969. The Plan would provide a guaranteed annual income that was determined by the size of the recipient’s family and would be phased out at a 50 per cent rate above this level. While this plan never became law, it did lead to a proposal by Senator Russell Long that was enacted in 1975. Senator Long’s proposal would provide a 10 per cent income supplement on the first \$4,000 earned and then be phased out at a rate of 25 per cent (Zelenak 2004). This was the design of the first Earned Income Tax Credit (EITC). It was the condition of employability that “proved to be crucial to the political acceptability of using the income tax system to make anti-poverty transfer payments.” (Zelenak 2004, p. 304)

The WITB was proposed by then Finance Minister Ralph Goodale as part of the 2005 Economic Statement. After a change of government in 2006, Finance Minister Jim Flaherty carried through the benefit to the 2006 Federal Budget. The benefit was implemented as of the year 2007. In its initial two years, the maximum benefits were modest. A single person could receive up to \$500, while a couple could receive up to \$1,000. Nearly 1 million Canadians received the benefit in its first year. The benefit rates

were increased and indexed to inflation in the 2009 federal budget after several requests and it is estimated that the number of recipients increased to 1.5 million people (Department of Finance 2009).

### **Eligibility, Benefits Rates and Duration**

The WITB is a means-tested tax credit targeted at low-income workers. It is available on an annual basis to any Canadian resident 19 years of age or older who earns a minimum of \$3,000 from paid work. However, people who are under the age of 19 that have a spouse, a common law partner, or an eligible dependent may also apply for the WITB. Full-time students are not eligible for this benefit regardless of their earnings. In order to obtain the WITB, a person must apply for it by completing Schedule 6 of their annual income tax return (Canada Revenue Agency 2012). There are two ways of receiving the benefit. The first is to receive the full credit after filing an annual tax return. Since low-income individuals typically need their income to meet their current consumption needs, there is a second payment option. Eligible WITB recipients can opt to receive 50% of their benefit in advance. To do so, the person must be claiming a minimum benefit of \$200. They must then estimate their earnings from paid work for the upcoming tax year. Based on these estimations, they will receive 50% of their benefit in quarterly payments. These payments will be attached to their HST/GST Tax Credit payments. The remaining 50% of the WITB will be paid out to the recipient once their return for the given tax year has been assessed (Canada Revenue Agency 2012).

The minimum working income, as well as benefit and claw back rates, depends on the province of residence of the applicant. Some provinces have negotiated different

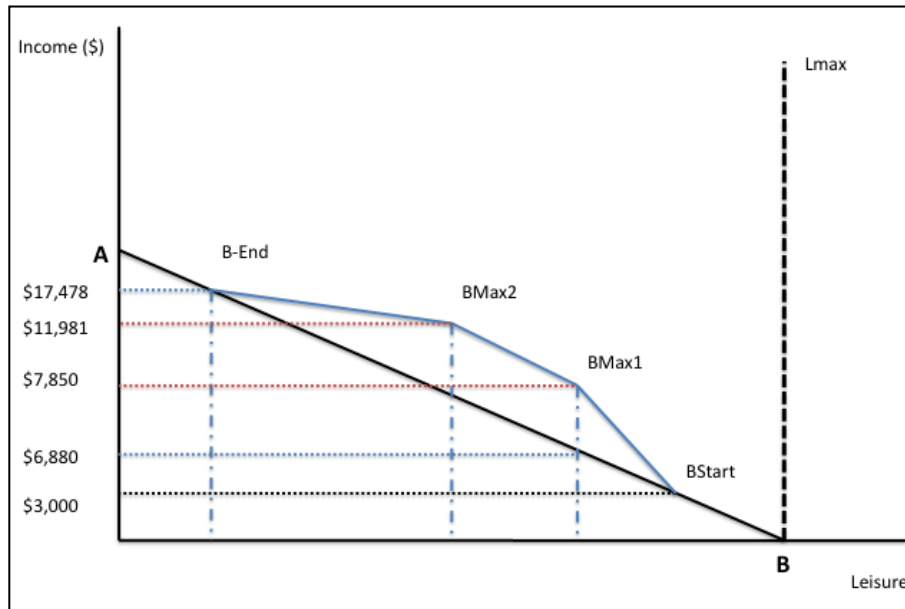
agreements with the federal government. The provincial governments were given the option to modify the WITB benefit and phase out rates in their province in order to harmonize them with their social assistance programs. There are also different levels of maximum income allowed and maximum benefit payable before the claw back rate begins depending on a recipient's marital status. In addition, there is a supplement for persons with disabilities, which also varies depending on the person's province of residence, marital status, and presence of dependents.

In order to demonstrate how the benefit works, the case of a single worker living in Ontario will be presented using the 2012 benefit rates. As previously mentioned, this person would become eligible for the WITB as long as income obtained from paid work amounts to a minimum of \$3,000 annually. For each additional dollar earned past \$3,000, the person would earn a 25% supplement in WITB benefits. This means they would receive 25 cents in benefits for every additional dollar earned from working. The benefit continues to provide the 25% supplement until the person has reached an annual gross income of \$6,880. At this point the person has reached the maximum benefit of \$970. The recipient continues to receive the maximum benefit amount until their income reaches \$11,011, at which point the benefit paid out to the recipient for additional income past this level is clawed back at a rate of 15%. Once the individual has reached an annual net income of \$17,478 they no longer receive any benefit. (Canada Revenue Agency 2012) Detailed tables showing the different benefit rates for each province, marital status and disability supplements are provided in Appendix 3.

## Impacts and Effectiveness

Figure 5

Annual Budget Constraint of a Single Person Receiving the WITB



Continuing with the example of a single individual living in Ontario, Figure 5 presents a simplified budget constraint that illustrates the intended impacts of the WITB on an individual's working decisions and earnings. The horizontal axis represents the amount of time the person can devote to leisure (all non-labour activities) and the vertical axis represents the income earned from labour. The curve AB in the graph represents the individual's budget constraint before the benefit. The slope of this curve is the person's wage rate. The point "BStart" represents the minimum working income at which the person is eligible for the WITB. At this point the person would begin to receive the benefit at a rate of 25 cents per additional dollar earned. The individual's budget constraint becomes steeper due to the additional earnings from the WITB. This makes leisure relatively more expensive and should offer an incentive for the person to work more. The total benefit amount continues to increase until the point "BMax1", where the

recipient has received the maximum amount for which they are eligible. This would bring their total income to \$7,850 (\$6,880 net income + 970\$ WITB payment). The recipient continues to receive the maximum amount of benefit until the point “BMax2” their income reaches \$11,981 (\$11,011 net income + \$970 WITB payment). Between BMax1 and BMax2 the slope of the benefit line begins to flatten since the WITB no longer increases at a rate of 25%. Between these two points the benefit line “BStart-B-end” is parallel to the net income line AB and acts as a lump sum payment. The BMax1-BMax2 maximum benefit range is put in place to ease the negative work incentives of the reduction or clawback rate and has a neutral effect across this range. This makes the trade-off decisions between labour and leisure on this interval the same as if there were no benefit because the wage rate is the same.

From the point “BMax2” to “B-End,” the amount of WITB benefit received by the individual is clawed back at a rate of 15% until net income reaches \$17,478. At that point, they would no longer receive any benefit. This clawback is illustrated by the flattening of the budget constraint between these points. The intended effect is that the person will want to continue to work despite the clawback as the relative price of leisure continues to increase, albeit at a lower rate. The gradual clawback is also built in to the benefit so that the person does not hit a welfare wall, which “refers to the disincentives to work created by interaction between the system of social assistance and personal income taxation in Canada.” (Starky 2006, p. 1) If there were no gradual clawback, the person would face a 100% effective marginal tax rate, which means that they would lose all of the benefit once they have reached the maximum allowable income and would face a

higher disincentive to work past this level. This would make them worse off, as a result of lost leisure time and benefits, if they decide to work more.

Given that all individuals have different labour-leisure preferences, this benefit may have unintended consequences. This can be the case for those with a very strong preference for leisure over labour. For example, using the same figure above, if a person wanted to only devote enough time to the labour market to earn \$7,850 and devote the rest of their time to leisure activities, they could now reach that income level with fewer hours of work. If receiving the WITB, the person would only have to devote \$6,880 worth of labour hours to working and reach the desired income level, thus creating a negative work incentive.

### **The United States Experience**

The income distribution in the United States has been widening since 1980s, and some of the policy responses of the US Federal Government may provide useful insights when exploring enhancements to the WITB.

The EITC and WITB have a similar design. Looking at the documentation on the effects of EITC increases can help Canadian policymakers understand some of the effects that could occur if the WITB is enhanced. A review of the effects of the EITC since inception found positive results associated with increases to the benefit. While it would not be accurate to assume that the results would be exactly the same in Canada, because of different labour market conditions and institutional design, it does provide some insight into the potential WITB reforms. While enhancements to this style of program can have

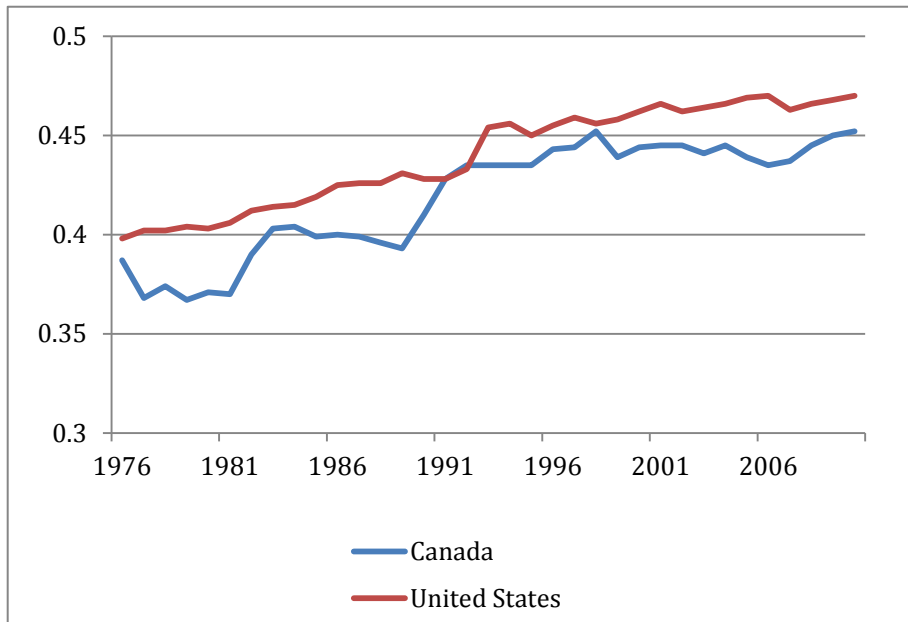
an equalizing effect on the earnings gap, they are not expected to significantly alter the income distribution because increasing incomes at the top of the distribution drive a large part of the increase in inequality.

### **Changes to Income Distribution in the US over the Last 30 Years**

Like in most OECD countries, income inequality in the United States increased over the last 30 years. As illustrated in figures 6 and 7, inequality in the US has steadily increased since 1967, particularly during the recessions of the early 1980s and 1990s. In 2010, the GINI for market income in the United States was 0.470. This is an increase from 0.462 in 2000, 0.428 in 1990 and 0.403 in 1980 (United States Census Bureau 2012). There has also been an increase in the top to bottom income ratio of market income during this period. In 1980, the top income quintile earned \$10.79 for every dollar earned by the lowest quintile. This increased to 12.16 in 1990, 14 in 2000 and to 15.84 in 2011 (United States Census Bureau 2012). The historical trajectories of average income of each income quintile reveal that those in the lower income quintiles experienced significantly less income growth than those in the higher quintiles. This polarization is even more pronounced when compared to the increases in earnings of the top 5% of Americans.

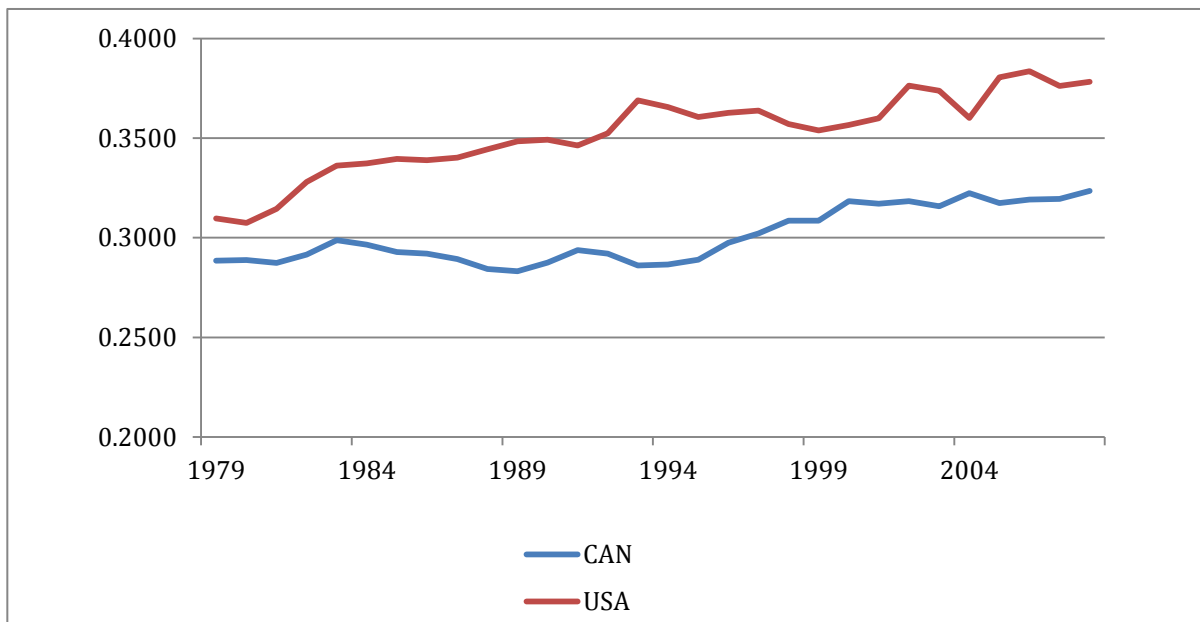
(Appendix 4)

Figure 6  
GINI Coefficient of Household Market Income in Canada and the United States



(Source: Statistics Canada 2012, CANSIM Table 202-0709 for Canadian Data and US Census Bureau, Historical Income Table H-4, for American Data)

Figure 7  
GINI Coefficients of After-Tax Income in Canada and the United States



(Source: OECD 2011, *Divided We Stand* Figure 2, P.25)

Figure 6 compares the evolution of the GINI coefficient for household market income in Canada and the United States from 1976 to 2010. Inequality in the United States has always been higher, but it has increased in both countries over the last 30 years. Inequality seems to have grown more steadily in the United States than in Canada, where large increases occurred in the late 1980s and mid-1990s. As illustrated in Figure 7, redistribution in Canada offset the inequality of market income to a greater extent than in the US until the early 1990s. Inequality of net income has grown in a similar pattern since then.

### **The Earned Income Tax Credit**

The Earned Income Tax Credit (EITC) is a fore-runner to the WITB. It is a refundable tax credit for low and moderate-income workers administrated by the Internal Revenue Services. The main objective of the EITC is to help low-income individuals overcome the “welfare wall” and create an incentive for people to leave welfare for paid work and for low-wage workers to increase their work hours (Center for Budget and Policy Priorities 2013). As a worker’s earnings increase within the eligibility limits, the benefit received through the EITC also increases to a maximum allowable benefit. There is a plateau income range where a recipient earns the maximum benefit before it begins to be clawed back. Unlike the WITB, EITC recipients are entitled to a higher tax credit depending on the number of children they have. Higher benefit rates for claimants with multiple children were first introduced in the 1990 EITC reforms. Benefits for childless workers were introduced in 1993. The generosity of the benefit also increased that year for all recipients (Zelenak 2004). In 2009, the benefit was modified to create a third tier of

benefits for families with three or more children. Another modification allowed married couples to file jointly and receive higher benefits at modestly higher income levels (Center for Budget and Policy Priorities 2013). More precisely, the income plateau before the benefit is phased out is longer for married couples than the plateau for single individuals and parents.

Single workers without children could receive up to \$475 annually in 2012. The benefit increased to a maximum of \$5,891 for individuals with three or more children (Internal Revenue Service 2012). The maximum income level before the benefit began to phase out ranged between \$13,980 and \$50,270 depending on the marital status of the claimant and the number of children. The clawback rate of the benefit varied between 7.65% and 21.06% depending on the number of children a recipient has (Internal Revenue Service 2012). Appendices 6 and 7 provide the benefit rates for each criterion.

### **Findings on the Effects of the EITC**

The effects of the EITC, on poverty reduction and labour force participation of low earners, can influence income inequality. Analysis by Hungerford (2010) estimates that, in its current form, the EITC lowers the GINI coefficient of after-tax income in the United States by 0.34 percent. The EITC is also progressively distributed, as indicated by the Suits Index. This means that those at the lower end of the income distribution receive more benefits and bear less of the cost. The Suits Index is an indicator of tax progressiveness that ranges from -1 (completely regressive) to +1 (completely progressive). Like the GINI coefficient, it is calculated by comparing the area under a

Lorenz curve to the area under a proportional line. The estimated index for the EITC is 0.87 (Hungerford 2006).

The income supplement to low earners through the EITC can have an equalizing effect on the income distribution by reducing poverty and increasing the after-tax income of low earners. On average, the EITC increases the after tax wage of a low earner by 45% (Meyer 2010). It is credited for having lifted around 4 million people above the poverty line in 2007. The enhancements to the EITC implemented in 2009 are estimated to have lifted an additional 500,000 people out of poverty (Marr, Charite, and Huang 2013). The latest Census Bureau estimates indicate that the poverty threshold in the United States varies from \$11,484 for a single person to \$27,251 for a household of five people (DeNavas-Walt, Proctor, & Smith 2012). A detailed table is provided in Appendix 7.

Some studies have also shown that increases to the EITC have helped offset income losses from reduced social assistance and, therefore, facilitate the transition to the labour market. One study found that “increases in the credit from 1993 to 1999 resulted in a 10% decline of Aid to Families with Dependent Children and Temporary Assistance for Needy Families benefits.” (Holt 2006, p. 13) Increased labour market participation can influence the income distribution by increasing the income prospects of new entrants.

The findings on the labour supply effects of the EITC show that there is a positive effect on the extensive margin, that is people entering the labour market, and a neutral or slightly negative effect on the intensive margin, which is the number of hours worked.

One of the most important effects of the EITC at the extensive margin has been the increased participation of single female household heads in the labour market. The effect was particularly positive for single mothers. The 1993 benefit increase is credited for being the most significant factor contributing to a rise in employment among single female households during the 1990s (Marr, Charite, & Huang 2013). Estimates indicate that the participation rate of single mothers increased by seven per cent as a result of the EITC incentives during this period, with a particularly strong effect for the lowest-skilled single mothers (Meyer 2010). Since most EITC recipients are on the plateau or phase-out phase of the benefit structure, it is expected that they would decrease the number of hours worked given the negative income effects in both these sections and negative substitution effect in the phase out section. However, findings indicate that there has not been a reduction in hours worked for single household heads and that the reduction in hours worked by married couples with children was small (Marr, Charite, and Huang 2013, and Meyer 2010). The reduction in hours worked by married couples with children is attributed to mothers exiting the labour market or reducing their hours to devote more time to childcare (Marr, Charite, and Huang 2013).

### **Comparison of the EITC and the WITB**

Table 3 provides a comparison of benefits of the WITB and EITC for single individuals without dependents. The benefit rates for Canadians are already twice as generous as those for unattached single Americans.

Table 3

Comparison of the WITB and the EITC for a Single Person

Conditions and Rates	WITB (CDN Dollars)	EITC (US Dollars)
Minimum Income	\$3,000	\$0
Phase in rate	25%	7.65%
Maximum Credit	\$970	\$475
Income Range for Maximum Benefits	\$6,880-\$11,011	\$6,210-\$7,770
Clawback Rate	15%	7.65%
Income at which Benefit is 0	\$17,478	\$13,980

(Source: Canada Revenue Agency, *Working Income Tax Benefit Calculation Sheet 2013* and Internal Revenue Service, *EITC Income Limits, Maximum Credit Amounts and Tax Law Updates 2013*)

Note: The currencies are assumed to be at parity. The average exchange rate for 2012 (tax year compared) was \$1US = \$0.999CDN (Bank of Canada, *10-year Currency Converter 2013*)

While unattached individuals are eligible for EITC payments, working parents are the primary targets and recipients of the program (Marr, Charite, and Huang 2013). The adequacy of the EITC for those without children has been an important criticism of the program in the US, and it has been suggested that the benefit be increased. However, the benefit rates and maximum eligible incomes increase significantly for individuals and couples with children to a maximum benefit of \$5,891 and maximum allowable income of \$50,270 USD, much higher than the maximum WITB benefit (Internal Revenue Service 2012).

The inclusion of children in the determination of benefits limits comparability of the two programs. The WITB would have to be combined with the Canadian Child Tax Benefit (CCTB) and the US Child Tax Benefit to EITC benefits in order to offer a more accurate comparison of the generosity of refundable tax credits between the two countries. The

EITC is available higher up the income distribution in the US than the WITB is in Canada.

Given the contrasting size and scope of the EITC and the WITB, it is difficult to make a direct comparison of all aspects of the benefits. However, there are some findings that should be highlighted. In 2011, the EITC had an estimated 27 million beneficiaries receiving a total of \$62 billion USD in transfers (Internal Revenue Service 2013). In contrast, the Department of Finance Canada's forecast estimates that the federal government paid out \$1.1 billion in WITB transfers in 2012 (Department of Finance 2013). It was last estimated that roughly 1.5 million Canadians receive WITB transfers. On average, an EITC recipient receives a much larger transfer than a WITB beneficiary. EITC transfers are roughly \$2,296 USD per recipient compared to \$733 for a WITB recipient. Approximately 8.5%<sup>5</sup> of the US population received the EITC, whereas only 4.2%<sup>6</sup> of the population in Canada receive WITB transfers (United States Census Bureau 2013 and Statistics Canada 2013). Based on these calculations, there are roughly twice as many Americans eligible for the EITC compared to Canadians eligible for the WITB.

Another important difference between the programs is the minimum income eligibility requirement. Low-wage workers in the United States become eligible for the EITC immediately once they start working. In Canada, WITB recipients must have a minimum earned income of \$3,000 before they become eligible. However, the benefit is phased-in at rate of 25% for each additional dollar earned compared to 7.65% for EITC recipients. All else being equal, EITC recipients should face a higher work incentive at the extensive

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<sup>5</sup> 27 million / 316.3 million

<sup>6</sup> 1.5 million / 35.1 million

margin since they would receive an income supplement immediately. The \$0 income eligibility could facilitate the transition from social assistance to participating in the labour market. Once an income of \$3,000 is earned, Canadian low-wage workers should face higher incentive on the intensive margin to increase their hours worked because of the higher phase-in rate and, in the case of single workers, a more generous benefit and higher income plateau.

### **Possible Reforms to the WITB**

Despite describing the WITB as an effective program, Cameron (2011), Torjman and Battle (2011), and the Broadbent Institute (2012) all agree that it will need to be enhanced if it is going to have a significant effect on the income distribution. Since changes in demand for skilled and unskilled labour are widening the income distribution, an enhancement of the WITB should be implemented to help counteract this driver. These reforms could help to compress the lower end of the income distribution. Such an enhancement would require a broader set of objectives for the WITB program. The WITB's current objective is to "provide tax relief for eligible working low-income individuals and families who are already in the workforce and to encourage other Canadians to enter the workforce." (Canada Revenue Agency 2013) The scope of its objective could be increased to include considerations about equalizing the lower end of the income distribution or a provision about providing a wage supplement to a greater number of the working poor in Canada. The benefit would then need to be enhanced to become accessible to more low-income Canadians.

In its current form, the WITB does not reach single people working full-time for minimum wage or people considered to be working in a low-paying job. It also isn't available to all single individuals in the bottom income quintile. The upper limit of the bottom income quintile for all economic families is \$25,900 (Statistics Canada 2013). The distribution of all economic families was selected rather than that for unattached individuals in order to consider single WITB recipients that may have children. The average income of a person working full-time at minimum wage in Canada is approximately \$19,125, whereas the WITB is phased out at \$17,478. It is also below the annual wage needed for a single person to be above the Low Income Cut-Off, which is approximately \$19,191 (Statistics Canada 2013). Many single Canadian workers who fall under the OECD's definition of a low-paying job, which is a salary less than two thirds of the median wage, are ineligible for the WITB (OECD 2008). In Canada a low-paying job pays \$13/hour or less. For a person working full-time for 50 weeks in a year, this amounts to a market annual income of \$24,375 ( $\$13 \times 37.5 \text{ hours/week} \times 50 \text{ weeks}$ ).

The benefit is higher for couples and phases out completely at \$26,952. It is above the annual minimum wage salary and above the average Low Income Cut-Off for couples, which is approximately \$24,297 (Statistics Canada 2013). However, it falls far below the upper income limit of the lowest income quintile of economic families of \$42,800 (Statistics Canada 2013). The income plateau for the maximum benefit payable also begins the phase out stage when a couple's income is \$15,205, which far below both benchmarks presented.

The WITB could be enhanced in four ways. It can have higher benefit rates, no minimum income requirements, a longer income plateau threshold, or lower phase out rates to increase the maximum allowable income. It is also possible to implement a combination of these changes. The indicators of relative poverty and working poverty referenced above could serve as benchmark income levels for eligibility. Using the example of a single person, four possible enhancements will be explored. Proportional enhancements could also be made to the benefit rates for couples.

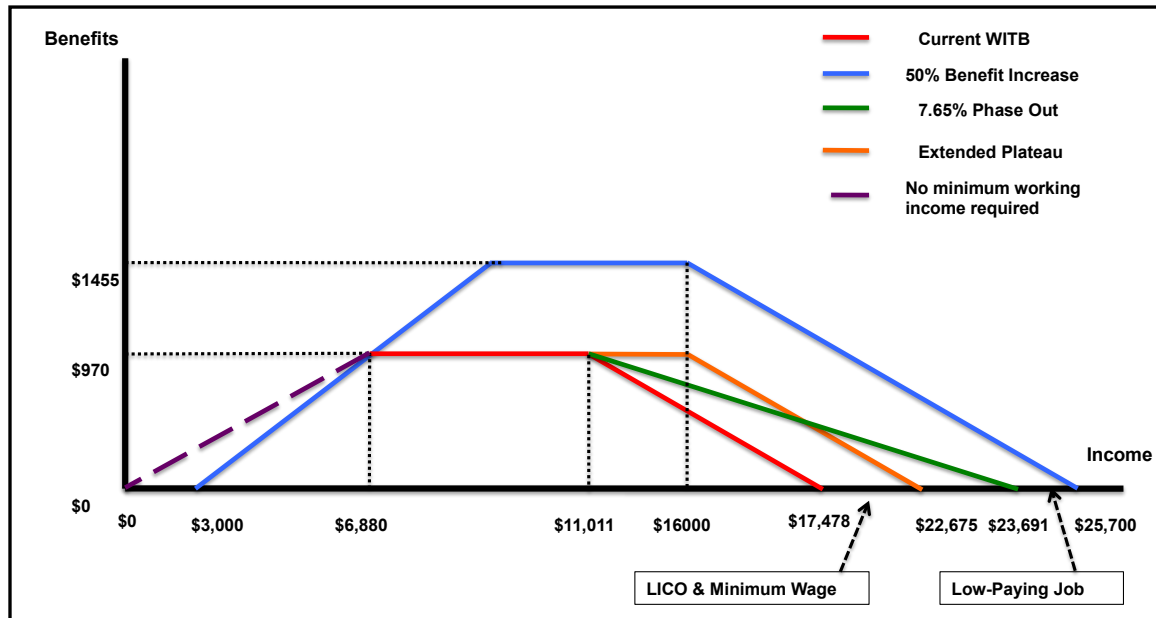
- 1) The first will be to increase the amount of the WITB by 50 percent of its current benefit rate (Battle and Torjman 2012)<sup>7</sup>;
- 2) The second will be to extend the income plateau so that all people in the bottom income quintile are eligible
- 3) The third is to reduce the phase out rate to 7.65% (identical to EITC phase out)
- 4) The fourth is to eliminate the minimum working income requirement and make the benefit rate begin at \$0

As displayed in figure 8, reforms one through three would make the WITB accessible to those who earn less than the Low Income Cut-off and workers working full time in a minimum wage job. Reducing the phase out rate or prolonging the maximum income plateau only deliver small benefits to minimum wage workers. The benefits received if the rates were increased by 50 per cent are considerably higher. Under this reform, a minimum wage worker would receive an income supplement of \$986 annually.

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<sup>7</sup> This proposal was originally put forward in a report by the Caledon Institute for Social Policy. The phase out rate and benefit plateau proposed here are identical.

Figure 8  
Possible Reforms of the WITB



(Source: Author's analysis)

While this would not necessarily increase the upper income limit of the bottom quintile, it could increase average incomes within it, which would reduce the top-to-bottom income ratio.

Of the four changes examined, the only reform that could make the WITB accessible to all workers in low paying jobs is the 50% benefit rate increase. Under this structure, the WITB would be reduced to zero when a person's income reaches \$25,700. This reform could have a larger equalizing effect on lower end of the income distribution in Canada than the other two because it provides a higher income supplement to low-income Canadians. Depending on labour supply elasticities at the extensive margin, the fourth reform could further facilitate the transition from social assistance to paid employment by

making recipients immediately eligible once they start working. For example, a single person living in Ontario and receiving social assistance begins to have their social assistance payments clawed back once they earn an annual income of \$2,400<sup>8</sup>. Their benefit is fully phased out at annual income of \$16,776<sup>9</sup> (Ontario Ministry of Community and Social Services 2013). However, they would only begin to receive WITB transfers when their annual income is \$3,000. This reform would allow the person to receive WITB transfers before their social assistance payments begin to be phased out and beyond the income level where social assistance transfers are completely phased out. This could help counteract the negative work incentives of the welfare clawback.

### **Tradeoffs and Possible Effects on Individuals' Decision-Making**

Policymakers will have to be aware of the various trade-offs that individuals will face with regard to their labour supply decisions if WITB benefit rates are increased or if it is made available to more Canadians. While evaluations of the WITB are limited, findings on the effects of the EITC throughout its 30 years of existence can provide an idea of the effects of an increase.

Individuals would face a variety of trade-offs if the eligibility or benefit rates for the WITB were increased. Changes to workers after-tax income can affect their labour supply in three ways. Workers can “decide to work or not, change the amount of hours that they work and they can alter the intensity of their work for a given number of hours at work.” (McClelland and Mok 2012, p. 2) If the WITB were available to more people,

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<sup>8</sup> \$200 monthly working income exemption multiplied by 12 months

<sup>9</sup> \$1398 (level of monthly income at which welfare payments are \$0) multiplied by 12 months

more Canadians would experience an increase in their after-tax and transfer income.

WITB recipients would face a substitution effect, as the relative price of leisure becomes more expensive due to higher the benefit rates and consequently entice them to work more. They will also face an income effect as their purchasing power increases, which would lead to a higher demand for leisure. The net effect will depend on the individuals' preferences.

Policy makers should be aware of these effects since providing the WITB to Canadians higher up the income ladder could incentivise some recipients to work less while obtaining the same amount of income. McClelland and Mok identify four components of labour supply elasticity that should be considered:

1. Participation elasticity at the extensive margin, which is the percentage change in the share of the population that is working as result of 1% change in after-tax income;
2. The hours elasticity, which is the percentage change in hours worked resulting from 1% change in after-tax income, among people already working;
3. The substitution elasticity, which is the percentage change in hours worked for a 1% change in after-tax income, holding the well-being of the individual constant, and;
4. The income elasticity, which is the percentage change in hours worked for a 1% change in total after-tax income, holding the after-tax marginal wage rate constant. (McClelland and Mok 2012)

Simulations by Scarth and Tang found that a widely available WITB could have a positive effect on the working poor. Their models are based on a production function for the economy with three factors of production that change in response to government policies. These factors are skilled labour, unskilled labour and physical capital. Their focus is on the macroeconomic effects of introducing various income support programs, including the WITB, for low skilled workers into the model. In all of their simulations they assume that the benefit rates are identical to those offered by the government, but adjust the number of eligible recipients. The benefit rates are based on the 2007 levels. Their first simulation assumes that 50% of the population in Canada are low-income and unskilled workers. It also assumes that the wage elasticity of labour supply is 0 and that all recipients receive the same amount of benefit, meaning there are no phase-in and phase-out effects. This simulation estimates that a widely-available WITB could decrease unemployment amongst unskilled workers by 1/6 of a percentage point and increase their average income by up to 4% if the tax credit were financed through budgetary reallocations and without tax increases (Scarth and Tang 2008).

They then produce a second simulation that distributes the Working Income Tax Benefit to only the poorest 10 per cent of the population. This would make the benefit available to nearly twice as many people than in its current form. In this model they assume that the labour supply elasticity is 1. The model also allows for changes in labour force participation. This simulation found that there would be a reduction of 1/5 of a percentage point in unemployment and an 8% increase in the average income of the poorest ten percent (Scarth and Tang 2008). The reforms proposed above are targeted at

20% to 25% of workers. Depending on which is chosen, and if the assumptions about labour supply hold true, the effects of these reforms would likely be in between these results, all else being equal.

Studies have found that “participation elasticities in the United States are largest at the lower end of the income distribution. For example, estimated participation elasticity for workers in the bottom 10% of the wage distribution is more than twice as large as that for workers near the middle of the distribution.”(McClelland and Mok 2012, p. 23) As such, low-income workers are far more sensitive to potential income increases when deciding whether or not to work. This is consistent with empirical findings with increases to the EITC. For all beneficiaries, the highest labour supply responses to the EITC have come from workers who are still in the phase-in region of the benefit (McClelland and Mok 2012). If labour force participation elasticities are similar in Canada, an increase in WITB benefits, combined with an elimination of the minimum income requirement, could incentivize more low-income individuals to enter the labour market because of their sensitivity to income gains. This would also suggest that if policymakers were to increase the amount of WITB benefits in a way that maximizes work incentives, they should design it so that it prolongs the phase-in period rather than increasing the range of the maximum benefit plateau.

EITC increases were found to have little effect on the number of hours worked by those already in the workforce. It is suggested that this is because of a lack of flexibility on the number of hours worked and a lack of information or understanding about marginal

effective tax rates (Meyer 2010). This finding suggests that although an increase in WITB benefits may not incentivise low-income workers to work more hours, they would not necessarily reduce the number of hours worked as a result of a more generous benefit. Even if some did decide to work less, it is important for policymakers to consider some of the potential benefits of work reduction for the working poor. For example, studies have found that “in some cases, working less may increase the well-being of a low-income household by providing a parent with the ability to reduce her hours and afford her more time with her children.”(Holt 2006, p. 10) These two findings could offer justification for increasing the availability of the WITB to those higher up the income distribution.

### **Fiscal Constraints**

Policymakers would face important tradeoffs because of budgetary constraints. An enhanced WITB would be eligible to more low income Canadians and if the benefit rates are increased, the average benefit transfer to each recipient is also likely to increase. Fortin et al. (2012) highlight that the federal government already spends \$13.2 billion on refundable tax credits for Canadians. It is therefore likely that if policymakers decide to move forward with a WITB reform, they will either need to raise new revenues or reallocate funds from existing programs.

### **Possible Effects on the Income Distribution**

These reforms to the WITB can have an equalizing effect on the lower half of the income distribution by making the benefit more accessible to the working poor in Canada and by providing them with additional income supplementation. This should help counteract the

decreasing returns to unskilled labour that are widening the income distribution in Canada. They could also have an equalizing effect on low earners relative to middle earners by increasing their share of total redistribution. Given the magnitude of income inequality and the diversity of trends driving it, it is possible that these reforms would simply offset additional widening of the income distribution.

Since the income gains will be at the bottom end of the distribution, the GINI coefficient may not decrease significantly, if at all. The changes in the other two indicators presented will likely be more sensitive to this reform. All else being equal, the top-to-bottom income ratio should decrease as a result of the higher earnings of lower workers and the share of all after-tax income going to the bottom 20% should increase because of the higher incomes obtained by low earners. If other drivers of inequality are factored in, it is likely that there will be little to no change to these indicators. This is because the drivers that lead to income gains at the top of the distribution can offset the modest gains that workers at the bottom would experience as a result of a WITB reform.

The net effect on the income distribution will also depend on how the program reform is financed, its effects on employment and the incomes of low earners, and its indirect effect on other drivers of inequality. All else being equal, if the program is financed through additional taxation on higher earners, it can compress the income distribution at both the top and the bottom of the distribution because it would act as a direct transfer. If the program is financed without tax increases through a reallocation of public funds the effect on the income distribution will depend on what funds are reallocated. The

equalizing effect of this approach would be driven by income gains and increased labour market participation of low earners. A full costing of the program and a better understanding of behavioural elasticities in Canada is required to further analyze the net effect of the proposed reforms.

## **Conclusion**

The federal government can enhance the Working Income Tax Benefit to help counteract the growing divergence between the returns to skilled and unskilled labour, which is one of the drivers of income inequality in Canada. This would provide higher income supplements to low skilled and low-wage workers.

Income inequality is an important public policy issue because of the negative effects it can have on social mobility, the economic performance of a country and social cohesion. All three indicators of inequality reviewed in this paper show that the income distribution in Canada has been widening over the last 30 years, with particularly high increases in the mid-1990s and early 2000s. The first indicator introduced was the GINI Coefficient, which shows the level of equality of a distribution. Since it reveals less about changes at the extreme ends of distributions, two additional measures were introduced to complement it. The first was the top-to-bottom income ratio, which shows how much someone in the top quintile earns on average for every dollar earned by a person in bottom quintile. The final measure of inequality is the share of total after-tax income received by a given fraction of the population. Adjusting the type of income used to

calculate these indicators revealed the equalizing effect of taxes and government transfers.

A number of factors have been driving the increase in inequality. The most important driver has been strong wage growth for high earners and stagnant or decreasing wages for low earners. This is the result of a number of changes in the labour market. The most important change is the increasing divergence between the wages of skilled and unskilled workers, which is caused by decreased unionization, slow growth in minimum wages, an increase in non-standard work, the “offshoring” of production and a hollowing out of middle-income jobs. Demographic factors such as changes to household composition and “assortative mating” also play a minor role in increasing income inequality in Canada. The third driver of inequality is the changes to taxation and transfer policies. Reductions in tax revenue and social expenditure reduced the amount of income that is transferred to Canadians at the bottom of the income distribution.

There are three broad policy tools to reduce inequality. These are well-designed taxes and transfers, human capital investments and inclusive employment promotion. The focus here was on well-designed taxes and transfers with a specific focus on enhancing the Working Income Tax Benefit. Although it is a benefit designed to alleviate poverty, it can have an equalizing effect on the lower end of the income distribution by increasing the earnings of low-wage workers and transferring more public benefits to those at the very bottom of the income ladder. It is designed to incentivise low-income individuals to enter the labour market and increase the hours worked of current participants. However,

depending on the stage of the benefit, it can theoretically create a negative work incentive for those who have a strong preference for leisure.

A comparative review of structure WITB and the Earned Income Tax Credit in the United States highlights some of the possible effects of enhancing the WITB. The EITC reduces the overall level of income inequality in the US. This can be attributed to its effect on labour force participation and income supplementation for low earners. Studies found that the EITC had an important effect on labour force participation and that most labour supply increases occur from those in the phase-in income region of the benefit. It was found to have little or no effect on labour supply decisions of those already working. However, working low-income individuals, particularly parents, did derive some benefit from being able to work slightly less as a result of the income supplement and thus benefit increases should not necessarily be dismissed based on this. It also had a positive effect on poverty reduction and consequently an equalizing effect on the wage distribution.

Four possible reforms of the program structure were considered. Findings in the US and an evaluation of the WITB provide some of evidence of the potential effects of reforms. However, a full costing of the program and a better understanding of behavioural elasticities in Canada are needed to fully assess the proposed changes.

According to the indicators observed, income inequality has increased in Canada over the last 30 years with a particularly large increase in the 1990s. Redistribution through taxes

and transfers largely offset increases in market income inequality until the 1990s. This increase has been driven by strong wage growth of high-skill workers, stagnant earnings of unskilled workers, institutional changes in the labour market, demographic trends, and changes to redistributive policies. These drivers have left those at the bottom of the income distribution relatively worse off. An increase to the Working Income Tax Benefit can provide an additional income supplement to low-skilled and low-wage workers. This increases their income relative to those higher up the income distribution. If findings in the United States hold true for Canada, this can be achieved without creating overly large negative work incentives, which would counteract the equalizing effect of the earnings supplement. Changes to this program can help to counteract the growing divergence in the wages of skilled and unskilled workers. These reforms cannot offset all of the drivers of inequality and their effect on the entire income distribution is likely to be modest. The equalizing effect is likely to occur in the bottom of half of the income distribution. This reform should therefore be combined with other long-term reforms that will stimulate more human capital investment and promote more inclusive employment.

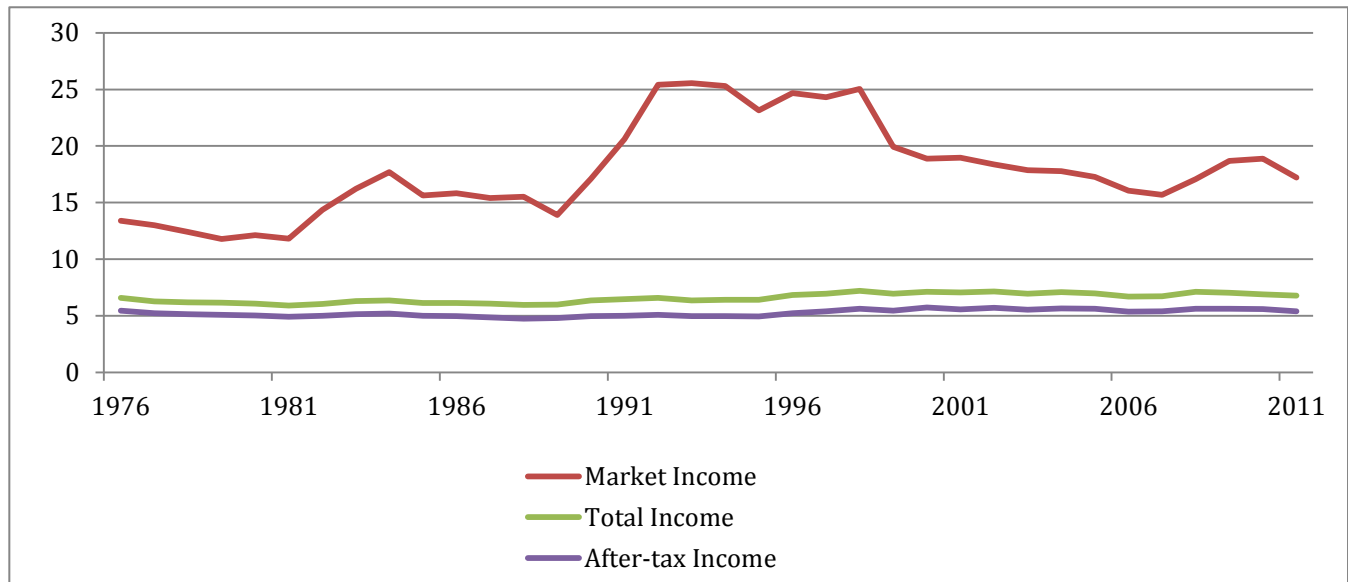
## Appendix

### Appendix 1: Change in GINI coefficients of Select OECD Countries

Country	1985	2008	Percentage Change
Sweden	0.198	0.259	31.3
Finland	0.209	0.259	24.3%
New Zealand	0.271	0.330	21.8
Germany	0.251	0.295	17.9
Luxembourg	0.247	0.288	16.7
Israel*	0.326	0.371	13.9
Norway	0.222	0.250	12.7
Denmark	0.221	0.248	12.2
United States	0.337	0.378	12.1
<b>Canada</b>	<b>0.293</b>	<b>0.324</b>	<b>10.5</b>
Czech Republic	0.232	0.255	10.0
Italy	0.309	0.337	9.0
<b>OECD Average</b>	<b>0.290</b>	<b>0.316</b>	<b>9.0</b>
Australia	0.309	0.336	8.7
Japan	0.304	0.329	8.1
Netherlands	0.272	0.294	8.0
United Kingdom	0.319	0.345	7.9
Mexico	0.452	0.476	5.1
Belgium	0.256	0.259	1.1
Hungary	0.273	0.272	-0.2
France	0.300	0.293	-2.3
Turkey	0.434	0.409	-5.8
Greece	0.336	0.307	-8.5

(Source: OECD 2011, *Divided We Stand*, p.24)

## Appendix 2: Ratio of Top-to-Bottom quintiles for Market, Total and After-Tax Income of Economic Families in Canada 1976-2011



(Source: Statistics Canada 2012, CANSIM Table 202-0701)

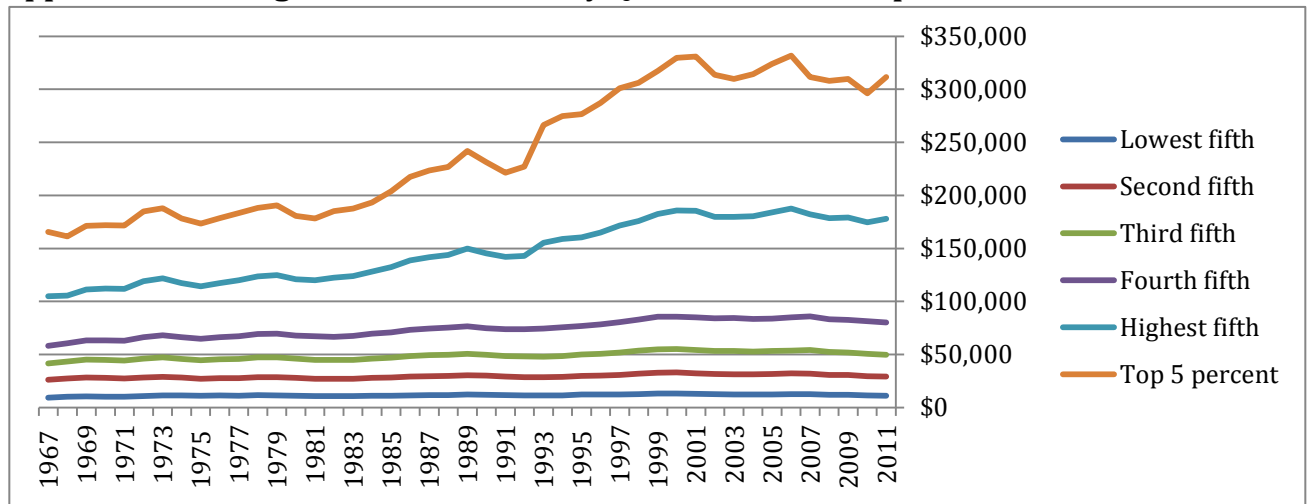
## Appendix 3 Working Income Tax Benefit Factors for 2012

Factor	Most Provinces and Territories	AB	BC	NU
<b>Basic Working Income Tax Benefit Factors</b>				
<b>Basic Amount of Working income</b>				
Single person or couple	\$3,000	\$2,760	\$4,750	\$6,000
<b>Benefit rate for income above base amount</b>				
Single person	25%	20%	21%	5%
Couple	25%	20%	21%	10%
<b>Maximum WITB refundable amount</b>				
Single person	\$970	\$1,059	\$1,206	\$608
Couple	\$1,762	\$1,589	\$1,914	\$1,216
<b>Net income at which maximum WITB is reaches</b>				
Single person	\$6,880	\$8,055	\$10,493	\$18,160
Couple	\$10,048	\$10,705	\$13,864	\$18,160
<b>Net income at which WITB begins to be phased out</b>				
Single person	\$11,011	\$11,535	\$12,059	\$20,973
Couple	\$15,205	\$15,730	\$16,254	\$26,740
<b>Clawback rate</b>				
Single person	15%	15%	17%	4%

Couple	15%	15%	17%	8%
<b>Net income at which WITB is reduced to zero</b>				
Single person	\$17,478	\$18,595	\$19,153	\$36,173
Couple	\$26,952	\$26,323	\$27,513	\$41,940

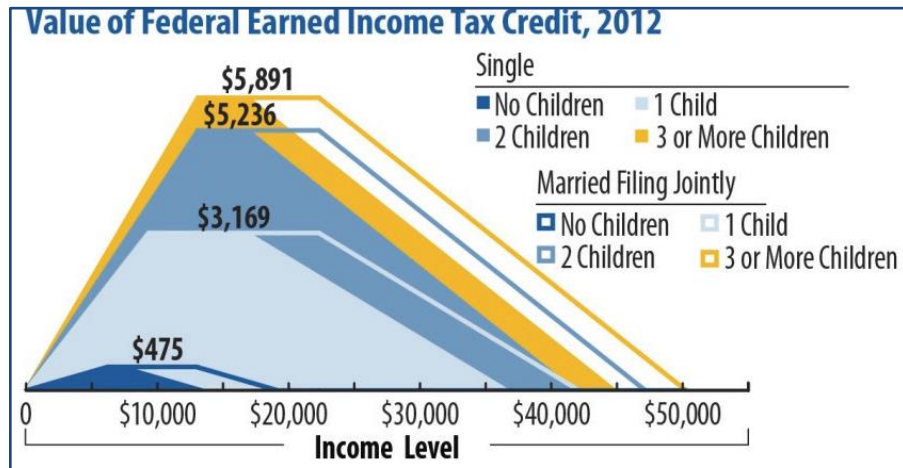
(Source: Canada Revenue Agency 2013, *Working Income Tax Benefit Calculator*)

#### Appendix 4: Average Income in the US by Quintile and the Top 5 Per Cent



(Source: US Census Bureau 2013, Income Data Historic Tables – Table H3)

#### Appendix 5: EITC Benefit Rates



(Source: Centre on Budget and Policy Priorities 2013, *Policy Basics: The Earned Income Tax Credit*, p.1)

### Appendix 6: EITC Benefit Table - 2012

#Children	Credit Rate	Minimum Income for Maximum Credit	Maximum Benefit	Clawback Rate	Clawback Range - Beginning	Clawback Range - End
<b>0</b>	7.65%	\$6210	\$475	7.65	\$7770	\$13980
<b>1</b>	34%	\$9320	\$3169	15.98	\$17090	\$36920
<b>2</b>	40%	\$13,090	\$5236	21.06	\$17090	\$41952
<b>3+</b>	45%	\$13,090	\$5891	21.06	\$17090	\$45060
<b>Married Couples</b>						
<b>0</b>	7.65%	\$6210	\$475	7.65	\$12,980	\$19,190
<b>1</b>	34%	\$9320	\$3169	15.98	\$22,300	\$42,130
<b>2</b>	40%	\$13,090	\$5236	21.06	\$22,300	\$47,162
<b>3+</b>	45%	\$13,090	\$5891	21.06	\$22,300	\$50,270

(Source: Tax Policy Centre 2013, *Historical EITC Parameters*)

### Appendix 7: 2011 Poverty Thresholds in the United States

Household Size	Poverty Threshold (Annual Income)
Single Person	\$11,484
Two people	\$14,657
Three People	\$17,916
Four People	\$23,021
Five People	\$27,251
Six People	\$30,847
Seven People	\$35,085
Eight People	\$39,064
Nine People or More	\$46,572

(Source: US Census Bureau 2013, *Income Data - Poverty Thresholds by Size of Family and Number of Children*)

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