



# Revenue and Distribution Analysis of Federal Tax Changes: 2005-2013

---

Ottawa, Canada  
May 27, 2014  
[www.pbo-dpb.gc.ca](http://www.pbo-dpb.gc.ca)

**Key points:**

The federal government is projected to generate nearly \$230 billion in tax revenue in 2014-15. This report examines tax regime changes between 2005 and 2013 for two of the three largest components of federal tax revenue: personal income taxes (PIT) and the GST/HST. Corporate income tax – the other major source of federal tax revenue – is not examined due to data limitations.

- The accumulation of major tax regime changes since 2005 will reduce federal personal income tax revenue by an estimated \$17.1 billion and the federal share of GST/HST revenue by \$13.3 billion in 2014.
  - By comparison, the cumulative fiscal impact of government-wide direct program spending restraint since 2009-10 is projected to be \$12.5 billion in the 2014-15 fiscal year.
  - The PBO's preferred estimates take taxpayer behaviour into account and generally project smaller fiscal impacts than comparable estimates of Finance Canada.
- The *Financial Administration Act* requires a review and evaluation of all government programs every five years. There is no comparable requirement for tax expenditures or major tax policy changes, and the government's publicly available tax regime analysis is most commonly summarized into a single cost estimate. This report provides analysis of the distributional impacts and tax efficiency to supplement fiscal cost estimates of tax regime changes.
  - Cumulative tax changes since 2005 have been progressive overall and most greatly impact low-middle income earners (households earning between \$12,200 and \$23,300), effectively resulting in a 4.0 per cent increase in after-tax income.
  - The lowest and highest 10 per cent of income earners benefit least, with after-tax gains of 2.2 per cent and 1.4 per cent, respectively.

**Prepared by:** Trevor Shaw\*

---

\* The author thanks Statistics Canada staff, PBO colleagues, Professor Kevin Milligan and other reviewers for their advice and contributions. Please contact Mostafa Askari ([mostafa.askari@parl.gc.ca](mailto:mostafa.askari@parl.gc.ca)) for further information.

## **Contents**

1	Context.....	1
2	Aggregate Findings.....	7
3	Personal Income Tax Rate.....	10
4	Basic Personal Amount .....	13
5	Child Tax Credit .....	16
6	Working Income Tax Benefit.....	18
7	Dividend Tax Credit.....	21
8	Personal Income Amount .....	24
9	Age Credit.....	27
10	Pension Income Credit.....	30
11	Pension Income Splitting.....	32
12	Canada Child Tax Benefit & National Child Benefit Supplement.....	35
13	Employment Tax Credit.....	39
14	GST/HST .....	41
	Annex A – Description of Methods .....	43
	Annex B – Cumulative Distribution of After Tax and Transfer Benefits per Household .....	49
	Annex C – Tax Measure Interaction Estimates.....	56
	Annex D – PBO Income Group Classification.....	57

## 1 Context

The Parliamentary Budget Officer's (PBO) legislative mandate is to "provide independent analysis to the Senate and to the House of Commons about the state of the nation's finances, the estimates of the government and trends in the national economy".<sup>1</sup>

Starting in 2005, a series of major changes to federal personal income tax were initiated (major changes are those with an estimated annual fiscal impact of \$200 million or more). These, and subsequent personal income tax changes have remained through 2013. The federal GST/HST rate was recently reduced twice, first in 2006 and again in 2008.

These changes were each summarized in one of three annual publications on tax policy costing and evaluation – the federal Budget, the annual Update of Economic and Fiscal Projections and Tax Expenditure and Evaluations.<sup>2,3,4</sup>

These documents commonly calculate fiscal estimates of tax policy changes for a two-to-five year period. However, the methods and assumptions used to arrive at these estimates are summarized with varying detail.

In addition, while net impacts to a 'representative taxpayer' are occasionally depicted, the distribution of tax burdens resulting from a tax regime change is rarely provided, and changes to taxpayer behaviour are not taken into account.

This report supplements past government estimates for major tax policies by evaluating fiscal impacts and the distribution of the tax burden along with summary cumulative estimates of tax regime changes.

The micro-based analytical tools and data used to develop this report are specialized to personal income and commodity taxes (including the GST/HST).<sup>5</sup> As such, this report is limited to PIT and GST/HST measures and does not examine any corporate or international tax measures implemented over the 2005-13 period.<sup>6,7</sup>

In total, cumulative changes have reduced federal tax revenue by \$30 billion, or 12 per cent. These changes have been progressive, overall. Low and middle income earners have benefited more, in relative terms, than higher income earners.

Generally, there are a few key perspectives to consider when examining tax policy:

**(a) Fiscal impact** estimates the net revenue increase (decrease) to the treasury associated with introducing, removing, or altering a tax. This is the most commonly cited consideration of tax policy choices. Fiscal impacts associated with newly implemented tax policy changes are generally published semi-annually in the federal Budget or Update of Economic and

<sup>1</sup> <http://laws.justice.gc.ca/eng/PDF/P-1.PDF>. Accessed January 2014.

<sup>2</sup> <http://www.budget.gc.ca/2014/docs/plan/pdf/budget2014-eng.pdf>. Accessed May 2014.

<sup>3</sup> <http://www.fin.gc.ca/efp-pef/2013/pdf/efp-pef-13-eng.pdf>. Accessed May 2014.

<sup>4</sup> <http://www.fin.gc.ca/purl/taxexp-eng.asp>. Accessed May 2014.

<sup>5</sup> The Social Policy Simulation Database and Model (SPSD/M).

<http://www.statcan.gc.ca/microsimulation/spsdm-bdmsps/spsdm-bdmsps-eng.htm>. Accessed May 2014.

<sup>6</sup> This report does not examine the Tax Free Savings Account due to data limitations on relevant investment income. Finance Canada estimates the TFSA tax expenditure at \$410 million in 2013. <http://www.fin.gc.ca/taxexp-depfisc/2013/taxexp13-eng.asp>. A profile of TFSA account holders is available in *Tax Expenditures and Evaluations 2012*. <http://www.fin.gc.ca/taxexp-depfisc/2012/taxexp1202-eng.asp#toc346014054>. Accessed May 2014.

<sup>7</sup> Personal income tax and the federal portion of the GST/HST account for 75 per cent of federal tax revenues.

Fiscal Projections. Finance Canada also provides an annually updated fiscal estimate of existing tax expenditures in Tax Expenditures and Evaluations.

Finance Canada makes fiscal estimates of tax policy using a static costing approach, whereas this report uses and contrasts two methods of fiscal impact estimation:

- The **preferred** PBO estimate takes into account a behavioural response to tax policy changes within the tax base. Responses are calculated according to effective marginal tax rates and estimates of the elasticity of taxable income generated in prior studies, including those of Finance Canada.
- The **static** PBO estimate assumes no change in taxpayer behaviour in response to a tax policy change. This approach accounts for GST/HST revenue recaptured from households spending a portion of after-tax gains (losses) that result from tax regime changes.

Households with higher after-tax and transfer incomes are anticipated to increase consumption spending, thereby leading to higher GST/HST revenues. For estimating net revenue impacts from personal income tax measures, both static and behavioural methods account for these changes to GST/HST revenues.<sup>8</sup> These consumption tax effects are also captured for the sales tax revenues at the provincial level of government.

Provincial income tax revenues can also be affected by federal tax changes. These impacts are greatest when there is an anticipated taxpayer response to federal tax rule changes, resulting in an increase in the taxable personal income base. All provinces, except Québec, apply the federal definition of taxable income for the purpose of provincial income tax collection, as set out in the federal-provincial Tax Collection Agreements.<sup>9,10</sup> Thus, any federal taxable income base changes resulting from federal tax measures will directly affect provincial revenues, all else equal.

#### Box 1-1

##### Treatment of Indexing

Each year, certain personal income tax and benefit amounts are indexed to inflation using the Statistics Canada Consumer Price Index. This report only estimates revenue impacts related to increases in excess of annual inflation indexing.

Provincial revenues impacts, for both sales taxes and income taxes, are estimated separately from federal fiscal impacts for each measure and in summary findings, including Figure 1-2.

<sup>8</sup> This effect is estimated in SPSPD/M v. 21.

<sup>9</sup> <http://www.fin.gc.ca/fapt-aipf/fapte.pdf>. Accessed May 2014.

<sup>10</sup> [http://www.revenuquebec.ca/en/citoyen/situation/nouvel-arrivant/regime-fiscal-du-quebec/revenu\\_imposable/default.aspx?clr=1](http://www.revenuquebec.ca/en/citoyen/situation/nouvel-arrivant/regime-fiscal-du-quebec/revenu_imposable/default.aspx?clr=1). Accessed May 2014.

**Figure 1-2****Major Tax Measures 2005-13: Preferred PBO Estimate of Net Federal Fiscal Impact**

\$ Millions, 2014 tax year

Age Amount	(950)
Basic Amount	(3,840)
Canada Child Tax Benefit & National Child Benefit Supplement	(1,060)
Child Tax Credit	(1,680)
Dividend Tax Credit - Large Corp.	(320)
Dividend Tax Credit - Small Corp.	520
Employment Tax Credit	(2,110)
Pension Income Credit	(620)
Pension Income Splitting	(1,020)
Personal Income Tax Amounts	(1,790)
Personal Income Tax Rate	(3,040)
Working Income Tax Benefit	(1,320)
Subtotal	(17,230)
Adjustment for PIT interactions	110
<b>PIT Total</b>	<b>(17,120)</b>
<b>GST</b>	<b>(13,270)</b>

Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21, Finance Canada.

Note: Provincial revenue impacts are not included in this table, but are provided for each measure in this report's aggregate findings (p. 7) and analysis of individual measures (pp. 10-42)

**(b) Distributional impact** details how individual taxpayers will be affected by tax regime changes. Different groups of income earners are affected by tax policy differently, either in absolute or relative terms. This analysis shows how different taxpaying groups (as determined by market income, before taxes and transfers) are affected by a tax regime changes.<sup>11</sup> This report segments households into deciles, except for the top 10 percentile,

<sup>11</sup> Market income includes income from employment (including self-employment and/or farming), investment (interest, dividends and realized capital gains) and other taxable sources (pension and alimony). This measure excludes non-market incomes such as non-realized capital gain on real estate or other investment or the imputed rental income on owner-occupied housing.

which is evenly split into the 90-95<sup>th</sup> and 96-100<sup>th</sup> percentile groupings.<sup>12,13</sup> This additional segmentation for top earners helps to improve estimation precision, as the top 10 per cent of households account for 39 per cent of federal tax revenue and are more responsive to tax policy changes than average income earners.<sup>14,15</sup>

**Figure 1-3****Household Income Classification: 2014**

Dollars

Group	Market Income		Taxable Income	
	Minimum	Maximum	Average	Average
0-10	-	2,029	3	8,786
11-20	2,030	12,207	6,916	17,179
21-30	12,208	23,261	17,739	26,905
31-40	23,262	36,253	29,764	38,143
41-50	36,254	49,033	42,450	49,118
51-60	49,034	64,851	56,505	60,346
61-70	64,852	83,250	73,836	74,863
71-80	83,251	109,196	95,915	94,227
81-90	109,197	151,808	128,032	122,146
91-95	151,809	198,237	171,711	159,444
96-100	198,238	-	362,248	324,298

Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21.

Note: Taxable income may exceed market income due to non-market income streams such as CPP, OAS or social assistance. Alternatively, some market income may be exempt from federal tax or be eligible for tax deduction.

The fiscal impact of each tax policy change is detailed by income decile on an absolute dollar basis, as well as a percentage share of after-tax income. Per-household benefits

<sup>12</sup> All PBO estimates are determined using the 'economic family' as the taxpaying unit in the Social Policy Simulation Database and Model (SPSPD/M). However, for conciseness, economic families are referred to as households throughout this report. This is not to be confused with the Statistics Canada definition of a 'household', which can include multiple economic families.

<sup>13</sup> See Annex D for the PBO's income group classification criteria.

<sup>14</sup> Saez, E. and M. Veall, The Evolution of High Incomes in North America: Lessons from Canadian Evidence, The American Economic Review, 95(3), June 2005, 831-849. <http://elsa.berkeley.edu/~saez/saez-veallAER05canada.pdf>. Accessed May 2014.

<sup>15</sup> Sillamaa, M.A. and M. Veall, The effect of marginal tax rates on taxable income: a panel study of the 1988 tax flattening in Canada. Journal of Public Economics 80(3), June 2001, 341-356. <http://ideas.repec.org/a/eee/pubeco/v80y2001i3p341-356.html#biblio>. Accessed May 2014.

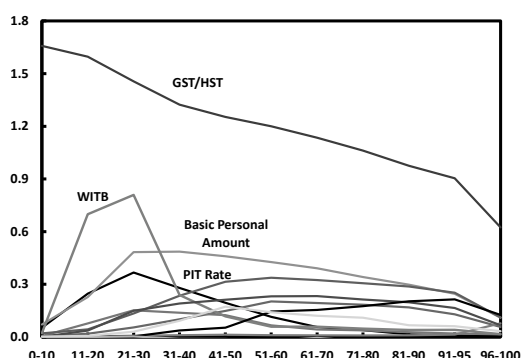
are depicted to all taxpaying households, not only those eligible for a particular tax benefit or credit. This includes analysis segmented by decile.

Absolute dollar impacts often skew to higher income groups, as these groups have larger tax obligations. Income-weighted benefits, as depicted in Figure 1-4, are most commonly broadly or progressively distributed.

**Figure 1-4**

**Federal Tax Policy Changes: Distribution of Income-Weighted Net Benefit per Household**

Per cent of 2014 after-tax income



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Finance Canada.

Total effects on income equality are measured using the Gini index, a common and comprehensive measure of pre- and post-tax inequality. Progressive tax changes generally result in a lower Gini index, shown in Figure 1-6 as percentage point improvement to the Gini index. Regressive tax changes increase income inequality, indicated by an increase in the Gini index.

Because of model limitations, Gini index estimates do not take into account taxpayer behaviour, and are calculated on a static basis.

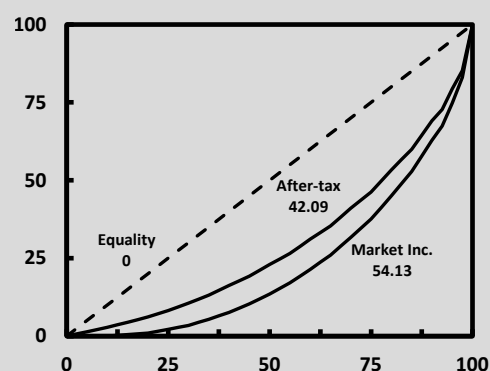
**Box 1-5**

**Gini Index**

The Gini index measures the extent to which the distribution of income among individuals or households within an economy deviates from a perfectly equal distribution.

A larger Gini index implies larger income inequality. At the extremes, a Gini index of zero represents perfect equality and 100, perfect inequality.

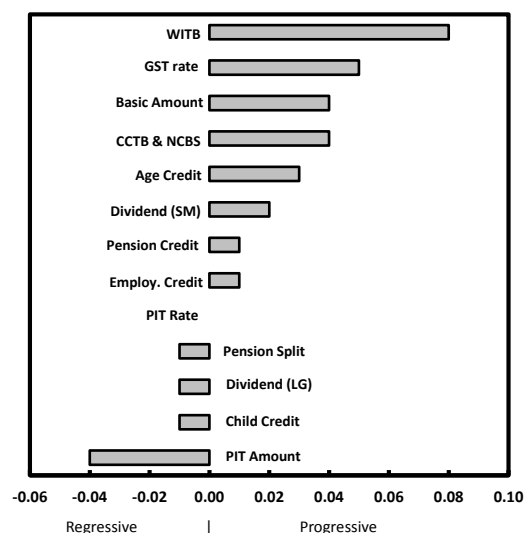
The PBO estimates Canada's Gini index at 54.13 for market income and 42.09, after taxes and government transfers.



Sources: Organization for Economic Co-Operation and Development, World Bank, Office of the Parliamentary Budget Officer, SPSP/M v. 21.

**Figure 1-6****Gini Index**

Percentage point improvement



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

**(c) Horizontal equity** depicts the degree to which like individuals or families are treated alike by the tax system.<sup>16,17</sup> This is an important aspect to consider when evaluating a new or revised tax measures. However, since the tax system can be used to achieve various social or economic policy objectives, net contributions to horizontal equity are difficult to evaluate in isolation. This report does not comment on, or provide estimates of horizontal equity, but it does not preclude exploration in future tax analysis.

**(d) Tax efficiency** measures the amount of economic distortion created by a tax or tax change.<sup>18</sup> Taxes distort economic behaviour by altering relative prices for goods and services and leisure, potentially creating economic deadweight loss.<sup>19</sup> Alternatively, taxes are commonly used to correct market mispricing on social or economic externalities, leading to enhanced economic efficiency.

When a tax does create some distortion, the economic cost of raising \$1 of revenue will reduce welfare of the taxed individual(s) by more than \$1. Governments should prefer to minimize these inefficient exchanges, all else equal.<sup>20</sup> Amendments to existing tax policies may enhance, or reduce the efficiency of the tax system, depending on the efficiency of the existing tax.

The empirical measurement of tax efficiency is complex, and may require detailed models or critical assumptions regarding market behaviour and social welfare. However, a simpler approach can be used.

Generally, broad, comprehensive taxes are accepted to be more efficient (less distortionary) than narrowly-based taxes.<sup>21,22,23,24,25</sup> However, broad, efficient

<sup>18</sup> Tax efficiency represents an economic concept, not to be confused with the operational efficiency with which the taxing authority can collect a tax. Operational aspects of tax policy changes, while important, are not examined in this report.

<sup>19</sup> <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1063&context=econfacpub>.

<sup>20</sup> <http://www.treasury.govt.nz/publications/research-policy/wp/2008/08-04/twp08-04.pdf>.

<sup>21</sup> <http://aida.econ.yale.edu/~dirkb/teach/pdf/mirrlees/1971%20Optimal%20taxation.pdf>.

<sup>22</sup> [http://scholar.harvard.edu/files/mankiw/files/optimal\\_taxation\\_in\\_theory.pdf](http://scholar.harvard.edu/files/mankiw/files/optimal_taxation_in_theory.pdf).

<sup>23</sup> [http://www.nber.org/papers/w6789.pdf?new\\_window=1](http://www.nber.org/papers/w6789.pdf?new_window=1).

<sup>24</sup> Becker, G. and C. Mulligan. 2003. Deadweight Costs and the Size of Government. *Journal of Law and Economics*, 46: 293-340.

<sup>16</sup> [http://darp.lse.ac.uk/PapersDB/Duclos-Lambert\\_\(99\).pdf](http://darp.lse.ac.uk/PapersDB/Duclos-Lambert_(99).pdf).

Accessed May 2014.

<sup>17</sup> [http://www.nber.org/papers/w7035.pdf?new\\_window=1](http://www.nber.org/papers/w7035.pdf?new_window=1).

Accessed May 2014.



and non-distortionary taxes often are highly regressive (*e.g.* a flat levy on earned income) because they increase after-tax income inequality, so there is commonly tension between tax efficiency and tax equity.

Wherever possible, this report supplements fiscal impact and distributional estimations by detailing the breadth (the number of households impacted) and depth (for those who are impacted, the amount of the impact) of each tax measure.

### **Limitations**

The estimates in this report are not intended to provide a comprehensive, stand-alone depiction of tax policy changes. These estimates are indicative and do not account for the related expenditure consequences associated with a tax policy change.

Decreases in federal tax rates will lower federal revenues, thereby having a corresponding effect on the level and composition of program spending and/or public debt.

For example, a regressive tax rate may be decreased, improving the progressivity of the tax system; but if the foregone revenues lead to the elimination of a progressive program, the distributional impact on well-being of all strata of Canadians would be ambiguous, without a more rigorous examination.

Analyses of this type are not detailed within the distributional metrics of this report. However, distributional impacts of *both* revenue and expenditure decisions should be taken in tandem when evaluating the net impact of policy choices.

The stimulative or contractionary macroeconomic impacts of each tax measure are not estimated in this analysis beyond direct increases (decreases) in after-tax income and consumption, as well as behavioural impacts on the taxable income base.

Finally, this analysis examines discrete changes to the tax system, which has a dynamic, inter-temporal structure. For computational simplicity, this analysis does not capture the dynamic tax impact over the course of years and generations.

---

<sup>25</sup> Feldstein, Martin S. 1999. Tax Avoidance and the Deadweight Loss of the Income Tax. *Review of Economics and Statistics*, 81(4): 674-680.

## 2 Aggregate Findings

Cumulative major tax regime changes since 2005 will reduce federal PIT revenue by an estimated \$17.1 billion in 2014 (Figure 2-1). This estimate takes behavioural adjustments by taxpayers into account, including additional federal tax revenues resulting from changes in the size of the personal income tax base and changes in levels of household consumption.

**Figure 2-1**

### Personal Income Tax Measures 2005-13: Net Federal Fiscal Impact in 2014

\$ Millions

Age Amount	(950)
Basic Amount	(3,840)
Canada Child Tax Benefit & National Child Benefit Supplement	(1,060)
Child Tax Credit	(1,680)
Dividend Tax Credit - Large Corp.	(320)
Dividend Tax Credit - Small Corp.	520
Employment Tax Credit	(2,110)
Pension Income Credit	(620)
Pension Income Splitting	(1,020)
Personal Income Tax Amounts	(1,790)
Personal Income Tax Rate	(3,040)
Working Income Tax Benefit	(1,320)
<b>Subtotal</b>	<b>(17,230)</b>
Adjustment for PIT interactions	110
<b>PIT Total</b>	<b>(17,120)</b>

Sources: Office of the Parliamentary Budget Officer,  
SPSD/M v. 21.

Separate from estimates provided in Figure 2-1, provincial treasuries are projected to gain \$900 million annually in added tax revenue as a result of the federal personal income tax measures examined in this report. These revenue gains are primarily attributable to taxpayer response to federal tax rules leading to an increase in the taxable personal income base. The federal definition of taxable income is

applied for provincial income tax collection in all provinces, except for Québec.<sup>26,27</sup>

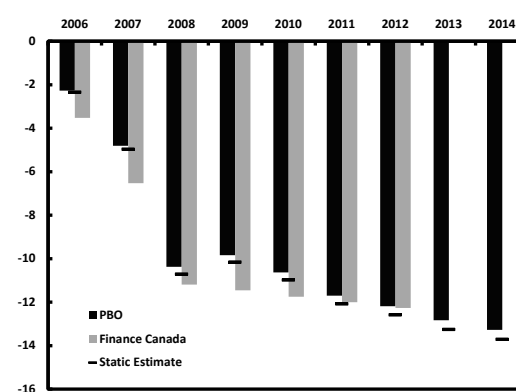
Increases in after-tax income also lead to higher consumption and corresponding provincial sales tax revenues.

The federal GST/HST rate reductions in 2006 and 2008 will result in an estimated \$13.3 billion lower federal revenue in 2014 (Figure 2-2).

**Figure 2-2**

### GST/HST Rate Reductions 2006 & 2008: Net Federal Fiscal Impact in 2014

\$ Billions



Sources: Office of the Parliamentary Budget Officer,  
SPSD/M v. 21.

Provincial revenues are anticipated to increase by \$600 million, resulting from increased consumption spending in response to lower federal GST/HST rates.

The financial gains from cumulative PIT and GST/HST changes since 2005 skew toward households with larger incomes when measured in absolute dollar terms (Figure 2-3). Reductions to the personal income tax rate on the lowest tax bracket,

<sup>26</sup> <http://www.fin.gc.ca/fapt-aipf/fapte.pdf>. Accessed May 2014.

<sup>27</sup> [http://www.revenuquebec.ca/en/citoyen/situation/nouvel-arrivant/ regime-fiscal-du-quebec/revenu\\_imposable/default.aspx?clr=1](http://www.revenuquebec.ca/en/citoyen/situation/nouvel-arrivant/ regime-fiscal-du-quebec/revenu_imposable/default.aspx?clr=1). Accessed May 2014.

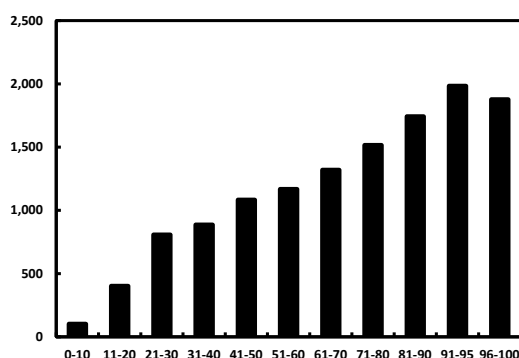
and increases to the basic exemption and PIT income bracket thresholds skew absolute dollar gains to higher income earners.

However, measured as relative gain to after-tax and transfer income, tax regime changes have been progressive, overall (Figure 2-4).

**Figure 2-3**

**Personal Income Tax Measures 2005-13: Distribution of Benefits per Household**

Dollars, 2014 tax year



Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21.

Middle-low income earners have accrued the greatest financial benefit, specifically those in the 20-30<sup>th</sup> percentile of income earners (those earning between \$12,208 and \$23,261). This group of households has accrued an average increase of 2.5 per cent in after-tax income resulting from major personal income tax changes since 2005 (Figures 2-5).

These gains primarily result from the introduction of the Working Income Tax Benefit and a series of changes to the Child Tax Benefit/National Child Benefit Supplement.

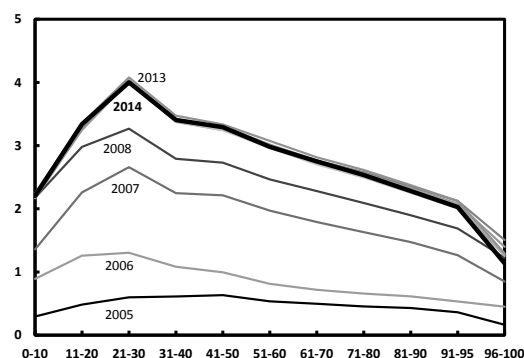
The lowest 10 per cent and the top 5 per cent income earners gain least, in relative terms. Each group will accrue after-tax and transfer improvements of 0.5 per cent (Figure 2-5).

GST/HST rate reductions have had progressive after-tax and transfer distribution impacts, with the bottom 10 per cent of income earners benefiting by about twice as much as top 10 per cent earners, on a benefits-to-income basis (Figure 2-6).

**Figure 2-4**

**Cumulative Personal Income Tax and GST/HST Measures 2005-13: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21.

Figure 2-5

**Cumulative Personal Income Tax Measures 2005-13: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.3%	0.5%	0.6%	0.6%	0.7%	0.6%	0.6%	0.6%	0.6%	0.5%
11-20	0.5%	0.9%	1.5%	1.5%	1.9%	1.8%	1.7%	1.8%	1.7%	1.7%
21-30	0.6%	0.9%	2.0%	1.9%	2.7%	2.6%	2.5%	2.6%	2.6%	2.5%
31-40	0.5%	0.7%	1.6%	1.6%	2.2%	2.1%	2.0%	2.1%	2.1%	2.0%
41-50	0.6%	0.6%	1.6%	1.5%	2.2%	2.1%	2.0%	2.0%	2.0%	2.0%
51-60	0.5%	0.6%	1.5%	1.4%	2.0%	1.9%	1.8%	1.8%	1.9%	1.8%
61-70	0.5%	0.5%	1.3%	1.2%	1.7%	1.7%	1.6%	1.6%	1.7%	1.6%
71-80	0.5%	0.4%	1.2%	1.1%	1.6%	1.6%	1.4%	1.5%	1.6%	1.5%
81-90	0.4%	0.4%	1.1%	1.0%	1.5%	1.4%	1.3%	1.4%	1.4%	1.3%
91-95	0.4%	0.3%	0.9%	0.8%	1.3%	1.2%	1.1%	1.2%	1.2%	1.1%
96-100	0.2%	0.3%	0.6%	0.6%	0.9%	0.8%	0.7%	0.6%	0.7%	0.5%

Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Figure 2-6

**Cumulative GST/HST Measures 2006-13: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income

	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.4%	0.7%	1.6%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%
11-20	0.3%	0.7%	1.5%	1.4%	1.5%	1.6%	1.6%	1.6%	1.6%
21-30	0.3%	0.6%	1.4%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%
31-40	0.3%	0.6%	1.2%	1.1%	1.2%	1.3%	1.3%	1.3%	1.3%
41-50	0.3%	0.5%	1.2%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%
51-60	0.2%	0.5%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.2%
61-70	0.2%	0.5%	1.1%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%
71-80	0.2%	0.5%	1.0%	0.9%	1.0%	1.0%	1.0%	1.1%	1.1%
81-90	0.2%	0.4%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%
91-95	0.2%	0.4%	0.9%	0.8%	0.9%	0.9%	0.9%	0.9%	0.9%
96-100	0.1%	0.3%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%

Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

### 3 Personal Income Tax Rate

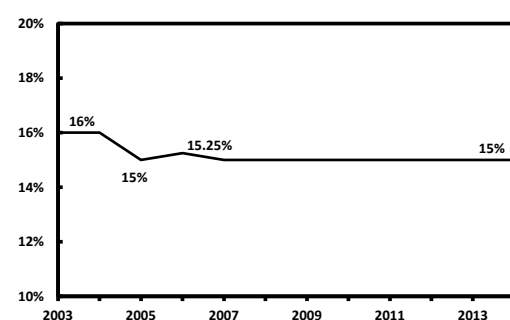
Since 2004, there have been three rate changes for the federal personal income tax, all of which affected only the rate on the lowest personal income tax bracket (the first \$43,953 of taxable income in 2014).<sup>28</sup> In 2005, this rate was decreased from 16 per cent to 15 per cent, and subsequently increased to 15.25 per cent in 2006.<sup>29,30</sup> In 2007, the rate was reduced permanently to its current 15 per cent (Figure 3-1).<sup>31,32</sup>

This analysis estimates the fiscal impact of PIT rate changes relative to the 2004 rate (16 per cent).<sup>33</sup>

**Figure 3-1**

#### Personal Income Rate: First Income Bracket

Per cent



Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

The PBO estimates that a 15 per cent tax rate on personal income will have a fiscal impact of \$3.0 billion in 2014. That is, government revenues will be about \$3.0 billion lower than if the federal personal income tax rate was 16 per cent.

This estimate takes into account corresponding rate changes for non-refundable tax credits. Non-refundable tax credit rates are generally referenced to the lowest personal income tax rate, and past changes to this rate have coincided with identical changes to the non-refundable tax credit reference rate.

These simultaneous increases in non-refundable tax credit reference rates account for a \$1.8 billion offsetting increase in revenue in 2014. If the personal income tax rate change was examined in isolation (assuming no change to non-refundable tax credit rates), government revenues would be about \$4.8 billion lower than if the federal personal income tax rate was 16 per cent.

**Figure 3-2**

#### Personal Income Tax Rate Reduction: Decomposition of the Net Federal Fiscal Impact

\$ Billions

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Net total	- 2.4	- 1.8	- 2.4	- 2.4	- 2.4	- 2.6	- 2.7	- 2.8	- 3.0	- 3.0
PIT rate	- 3.4	- 2.7	- 3.7	- 3.9	- 4.0	- 4.1	- 4.3	- 4.5	- 4.7	- 4.8
Non-Ref. Tax Credit rate	1.0	0.9	1.3	1.5	1.6	1.5	1.6	1.7	1.7	1.8

Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

These estimates also take into account behavioural adjustments by taxpayers, including additional GST revenues resulting from higher personal consumption.

<sup>28</sup> <http://www.cra-arc.gc.ca/tx/ndvdl/fq/txrts-eng.html>.

Accessed May 2014.

<sup>29</sup> <http://www.cra-arc.gc.ca/formspubs/prioryear/t1/2005/5000-s1/5000-s1-05e.pdf>. Accessed May 2014.

<sup>30</sup> <http://www.cra-arc.gc.ca/formspubs/prioryear/t1/2006/5000-s1/5000-s1-06e.pdf>. Accessed May 2014.

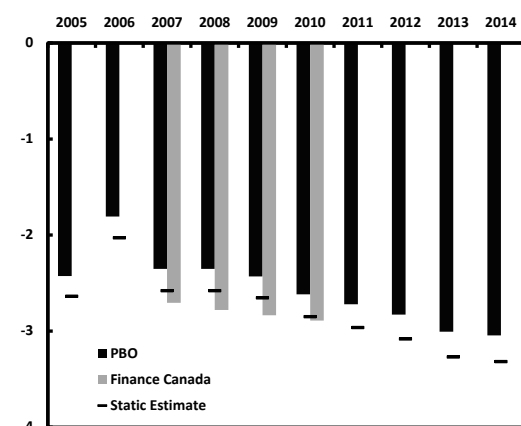
<sup>31</sup> <http://www.cra-arc.gc.ca/formspubs/prioryear/t1/2007/5000-s1/5000-s1-07e.pdf>. Accessed May 2014.

<sup>32</sup> <http://www.cra-arc.gc.ca/formspubs/t1gnrl/llyrs-eng.html>. Accessed February 2014.

<sup>33</sup> <http://www.fin.gc.ca/ec2005/ec/ecce2005.pdf>. Accessed May 2014.

**Figure 3-3****Personal Income Tax Rate Reduction: Net Federal Fiscal Impact**

\$ Billions



Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21, Government of Canada Update of Economic and Fiscal Update 2005.

Note: Finance Canada figures are estimated on a fiscal year (April-March) while PBO estimates are provided on a tax year basis (January-December).

Provincial treasuries are projected to gain \$360 million annually in added tax revenue as a result of this tax policy change, primarily the result of a larger taxable income base.

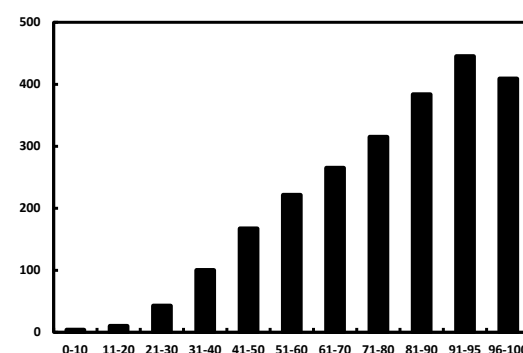
The PBO's estimates of historical costs for this measure are about 15 per cent lower than comparable Finance Canada estimates. About half of this difference is explained by the PBO taking taxpayers' behavioural response into account following a tax policy change. Other factors leading to differences include differences in macroeconomic projections, the model base year and timing differences between the tax and fiscal year estimates.

In absolute dollar terms, reduced tax burdens from PIT rate reductions skews toward households with larger incomes. These households are most likely to have multiple income earners who most fully benefit from a lower tax rate on the first \$43,953 of taxable income. The top 20 per

cent of income earners accrue almost half of the financial benefits of a PIT rate reduction.

**Figure 3-4****Personal Income Tax Rate Reduction: Distribution of Benefits per Household**

Dollars

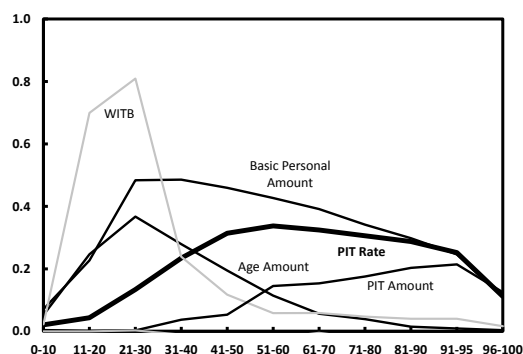


Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21.

However, when measured as a percentage improvement in after-tax income, the PIT rate reduction is most beneficial to middle and upper-middle income earners. The 40<sup>th</sup> to 90<sup>th</sup> percentile of income earners (\$36,254-\$151,808) benefit most, in relative terms, with after-tax income improving by about 0.3 per cent, on average (Figure 3-5).

**Figure 3-5**
**Personal Income Tax Rate Reduction:  
Distribution of Income-Weighted Net  
Benefit per Household**

Per cent of after-tax income

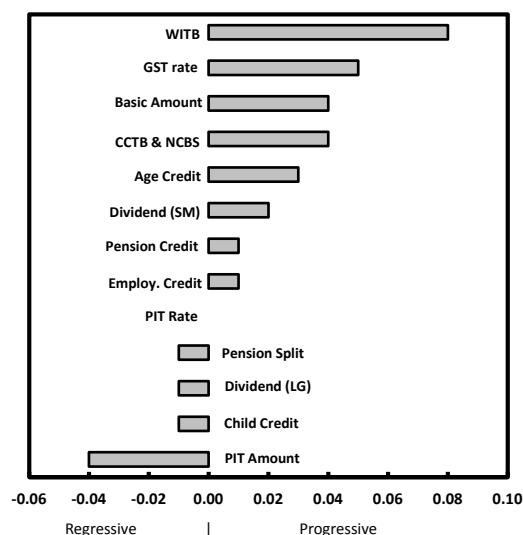


Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

If the reduction of the lowest personal income tax rate from 16 to 15 per cent was examined in isolation (assuming no change to non-refundable tax credit rates), there would be an income equality improvement of about 0.04 per cent on the Gini index. However, the corresponding decrease in the non-refundable tax credit reference rates offsets this distributional improvement. Consequently, the reduction of the PIT rate on the lowest tax bracket had a negligible distributional impact on after tax and transfer incomes (Figure 3-6).

**Figure 3-6****Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

A PIT rate reduction is among the least distortionary (from a horizontal perspective) and broadest-based of the tax policy measures examined, as an estimated 74 per cent of households benefit from a rate reduction, when measured by after-tax and transfer income.

## 4 Basic Personal Amount

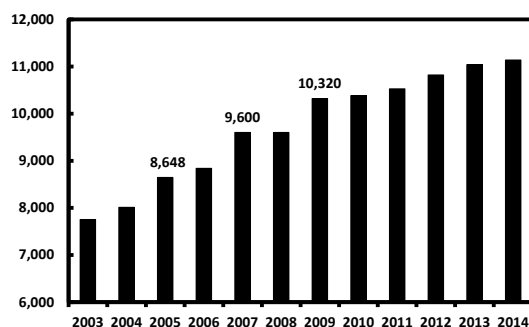
The basic personal amount exempts the first \$11,138 dollars of taxable income from federal income tax.<sup>34</sup> The entire basic personal amount represents the largest annual federal tax expenditure.<sup>35</sup> This section examines the three changes made to the basic personal amount (BPA) since 2005, each of which increased the amount of personal income exempt from federal tax.

First, in 2005, there was an exemption increase of 8 per cent, to \$8,648 (Figure 4-1). In 2007, the exemption was increased again, by 9 per cent to \$9,600. Finally, in 2009, the amount was increased by 8 per cent to \$10,320. Following 2009, the BPA has increased at roughly the rate of inflation.

**Figure 4-1**

### Basic Personal Amount per Taxpayer

Dollars



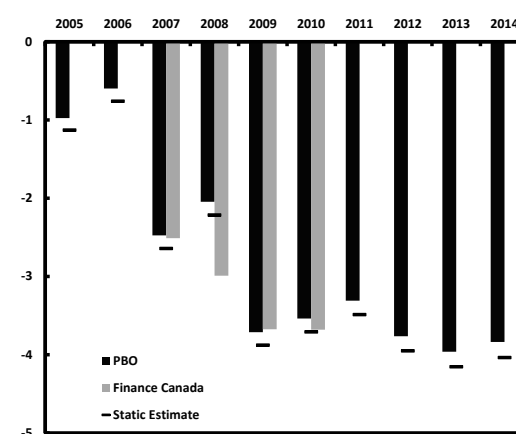
Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

The PBO estimates that the series of three BPA increases in excess of inflation will result in \$3.8 billion lower federal revenue in 2014 (Figure 4-2).

**Figure 4-2**

### Basic Personal Amount Increases: Net Federal Fiscal Impact

\$ Billions



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Budget 2005.

Note: Finance Canada figures are estimated on a fiscal year (April-March) while PBO estimates are provided on a tax year basis (January-December).

The PBO's federal fiscal impact estimate takes into account behavioural adjustments by taxpayers, including additional federal tax revenues resulting from higher personal consumption. However, changes to the basic personal amount do not greatly impact the marginal tax rate faced by the majority of taxpayers, rather only those at the margin of positive taxable income. As such, the fiscal impact of taxpayer behavioural response is projected to be relatively minor, offsetting the fiscal impact by about \$200 million or 5 per cent.

Provincial treasuries are projected to gain \$350 million in additional annual tax revenue in 2014 as a result of this federal tax policy change. This increase results from a larger taxable income base and higher sales tax revenue.

<sup>34</sup> <http://news.gc.ca/web/article-en.do?nid=791099>.

Accessed May 2014.

<sup>35</sup> Finance Canada Tax Expenditures and Evaluations 2012.

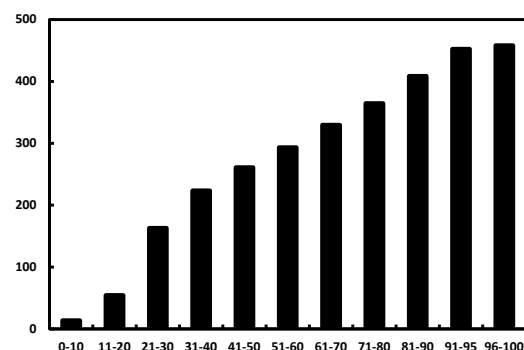


The PBO's estimates of historical costs for this measure are about 8 per cent lower than comparable Finance Canada estimates.<sup>36</sup>

**Figure 4-3**

**Basic Personal Amount Increases:  
Distribution of Benefits per Household**

Dollars



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

In absolute dollar terms, benefits of BPA increases skew toward households with larger incomes. The top 20 per cent of income earners accrue about 40 per cent of the financial benefits of increases in the basic personal amount (Figure 4-3).

However, when measured as a percentage improvement in after-tax income, increases to the BPA predominantly benefit low-middle income earners. The 20 to 40<sup>th</sup> percentile of income earners (\$23,262-\$49,033) benefit most, in relative terms, with after-tax income improving by about 0.52 per cent, on average.

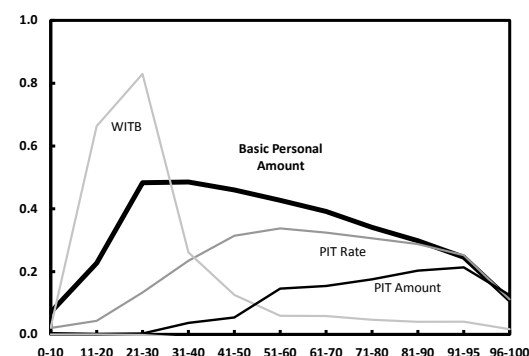
The highest income earners receive a large share of dollar benefits (Figure 4-3), but these tax gains comprise a relatively small share of household income (a 0.11 per cent increase in after tax and transfer income).

The lowest decile of households has effectively no market income, on average, and benefits least from an increase in the basic personal amount. However, an increase in the basic personal amount may reduce federal taxes owed for certain households, as taxable income is calculated in consideration of social assistance, federal elderly benefits, employment insurance payments and other non-market income. Overall, these relative after-tax and transfer gains (0.07 of after tax and transfer income) are minor in comparison to other income groups.

**Figure 4-4**

**Basic Personal Amount: Distribution of  
Income-Weighted Net Benefit per  
Household**

Per cent of after-tax income



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

In sum, the set of cumulative increases to the basic personal amount was the third most inequality improving measure of the thirteen tax policy changes studied in this report, behind only the Working Income Tax Benefit. Increases to the BPA are estimated to have improved the national Gini coefficient by 0.05, with a Gini index of 55.68 with BPA increases in effect, as compared with 55.73 without.<sup>37</sup>

<sup>36</sup> Budget 2005, Update of Economic and Fiscal Projections 2005, Budget 2006, Update of Economic and Fiscal Projections 2007, Budget 2009.

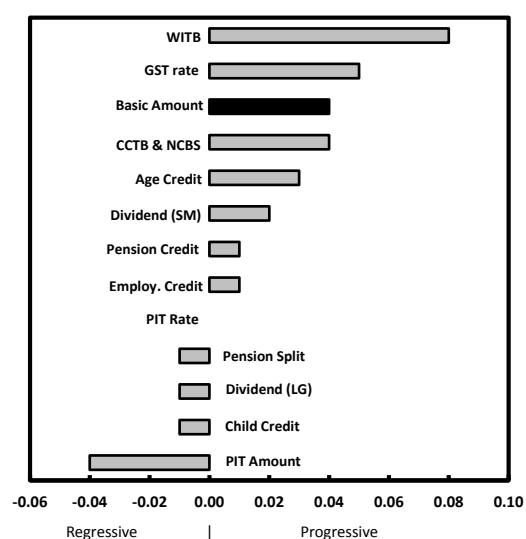
<sup>37</sup> A larger Gini coefficient implies larger income inequality.

Additionally, BPA increases have broad benefits, as an estimated 75 per cent of Canadian households benefit from higher BPA exemptions on an annual basis. Generally, more broad-based tax measures have a smaller distortionary impact on the economy, thereby improving (or preserving) the efficiency in the tax system.

**Figure 4-5**

**Gini Index**

Per cent improvement



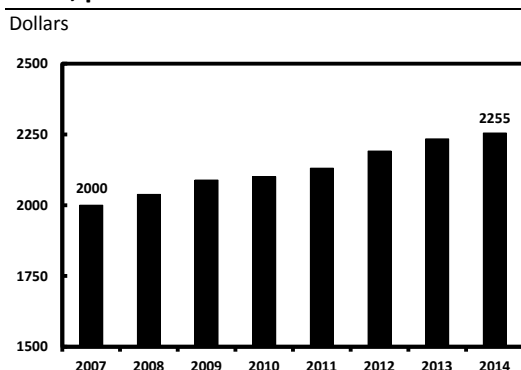
Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21.

## 5 Child Tax Credit

Beginning in 2007, a non-refundable tax credit of \$2000 was introduced for the parents and guardians of children under 18 years of age.<sup>38</sup> The credit is annually indexed to inflation and is based on the rate for the lowest personal income tax bracket (15 per cent in 2014). This year, the credit could increase after-tax incomes by as much as \$340 per child, per household (Figure 5-1).

**Figure 5-1**

### Child Tax Credit: Maximum Claim per Child, per Household



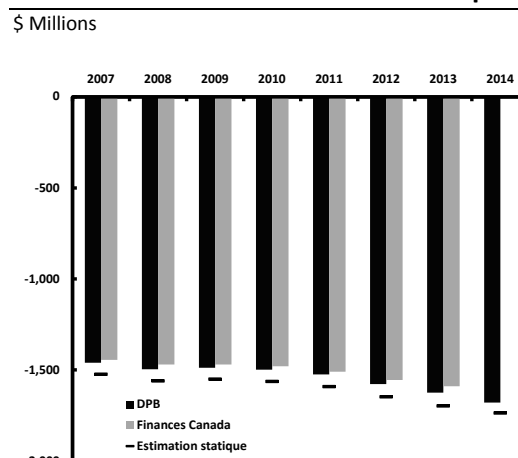
Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

The PBO estimates that the Child Tax Credit will have a fiscal impact of \$1.7 billion in 2014 (Figure 5-2).

The PBO's federal fiscal impact estimate takes into account behavioural adjustments by taxpayers, including additional federal tax revenues resulting from higher personal consumption. However, the Child Tax Credit does not greatly impact the marginal tax rate faced by the majority of taxpayers. As such, the fiscal impact of taxpayer behavioural response is projected to be relatively minor.

**Figure 5-2**

### Child Tax Credit: Net Federal Fiscal Impact



Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21, Finance Canada Tax Expenditures and Evaluations.

Provincial treasuries are projected to gain \$130 million in additional annual tax revenue in 2014 as a result of this federal tax policy change. This increase primarily results from higher sales tax revenue.

The PBO's estimates are about 6 per cent higher than Finance Canada estimates.<sup>39</sup>

In absolute dollar terms, the fiscal impact of the Child Tax Credit skews toward households with larger incomes. The top 20 per cent of households (income of \$109,197 or more) accrue half of the financial benefits of the credit.

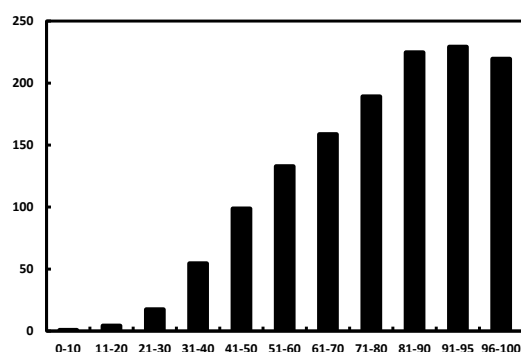
However, when measured as a percentage improvement in after-tax income, the child tax credit provides fairly uniform benefits to middle and upper-middle income earners.

<sup>39</sup> Tax Expenditures and Evaluations 2012 and 2013. <http://www.fin.gc.ca/purl/taxexp-eng.asp>. Accessed April 2013.

<sup>38</sup> <http://www.budget.gc.ca/2007/plan/bpa5a-eng.html>.

**Figure 5-3****Child Tax Credit: Distribution of Benefits per Household**

Dollars

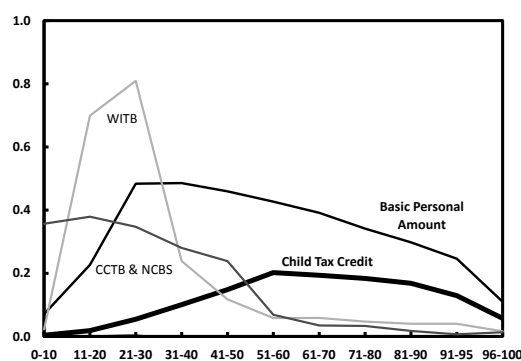


Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

The 40<sup>th</sup> through 80<sup>th</sup> percentiles of income earners (\$49,034-\$109,196) benefit most, in relative terms, with after-tax income improving by about 0.19 per cent, on average (Figure 5-4).

**Figure 5-4****Child Tax Credit: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



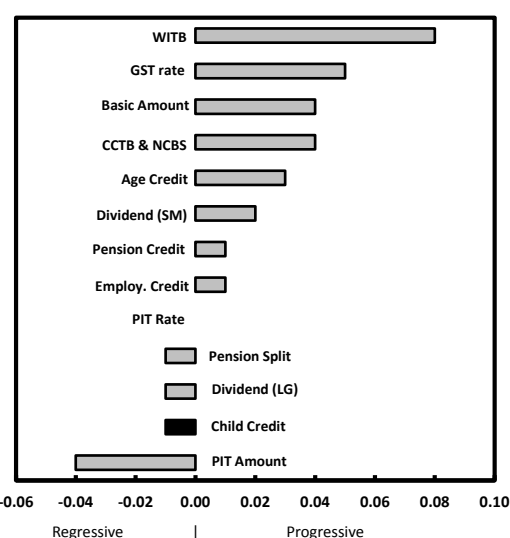
Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

In comparison, the bottom-fifth of income earners benefit by 0.01 per cent, particularly households with low employment income.

In summary, the Child Tax Credit is a regressive measure, as it slightly increases Canada's post-tax and transfer income inequality. The national Gini coefficient is 42.09 with the Child Tax Credit in effect compared with 42.08 without.<sup>40</sup> The CTC is one of four regressive tax measures examined in this report.

**Figure 5-5****Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Furthermore, the Child Tax Credit has a narrow scope of beneficiaries, as an estimated 18 per cent of Canadian households benefit from the credit on an annual basis. Generally, narrow-based measures have a greater distortionary impact on the economy, thereby reducing the efficiency in the tax system.

<sup>40</sup> A larger Gini coefficient implies larger income inequality.

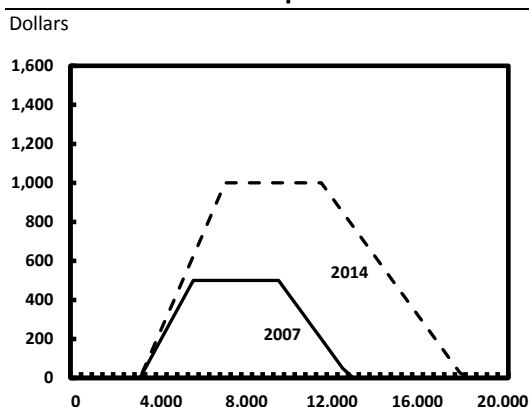
## 6 Working Income Tax Benefit

The Working Income Tax Benefit (WITB) was introduced in 2007 to provide tax relief to low-income households in Canada.<sup>41</sup> The WITB provides a refundable tax credit for low-income individuals on earned income in excess of \$3,000.<sup>42</sup>

In 2007, the WITB had a maximum credit cap of \$500 for single individuals without dependents and \$1,000 for couples and single parents. This cap was increased in Budget 2009, to \$925 for single individuals without dependents and \$1,680 for couples and single parents. It continues to increase each year at the rate of inflation (Figure 6-1). Budget 2009 also increased the credit rate on taxable income, from 20 to 25 per cent.

**Figure 6-1**

### Working Income Tax Benefit: Single Individuals without Dependents



Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

In 2014, the WITB will be gradually phased out for net family income in excess of about \$11,430 for single individuals and \$15,790 for families.<sup>43,44</sup>

The PBO estimates that the introduction and increases to the WITB will have a fiscal impact of \$1.3 billion in 2014 (Figure 6-2).

**Figure 6-2**

### Working Income Tax Benefit Decomposition: Net Federal Fiscal Impact

\$ Millions

	2007	2008	2009	2010	2011	2012	2013	2014
<b>PBO</b>	<b>620</b>	<b>640</b>	<b>1,220</b>	<b>1,230</b>	<b>1,250</b>	<b>1,280</b>	<b>1,310</b>	<b>1,320</b>
WITB intro ('07)	620	640	720	740	760	780	800	820
WITB increase ('09)	-	-	500	490	480	490	510	500
<b>Finance Canada</b>	<b>455</b>	<b>480</b>	<b>1,025</b>	<b>1,055</b>	<b>1,080</b>	<b>1,105</b>	<b>1,125</b>	-
WITB intro ('07)	455	480	-	-	-	-	-	-
WITB increase ('09)	-	-	-	-	-	-	-	-

Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Finance Canada - Tax Expenditures and Evaluations

This estimate takes into account behavioural adjustments by taxpayers, including federal tax revenues resulting from higher personal consumption and changes to the taxable income base. The WITB results in individuals and households with low, positive employment income facing a lower marginal tax rate on taxable income. This effect leads to increases in labour supplied and the size of the federal income tax base. Conversely, individuals eligible for the WITB with earnings in the WITB phase-out range face higher marginal effective tax rates due to the WITB phase-out. This effect leads to an estimated reduction in labour supplied and the size of the federal income tax base.

<sup>41</sup> <http://www.budget.gc.ca/2007/plan/bpa5a-eng.html>.

<sup>42</sup> Earned income includes employment income, scholarship income and self-employment income. <http://www.cra-arc.gc.ca/E/pbg/tf/5000-s6/5000-s6-13e.pdf>. Accessed May 2014.

<sup>43</sup> These amounts are estimates based on 2013 rates and projected CPI. See the CRA website for further detail. <http://www.cra-arc.gc.ca/E/pbg/tf/5000-s6/5000-s6-13e.pdf>. Accessed May 2014.

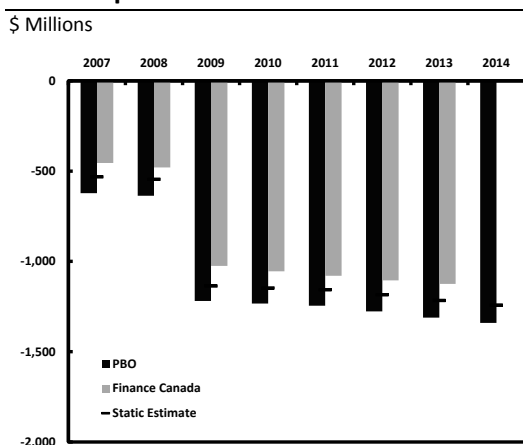
<sup>44</sup> Budget 2009 contains further detail on technical aspects of changes to the Working Income Tax Benefit. <http://www.budget.gc.ca/2009/plan/bpc3b-eng.html>. Accessed May 2014.

Overall, the behavioural response of taxpayers is anticipated to increase the fiscal impact of the WITB by an estimated \$100 million, or 8 per cent.

The WITB is projected to have a negligible effect on provincial treasuries, as increases in sales taxes are projected to offset modest decreases in personal income tax revenue.

**Figure 6-3**

### Working Income Tax Benefit: Net Federal Fiscal Impact



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Finance Canada.

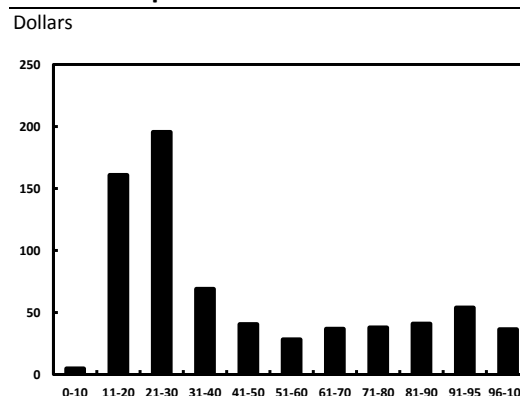
The PBO's estimate for this measure is about 16 per cent lower than the estimates summarized in Finance Canada's Tax Expenditures and Evaluations (Figures 6-2 and 6-3). A static PBO estimate, which assumes that taxpayer behaviour is unchanged by the introduction of – or changes to – the WITB, is 15 per cent higher than the preferred PBO estimate and 10 per cent lower than estimates of Finance Canada.

Given the design of the WITB, financial benefits skew predominantly toward households with positive, but low market incomes. Households with market incomes in the 10<sup>th</sup> to 40<sup>th</sup> percentile

(\$2,030-\$36,253) receive 60 per cent of net financial benefits of the WITB (Figure 6-4).

**Figure 6-4**

### Working Income Tax Benefit: Distribution of Benefits per Household

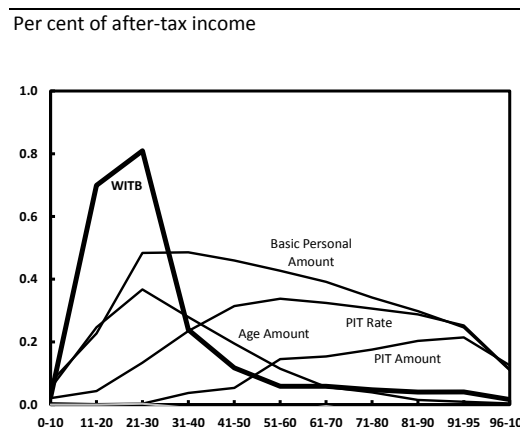


Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Targeted benefits to low-income earners are also apparent when measured as a percentage improvement in after-tax income (Figure 6-5).

**Figure 6-5**

### Working Income Tax Benefit: Distribution of Income-Weighted Net Benefit per Household



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

The WITB increases income after taxes and transfers of those in the 10<sup>th</sup> and 20<sup>th</sup> percentile of earners by 0.83 per cent, whereas the median household experiences an average income gain of 0.06 per cent.

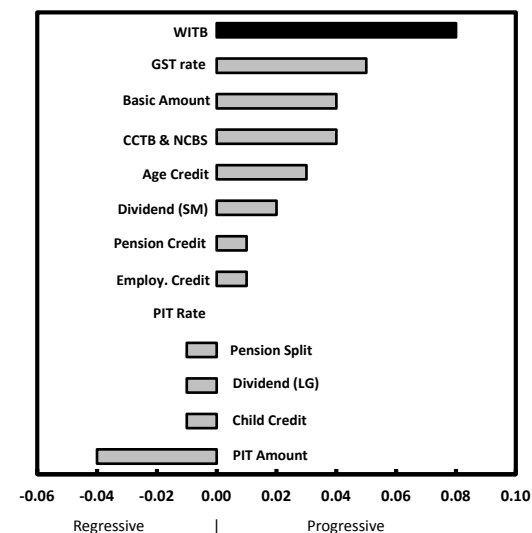
The WITB is the most progressive measure examined in this report, resulting in a 0.08 point improvement in the Gini index (Figure 6-6). The Gini index with the WITB in effect is 42.09, as opposed to 42.17 without.

Given the WITB's low earned income eligibility criteria, benefits are concentrated to a relatively narrow subset of households. Approximately 9 per cent of Canadian households will receive WITB benefits in 2014.

**Figure 6-6**

### Gini Index

Per cent improvement



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

## 7 Dividend Tax Credit

Dividends distributed on income earned by corporations are taxed twice in the Canadian tax system – first as corporate income, then again as personal income. To avoid double taxation, the personal income tax system takes into account income tax already paid on corporate income and then distributed as dividends by way of the Dividend Tax Credit (DTC).

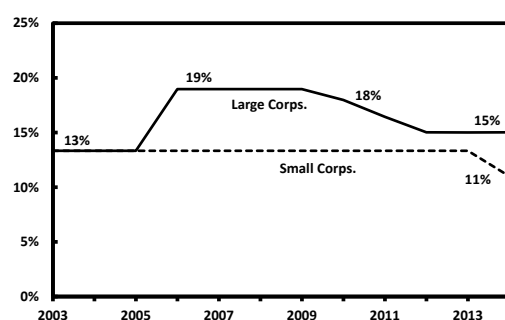
Large and small corporations are taxed at different rates in Canada. Recent DTC rate changes to each have not necessarily moved in lock-step.

The DTC for large corporations was increased from 13 per cent to 19 per cent in 2006, and incrementally reduced to the current rate of 15 per cent (Figure 7-1). The DTC for small corporations has been changed only once since 2004, revised from 13 per cent to 11 per cent in Budget 2013.

**Figure 7-1**

### Dividend Tax Credit Rate

Per cent



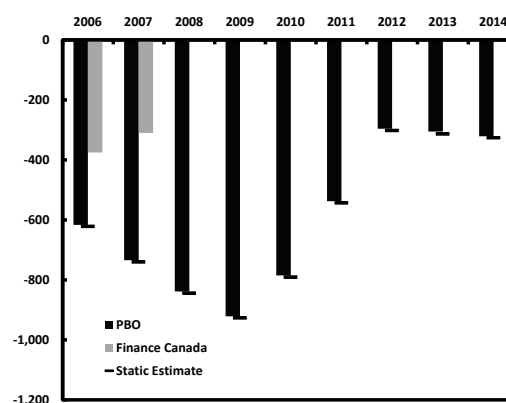
Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

The PBO estimates that a DTC rate on large corporations of 15 per cent (rather than 13 per cent) will result in \$320 million lower federal revenues in 2014.

**Figure 7-2**

### Dividend Tax Credit – Large Corporations: Net Federal Fiscal Impact

\$ Millions



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Budget 2006.

Note: Finance Canada figures are estimated on a fiscal year (April-March) while PBO estimates are provided on a tax year basis (January-December).

However, beginning in 2014, the net fiscal impact of changes to the DTC for large corporations is more than offset by the recent 2 per cent decrease in the DTC rate on small corporations, which projects to generate an additional \$520 million in federal tax revenue in 2014.

**Figure 7-3**

### Dividend Tax Credit – Small Corporations: Net Federal Fiscal Impact

\$ Millions

	2014
PBO Preferred	520
Static	550
Finance Canada	510

Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Budget 2013.

Note: Finance Canada figures are estimated on a fiscal year (April-March) while PBO estimates are provided on a tax year basis (January-December).



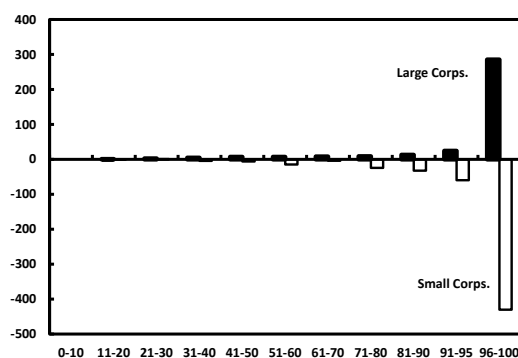
The PBO's federal fiscal impact estimates take into account a small behavioural response by taxpayers, which includes additional federal tax revenue resulting from higher personal consumption. However, the PBO model does not account for any corresponding changes to corporate income tax policy or the behaviour of dividend-paying corporations. The fiscal impact estimate is limited somewhat by these simplifying assumptions.

The PBO's revenue estimate for the DTC on small corporations is about 10 per cent higher than Finance Canada estimates in Budget 2013. Finance Canada does not produce an estimate of recent changes to the DTC for large corporations, only a DTC costing as a whole.

**Figure 7-4**

**Dividend Tax Credit Changes: Distribution of Benefits per Household**

Dollars



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

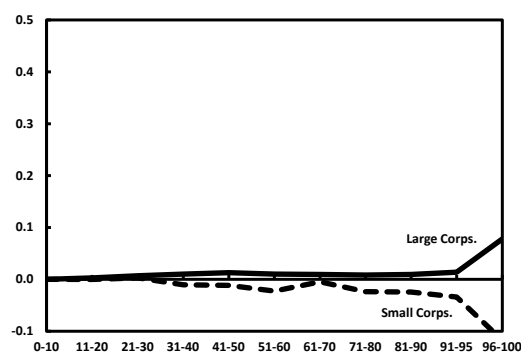
The benefits (costs) of a higher (lower) DTC accrue almost entirely to high income households, with 90 per cent of the financial gain (loss) accruing to the top 5 per cent of income earners (households earning \$198,238 or more) (Figure 7-4).

Gains (losses) remain concentrated in the top 5 per cent earning households when measured as share of after-tax income (Figure 7-5). Accordingly, the increase to the DTC for large corporations relative to 2004 rates results in somewhat greater income inequality (an increase of 0.01 to the after-tax Gini index).

**Figure 7-5**

**Dividend Tax Credit Changes: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



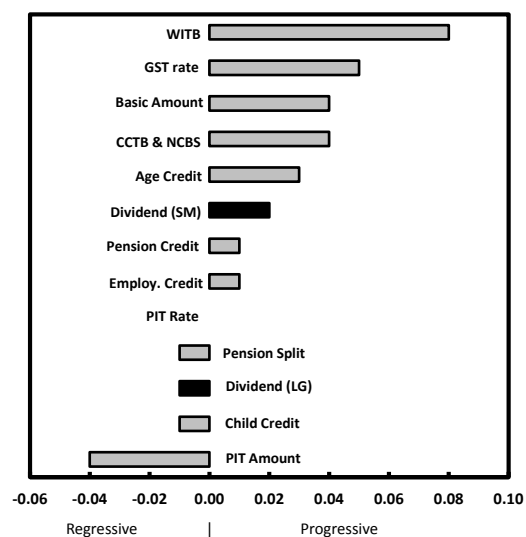
Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Reducing the DTC for small corporations results in somewhat improved income equality (a decrease of 0.02 to the after tax Gini index).

**Figure 7-6**

**Gini Index**

Per cent change



Sources: Office of the Parliamentary Budget Officer,  
SPSD/M v. 21.

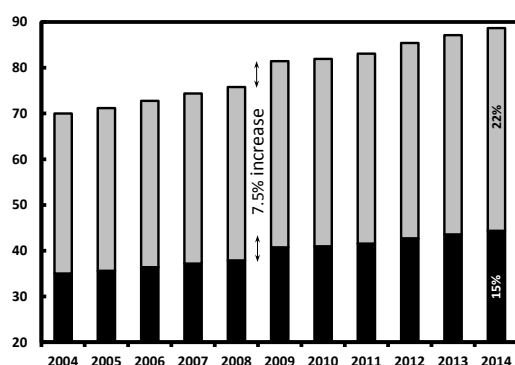
## 8 Personal Income Amount

There are currently four federal tax rates – 15, 22, 26 and 29 per cent – each with a taxable income threshold. Generally, these thresholds increase by the rate of inflation year-over-year. However, in 2009 the government raised the threshold amount on the two lowest personal income tax brackets by 7.5 per cent, about 5 per cent in excess of inflation. In effect, a smaller amount of taxable income would be subject to the highest federal rates paid by most taxpayers.

**Figure 8-1**

### Personal Amounts: 15% and 22% Tax Brackets

\$ Thousands



Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

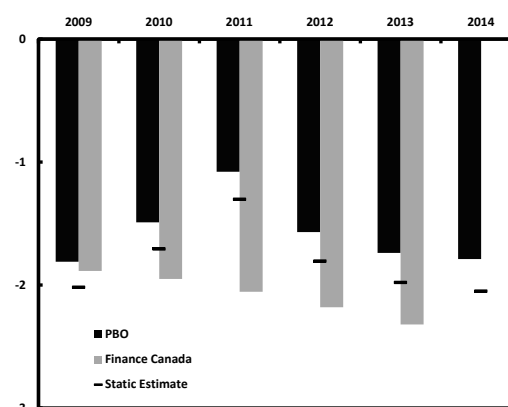
The PBO estimates that the one-time increase of federal tax bracket thresholds by amounts exceeding of the rate of inflation will have a fiscal impact of \$1.8 billion in 2014 (Figure 8-2).

This estimate takes into account behavioural adjustments by taxpayers, including additional federal tax revenues resulting from higher personal consumption. Provincial treasuries will gain an estimated \$270 million in additional annual tax revenue as a result of this federal tax measure.

**Figure 8-2**

### Personal Amount Increases: Net Federal Fiscal Impact

\$ Billions



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Budget 2009.

Note: Finance Canada figures are estimated on a fiscal year (April-March) while PBO estimates are provided on a tax year basis (January-December).

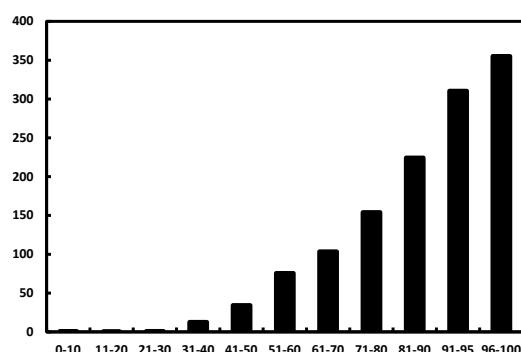
The PBO's estimates of historical costs for this measure are about 25 per cent lower than Finance Canada's estimates.<sup>45</sup> This difference can be explained, in part, by a behavioural response by taxpayers. When a static costing model is used, assuming no behavioural response on the part of taxpayers, PBO estimates are about 15 per cent lower than those of Finance Canada.

In absolute dollar terms, the fiscal impact of increases to personal income tax bracket thresholds skews toward households with larger incomes. The top 20 per cent of income earners accrue about 70 per cent of the financial benefits of a personal amount increase (Figure 8-3). In comparison, the bottom half accrue less than 5 per cent of total gains.

<sup>45</sup> Budget 2009.

**Figure 8-3****Personal Amount Increases: Distribution of Benefits per Household**

Dollars



Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21.

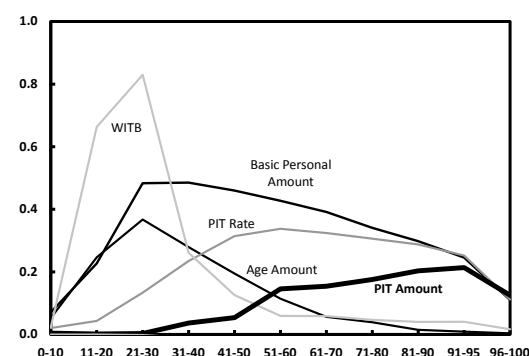
Financial benefits, when measured as a percentage improvement in after-tax income, also skew to very high income earners. Those in the 80<sup>th</sup> to 95<sup>th</sup> percentile of income earners (\$109,197-\$198,237) benefit most, with after-tax incomes improving by 0.18 per cent. These groups benefit from personal amount increases by having a larger amount of income exempted from higher income tax rates, (*i.e.* income in excess of \$87,907 subject to the 26 per cent tax rate).

The highest income households accrue the largest dollar gains per household, but these tax savings comprise a smaller relative share of after-tax income than middle-high income groups.

Households with market earnings less than \$23,261 have negligible gain, as these households generally owe minimal federal income tax and are not affected by an increase in the personal exemption.

**Figure 8-4****Personal Amount: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



Sources: Office of the Parliamentary Budget Officer, SPSPD/M v. 21.

In summary, the increase in federal tax bracket thresholds raises income inequality more than all other measures examined in this report. These measures are estimated to have increased the national Gini coefficient by 0.04 (indicating a reduction in income equality). The Gini index is 55.68 with the measures in effect, compared with 55.64 without.<sup>46</sup>

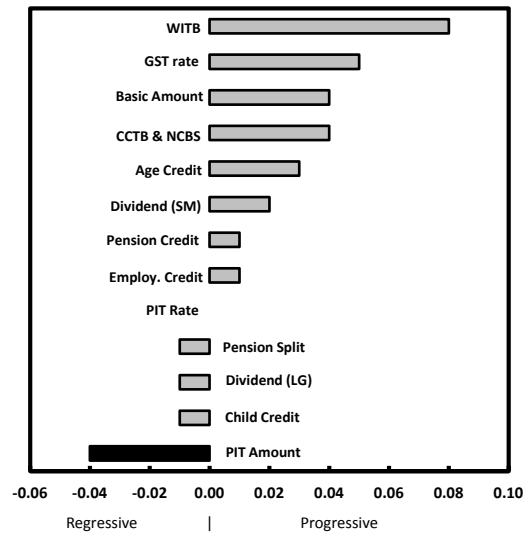
The threshold increases have moderately broad benefits relative to other tax measures examined in this report. An estimated 45 per cent of Canadian households benefit from higher tax bracket thresholds on an annual basis. Generally, more broad-based tax measures have a smaller distortionary impact on the economy, thereby improving (or preserving) the efficiency in the tax system.

<sup>46</sup> A larger Gini coefficient implies greater income inequality.

**Figure 8-5**

**Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer,  
SPSD/M v. 21.

## 9 Age Credit

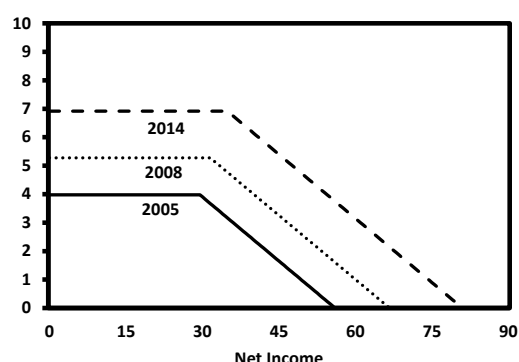
The Age Credit provides a non-refundable tax credit to seniors aged 65 or older. The credit is income-tested and reduced at a claw back rate of 15 cents for each dollar of net income in excess of a threshold level.

In 2006, the credit amount was raised to \$5,066 from the prior level of \$3,979, a 27 per cent increase. The credit was increased again in 2009, by 22 per cent, and has annually increased at the rate of inflation thereafter. In 2014, the Age Credit amount will be \$6,916, with the 15 per cent credit claw back affecting net income in excess of \$34,873.<sup>47</sup>

**Figure 9-1**

### Age Credit: Recent Changes

\$ Thousands



Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

The PBO estimates that the two increases to the Age Credit, since 2006, will have a fiscal impact of \$950 million in 2014 (Figure 9-2).

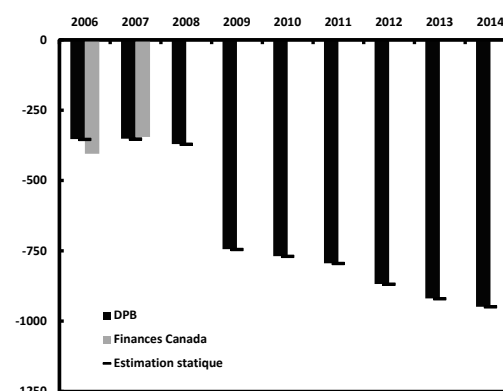
The Age Credit does not impact the marginal tax rate for most eligible taxpayers, so behavioural response is projected to be negligible.

Provincial treasuries are projected to gain \$50 million in additional annual tax revenue in 2014 as a result of this federal tax policy change. This increase primarily results from higher sales tax revenue.

**Figure 9-2**

### Age Credit Increases: Net Federal Fiscal Impact

\$ Millions



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Economic and Fiscal Update 2006

Note: Finance Canada figures are estimated on a fiscal year (April-March) while PBO estimates are provided on a tax year basis (January-December).

The PBO's estimates are about 6 per cent lower than cumulative Finance Canada estimates (Figures 9-2 and 9-3).

**Figure 9-3**

### Age Credit Increase Decomposition: Net Federal Fiscal Impact

\$ Millions

	2007	2008	2009	2010	2011	2012	2013	2014
<b>PBO</b>								
2006 increase	350	370	740	770	790	870	920	950
2009 increase			350	400	410	460	480	500
<b>Finance Canada</b>								
2006 increase	405	245	-	-	-	-	-	-
2009 increase	405	345	325	340	360	380	405	-

Source: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Economic and Fiscal Update 2006, Budget 2009.

Note: Finance Canada figures are estimated on a fiscal year (April-March) while PBO estimates are provided on a tax year basis (January-December).

<sup>47</sup> <http://news.gc.ca/web/article-en.do?nid=791099>. Accessed May 2014.

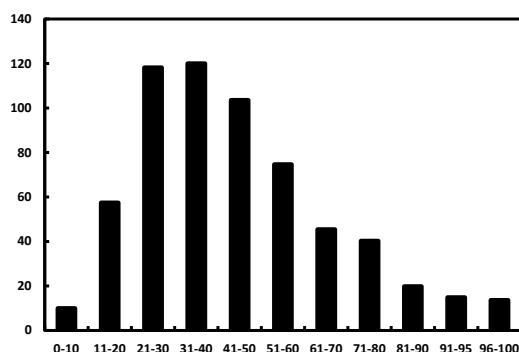
Finance Canada annually publishes [Tax Expenditures and Evaluations](#), which includes a total fiscal cost estimate of the Age Credit, but does not provide incremental cost estimates of one-time increases. In 2013, Finance Canada estimated the annual fiscal cost of the Age Credit at \$2.8 billion.

In absolute dollar terms, the fiscal impact of increases in the Age Credit skews toward low-to-middle income households. About 70 per cent of the financial benefits of these increases accrue to the bottom half of the income distribution (income of \$49,033 or less) (Figure 9-4).

**Figure 9-4**

#### Age Credit Increases: Distribution of Benefits per Household

Dollars



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

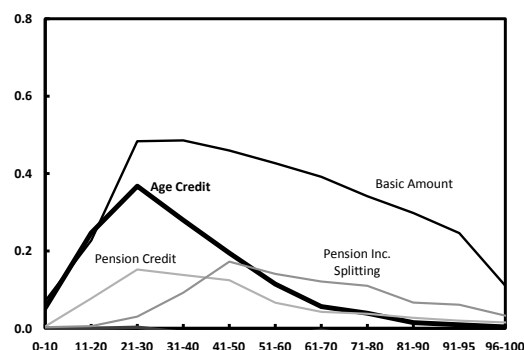
Financial benefits, when measured as a percentage improvement in after-tax income, predominantly benefit the 20<sup>th</sup> to 50<sup>th</sup> percentile of income earners (Figure 9-5). Those in the 30<sup>th</sup> percentile of income earners benefit most, with after-tax incomes improving by 0.37 per cent.<sup>48</sup>

<sup>48</sup> A detailed breakdown of income group ranges is provided in Annex D.

**Figure 9-5**

#### Age Credit Increases: Distribution of Income-Weighted Net Benefit per Household

Per cent of after-tax income



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

In summary, increases to the Age Credit have progressive outcomes, improving the national Gini coefficient by 0.03. The estimated Gini index is 55.68 with the measures in effect, compared with 55.71 without.<sup>49</sup>

Eligibility specifications limit the credit's breadth of benefits, as an estimated 14 per cent of households receive financial benefits of Age Credit increases.

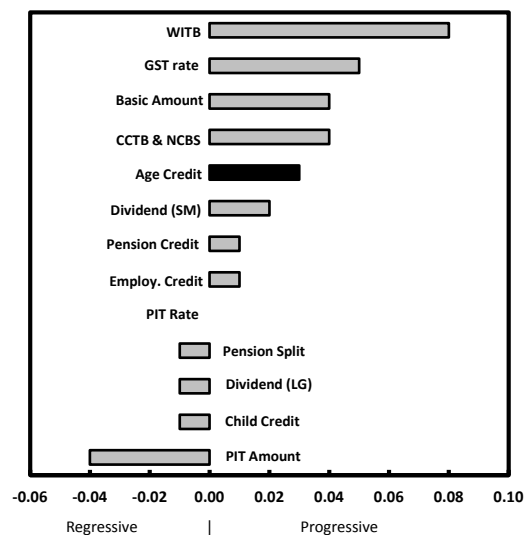
Generally, more broad-based tax measures have a smaller distortionary impact on the economy, thereby improving (or preserving) the efficiency in the tax system.

<sup>49</sup> A larger Gini coefficient implies greater income inequality.

**Figure 9-6**

**Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer,  
SPSD/M v. 21.



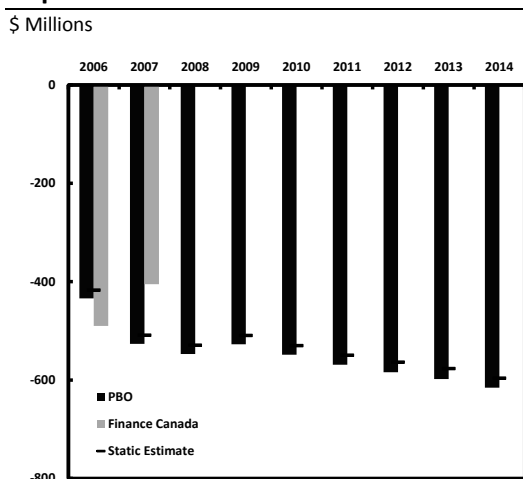
## 10 Pension Income Credit

The Pension Income Credit provides a non-refundable tax credit on eligible pension income.<sup>50</sup> In 2006, the maximum credit amount was doubled from \$1,000 to \$2,000. At the current 15 per cent credit rate, this amounts to \$300 per eligible person, after tax.

The PBO estimates that this Pension Income Credit increase will result in a fiscal impact of \$620 million in 2014 (Figure 10-1).

**Figure 10-1**

### Pension Income Credit: Net Federal Fiscal Impact



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Budget 2006.

Note: PBO estimates are provided on tax year (January-December) while Finance Canada estimates are provided on a fiscal year basis (April-March).

The Pension Income Credit does not impact the marginal tax rate for most eligible taxpayers, so behavioural response is projected to be negligible.

Provincial treasuries are projected to gain \$20 million in additional annual tax revenue in 2014 as a result of this federal tax policy change. This increase primarily results from higher sales tax revenue.

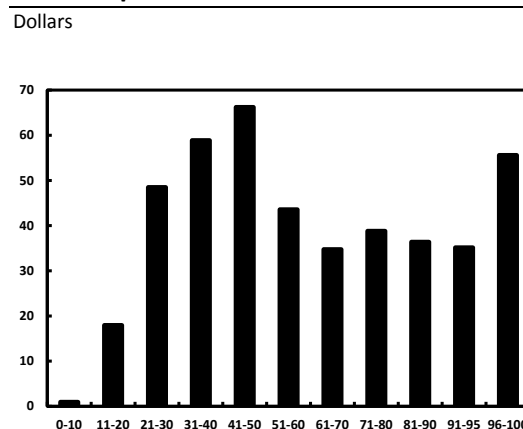
Finance Canada has published estimated costs of the increase to the Pension Income Credit for only two years, in Budget 2006. These estimates are within 3 per cent of PBO estimates for the two available years.

Finance Canada annually publishes a cost estimate for the total pension income credit in [Tax Expenditures and Evaluations](#). In 2013, Finance Canada estimated a total fiscal cost of the credit at \$1.1 billion.

In absolute dollar terms, the fiscal impact of the Pension Income Credit is balanced between the top half and bottom half of income earning households (Figure 10-2).

**Figure 10-2**

### Pension Income Credit: Distribution of Benefits per Household



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

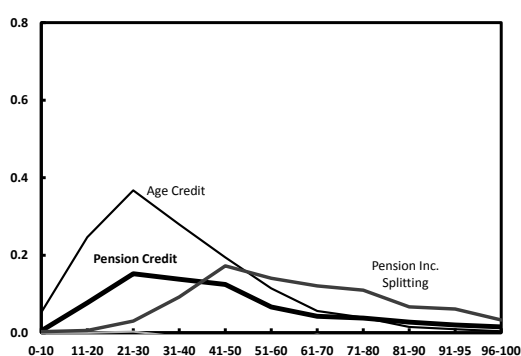
<sup>50</sup> <http://www.cra-arc.gc.ca/tx/ndvds/tpcs/ncm-tx/rtrn/cmpltnng/ddctns/lns300-350/314/lgl-eng.html>. Accessed May 2014.

However, when measured as a percentage improvement in after-tax income, the gains from the Pension Income Credit are greatest for the 20<sup>th</sup> to 40<sup>th</sup> percentiles of households (household incomes between \$12,208 and \$36,253) (Figure 10-3).

**Figure 10-3**

**Pension Income Credit: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



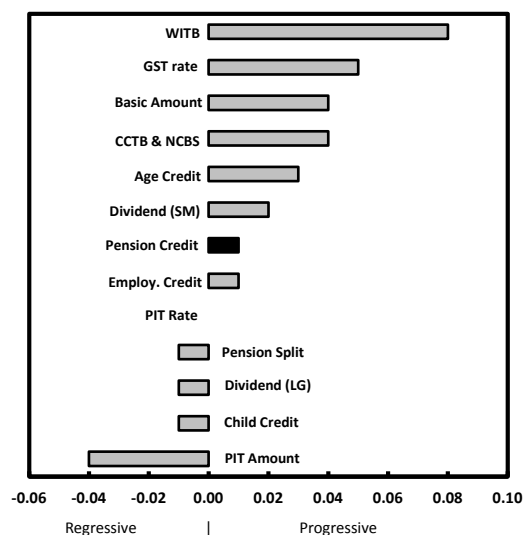
Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

The Pension Income Credit is a narrow-based measure, with an estimated 17 per cent of Canadian households benefitting. The credit's narrow breadth and relatively small fiscal cost yields a negligible improvement in after-tax Gini income equality index (0.01).

**Figure 10-4**

**Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

## 11 Pension Income Splitting

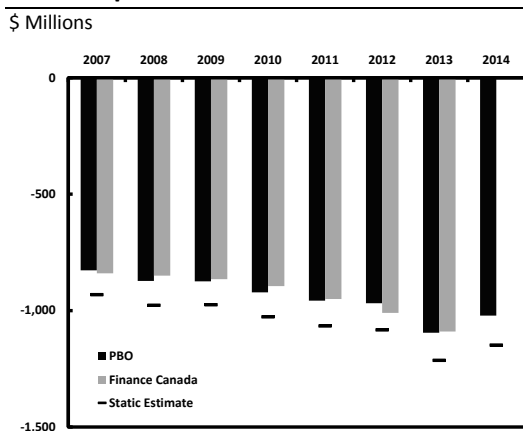
Pension income splitting came into effect in 2007. It allows Canadians to allocate up to half of eligible pension income to their spouse or common-law partner.<sup>51</sup>

The PBO estimates that this measure will have a federal fiscal impact of \$1.1 billion in 2014 (Figure 11-1).

Provinces, except for Québec, follow the federal definition of taxable income.<sup>52</sup> For certain individuals, pension income splitting may change the federal taxable income amount, and by consequence, provincial taxable income amounts. As such, in addition to the federal revenue reduction, pension income splitting is projected to reduce provincial tax revenues by \$260 million in 2014.

**Figure 11-1**

### Pension Income Splitting: Net Federal Fiscal Impact



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Finance Canada Tax Expenditures and Evaluations.

This estimate takes into account behavioural adjustments by taxpayers. However, the behavioural response of households eligible for pension income splitting (*i.e.* households with positive pension income) is expected to differ from the general taxpaying population. Pension earning households generally earn a smaller share of total income through employment (34 per cent) than non-pension earning households (83 per cent). Instead, a greater share of income is generated through non-employment sources such as private pensions, RRSPs and other investments (45 per cent) or government transfers such as CPP and GIS (21 per cent).<sup>53</sup>

Pension, investment and transfer income sources are less flexible to common taxpayer behavioural adjustments such as increasing or decreasing hours worked, reallocating resources between potential income sources or altering tax avoidance strategies. Thus, the PBO uses the mid-point of the preferred elasticity estimate (ETI) on general taxable income and the static approach.<sup>54</sup> Overall, the behavioural response by affected taxpayers is projected to be relatively small, about 2 per cent of the total fiscal impact.

The PBO's estimates of historical costs for this measure are within 1 per cent of Finance Canada's estimates.<sup>55</sup>

In absolute dollar terms, the fiscal impact of pension income splitting benefits almost exclusively middle and high income households. The lower-half of Canadian income earners (income of \$49,033 or less) accrue about 19 per cent of the financial

<sup>51</sup> Guidance on income eligibility is available on the Canada Revenue Agency's website. <http://www.cra-arc.gc.ca/tx/ndvdl/tpcs/pnsn-splt/qlyf-eng.html>. Accessed May 2014.

<sup>52</sup> <http://www.fin.gc.ca/fapt-aipf/fapte.pdf>. Accessed May 2014.

<sup>53</sup> SPSP/M v. 21.

<sup>54</sup> For general taxable income, ETI is assumed to be 0.2, except for the top 5 per cent of income earners (ETI = 0.3). The static approach assumes no behavioural response (ETI = 0.0).

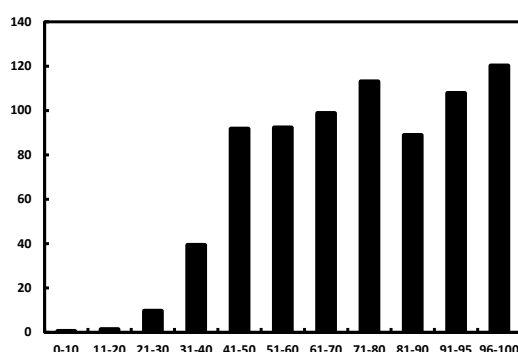
<sup>55</sup> Budget 2009.

benefits of pension income splitting (Figure 11-2).

**Figure 11-2**

**Pension Income Splitting: Distribution of Benefits per Household**

Dollars



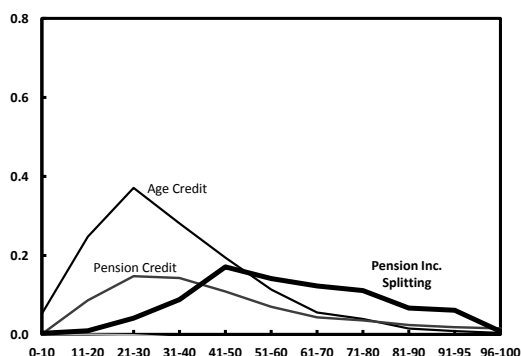
Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

The financial benefits, when measured as a percentage improvement in after-tax income, are concentrated to middle income households (Figure 11-3).

**Figure 11-3**

**Pension Income Splitting: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



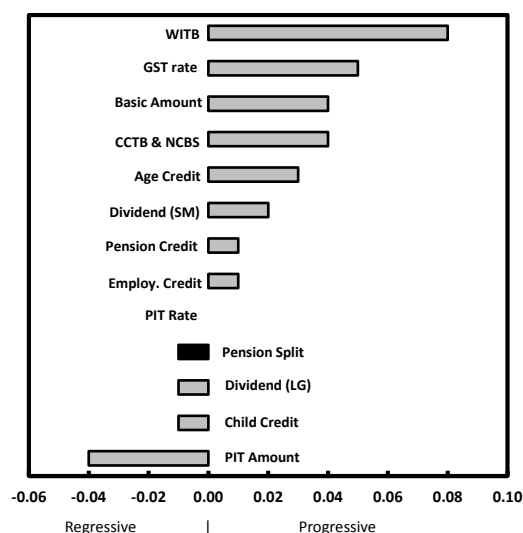
Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Pension income splitting is among the narrowest of the tax policy measures examined in this report, as it is estimated to benefit 9 per cent of Canadian households. Consequently, those households that do benefit from pension income splitting are estimated to gain by over \$900 per year after taxes, on average. Average gains to beneficiaries are second only to the GST/HST reduction of all measures examined in this report.

**Figure 11-4**

**Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Pension income splitting is slightly regressive, with a small, negative distributional impact on after-tax income. In 2014, pension income splitting is estimated to increase the after-tax Gini index by 0.01 (indicating a reduction in income equality).

**Box 11-5**

**Interactions between Tax Measures:  
Pension Income Credit & Pension  
Income Splitting**

---

Tax measures examined in this report are primarily estimated on a discrete basis, where the fiscal costs of one measure do not affect the fiscal costs of another. However, the PBO cumulative summary estimates presented in section 3 take into account interactions between tax measures.

The interaction between the Pension Income Credit and Pension Income Splitting is greatest of all pairs of tax measures examined in this report. The sum of the two discrete PBO cost estimates would overstate the net fiscal impact of the two combined measures by about \$100 million, or 6 per cent.

A further discussion on the methods used to estimate the interaction between tax measures is detailed in Annex A. Adjustments for interactions between measures are reflected in the PBO's total cumulative fiscal impact estimate (Annex C).

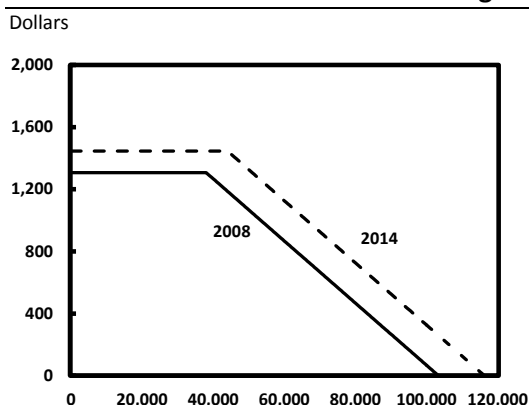
## 12 Canada Child Tax Benefit & National Child Benefit Supplement

The Canada Child Tax Benefit (CCTB) is a non-taxable amount paid to eligible families with children under the age of 18. Eligible families receive \$1,446 per year, per child.<sup>56</sup>

The CCTB is income-tested and reduced based on family income above a threshold. In 2009, the government increased the CCTB income threshold by 7.5 per cent, from \$37,885 to \$40,726 (Figure 12-1). This maximum amount has continued to increase with inflation and will be \$43,953 in 2014.<sup>57</sup>

**Figure 12-1**

### Canada Child Tax Benefit: Recent Changes



Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

Note: This graphic depicts CCTB amounts for a single child, where the family has two or fewer children aged 18 or less.

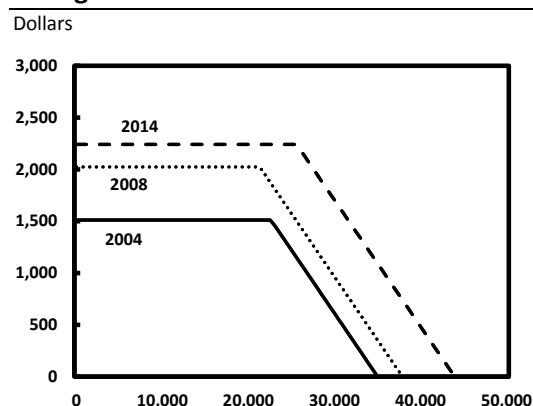
The National Child Benefit Supplement (NCBS) is included in the CCTB and is paid monthly to low-income families with children under 18. It supplements provincial/territorial contributions to the national child benefit (NCB).

Like the CCTB, the NCBS is income-tested, but is reduced beginning at a lower income threshold.

In 2005 and 2006, the government increased the NCBS amounts by 14 per cent and 13 per cent, respectively, while simultaneously twice lowering the NCBS maximum income threshold by 5 per cent. And in 2009, the government increased the NCBS threshold by 11.4 per cent (Figure 12-2).<sup>58</sup>

**Figure 12-2**

### National Child Benefit Supplement: Recent Changes



Sources: Office of the Parliamentary Budget Officer, Canada Revenue Agency.

Note: This graphic depicts NCBS amounts for the first child in a family, aged 18 or less.

The PBO estimates that relative to the 2004 tax year, CCTB and NCBS criteria will have a fiscal impact of about \$1.1 billion in 2014 (Figure 12-3).

<sup>56</sup> Families with more than two children receive \$1,886 per child for the third and each additional child.

<sup>57</sup> <http://news.gc.ca/web/article-en.do?nid=791099>.

Accessed May 2014.

<sup>58</sup> Additional CCTB and NCB amounts and eligibility guidelines are detailed on the CRA website. [http://www.cra-arc.gc.ca/E/pub/tg/t4114/t4114-e.html#P176\\_10685](http://www.cra-arc.gc.ca/E/pub/tg/t4114/t4114-e.html#P176_10685).

Accessed May 2014.

**Figure 12-3****Canada Child Tax Benefit and National Child Benefit Supplement Decomposition: Net Federal Fiscal Impact**

\$ Millions

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	420	780	740	750	1,080	1,010	1,040	1,040	1,050	1,060
CCTB	-	-	-	-	190	140	200	140	145	150
NCBS	420	780	740	750	890	870	840	900	905	910

Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

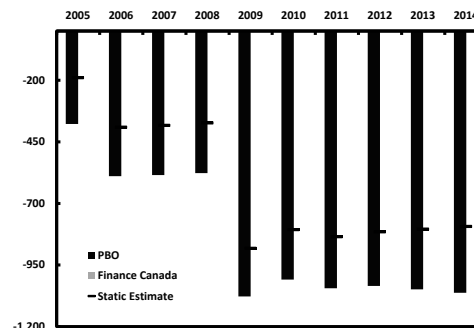
This estimate takes into account behavioural adjustments by taxpayers, including federal tax revenues resulting from higher personal consumption and changes to the taxable income base. Individuals and households eligible for the CCTB and/or NCBS with earnings in the respective phase-out ranges face higher marginal effective tax rates due to the WITB phase-out and benefits deductions for social assistance in certain provinces. This effect leads to an estimated reduction in labour supplied and the size of the federal income tax base.<sup>59</sup>

Overall, the behavioural response of taxpayers is anticipated to increase the static fiscal impact of the CCTB and NCBS changes by an estimated \$270 million, or 25 per cent (Figure 12-4).

Provincial tax revenues are estimated to decline by \$20 million as a result of this federal tax measure.

**Figure 12-4****Canada Child Tax Benefit and National Child Benefit Supplement Changes: Net Federal Fiscal Impact**

\$ Millions



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Finance Canada annually publishes [Tax Expenditures and Evaluations](#), which includes a total fiscal cost estimate of the Canada Child Tax Benefit, but does not provide an estimate of the National Child Benefit Supplement or incremental cost estimates of one-time increases. In 2012-13, Finance Canada estimated the annual fiscal cost of the CCTB at \$10.3 billion.<sup>60</sup>

In absolute dollar terms, the fiscal impact of CCTB and NCBS increases skew toward low-middle income households. The lower-half of Canadian income earners accrue about 80 per cent the financial benefits of the CCTB and NCBS credit amount increases (Figure 12-5).

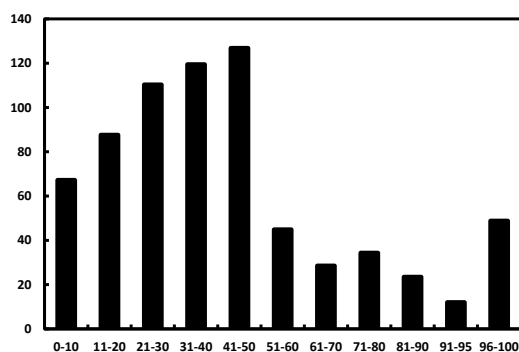
<sup>59</sup> Alternative estimations of NCBS labour market and earnings impacts are detailed on the Employment and Social Development Canada website. <http://www.esdc.gc.ca/eng/publications/evaluations/social-development/2013/october.shtml#fnb19>. Accessed May 2014.

<sup>60</sup> The Canada Child Tax Benefit is estimated and reported on a fiscal year, rather than tax year basis.

**Figure 12-5**

**Canada Child Tax Benefit and National Child Benefit Supplement Changes:  
Distribution of Benefits per Household**

Dollars



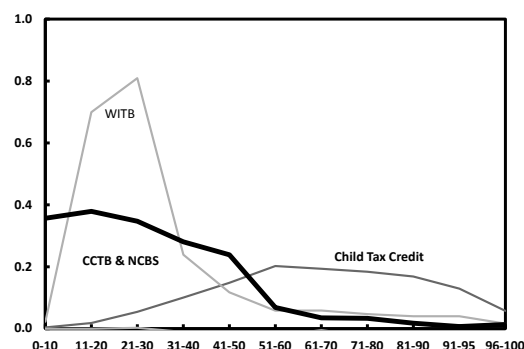
Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Financial benefits, when measured as a percentage improvement in after-tax income, overwhelmingly benefit lower income earners. The CCTB and NCBS offer the second largest improvement in after-tax and transfer incomes for the bottom 10 per cent of income earning households (market income of \$2,029 and less), after only the GST/HST rate reductions (Figure 12-6).

**Figure 12-6**

**Canada Child Tax Benefit and National Child Benefit Supplement Changes:  
Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

In summary, recent changes to the CCTB and NCBS have highly progressive outcomes. However, these tax measure impact a relatively narrow base of beneficiaries. As such, the overall impact on income inequality is modestly positive, improving Gini index outcomes by 0.04. This represents the third most equality improving measure examined in this report.<sup>61</sup>

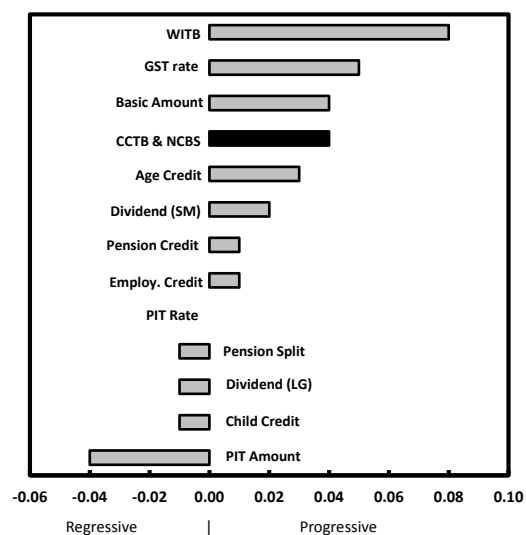
<sup>61</sup> A larger Gini coefficient implies greater income inequality.



**Figure 12-7**

**Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer,  
SPSD/M v. 21.

### 13 Employment Tax Credit

The Canada Employment Credit provides a tax reduction on employment income in recognition for work-related expenses. Self-employed individuals are not eligible. The credit is calculated by referencing the lesser of an individual's employment income and the maximum credit amount.<sup>62</sup>

The credit was introduced in 2006, at a maximum credit amount of \$250. This amount was increased to \$1,000 for 2007, and continued to increase with the rate of inflation thereafter.

In 2014, the Employment Tax Credit amount will be \$1,127.<sup>63</sup> The credit is calculated by referencing the lowest income tax rate (15 per cent in 2014), resulting in maximum after-tax gains of \$169 per claimant.

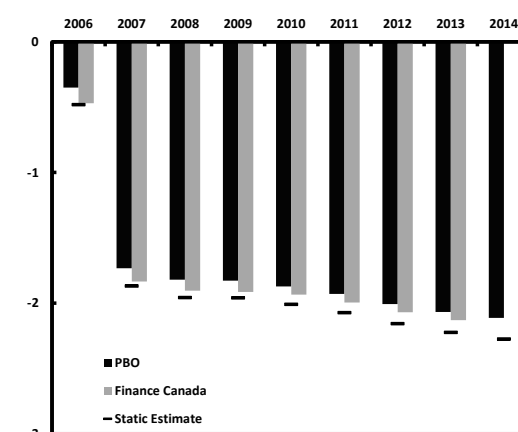
The PBO estimates that the Employment Tax Credit will have a fiscal impact of \$2.1 billion in 2014 (Figure 13-1).

The PBO's federal fiscal impact estimate takes into account behavioural adjustments by taxpayers, including additional federal tax revenues resulting from higher personal consumption. The Employment Tax Credit affects the marginal tax rate faced by the majority of taxpayers at the margin of positive taxable income. As such, a modest behavioural response is projected, offsetting the estimated fiscal impact by about \$150 million or 7 per cent.

**Figure 13-1**

#### Employment Tax Credit: Net Federal Fiscal Impact

\$ Billions



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Finance Canada Tax Expenditures and Evaluations 2013.

Provincial treasuries are projected to gain \$230 million in additional annual tax revenue in 2014 as a result of this federal tax policy change. This increase primarily results from higher sales tax revenue.

The PBO's estimates of historical costs for this measure are about 5 per cent lower than Finance Canada's estimates.<sup>64</sup>

In absolute dollar terms, the fiscal impact of the Employment Tax Credit skew toward higher income households, as the top 20 per cent of Canadian income earners accrue about half of the credit's financial benefits (Figure 13-2).

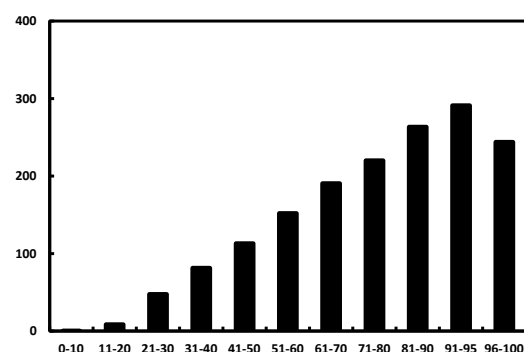
<sup>62</sup> <http://www.cra-arc.gc.ca/tx/ndvdl/tpcs/ncm-tx/rtrn/cmptng/ddctns/lns360-390/363-eng.html>. Accessed May 2014.

<sup>63</sup> <http://news.gc.ca/web/article-en.do?nid=791099>. Accessed May 2014.

<sup>64</sup> Budget 2009.

**Figure 13-2****Employment Tax Credit: Distribution of Benefits per Household**

Dollars

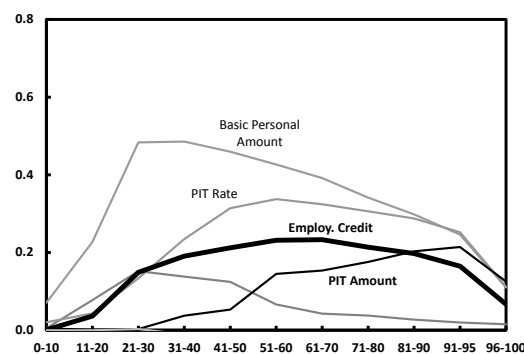


Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

However, when measured as a percentage improvement in after-tax income, the Employment Tax Credit offers broad benefits, uniformly distributed among the 20<sup>th</sup> through 90<sup>th</sup> percentiles of households. The lowest 20 per cent (\$12,207 or less) of income earners receive the smallest relative gains from the Employment Tax Credit, with average after tax income gains of 0.02 per cent or less (Figure 13-3).

**Figure 13-3****Employment Tax Credit: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



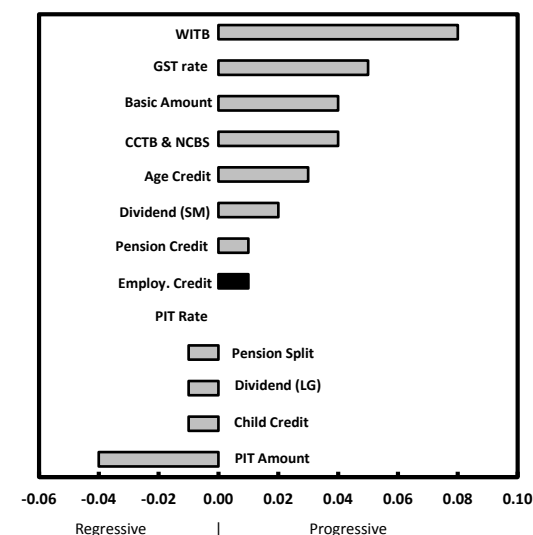
Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

In summary, the Employment Tax Credit offers broad-based gains, with about 60 per cent of households benefitting by the tax measure and the approximate \$2.1 billion in after-tax financial gains shared fairly uniformly across the income spectrum.

The Employment Tax Credit is a broad and uniformly distributed tax measure, with about 60 per cent of households benefitting from the credit. As a broad-based measure, the redistribution effects of the Employment Tax Credit are negligible, with a Gini index improvement of about 0.01 (Figure 13-4).<sup>65</sup>

**Figure 13-4****Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

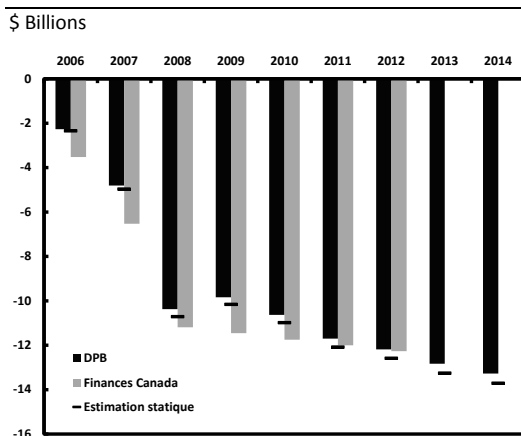
<sup>65</sup> A larger Gini coefficient implies greater income inequality.

## 14 GST/HST

The Goods and Services Tax (GST) and the federal share of the Harmonized Sales Tax (HST) was reduced from 7 per cent to 6 per cent in 2006, and reduced again, to the current rate of 5 per cent in 2008.<sup>66</sup> Credit and rebate rates related to the GST remained unchanged through this period.

**Figure 14-1**

### GST/HST: Net Federal Fiscal Impact



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21, Economic and Fiscal Update 2006

The PBO estimates that the GST/HST rate reductions will have a federal fiscal impact of \$13.3 billion in 2014 (Figure 14-1).

Provincial revenues are estimated to be \$580 million higher as a direct result of these federal tax rate changes.

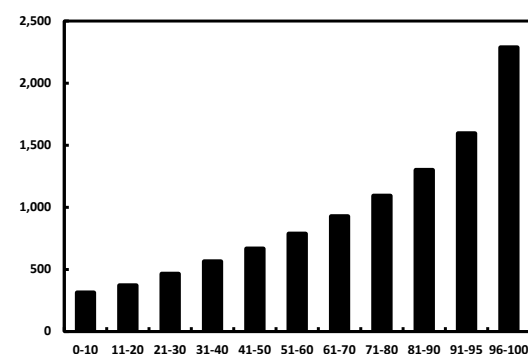
This estimate assumes that reductions in the GST/HST are uniform in proportion across taxable goods and services. It also assumes that there is no change in the composition of consumption spending.

Households with higher expenditure on goods and services accrue the greatest share of dollar gains resulting from GST/HST rate reductions. Absolute dollar gains generally increase with income levels (Figure 14-2).

**Figure 14-2**

### GST/HST: Distribution of Benefits per Household

Dollars



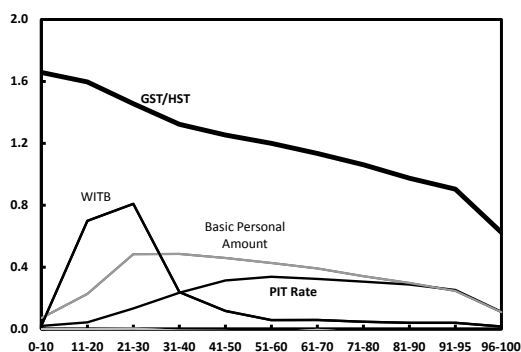
Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

However, when tax savings are measured relative to household income, the GST/HST rate reductions have highly progressive after-tax and transfer outcomes (Figure 14-3). For comparative purposes, the 2-percentage-point decrease in GST/HST rates effectively constitutes a 1.7 per cent increase in the after-tax and transfer incomes of the lowest income earning households.

<sup>66</sup> <http://www.cra-arc.gc.ca/tx/bsnss/tpcs/gst-tps/rt-eng.html>. Accessed May 2014.

**Figure 14-3****GST/HST: Distribution of Income-Weighted Net Benefit per Household**

Per cent of after-tax income



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

GST/HST rate reductions have broad impacts, shared by all consumers. The net resulting effect is comparable to a large improvement in after-tax and transfer income inequality, indicated by an estimated 0.05 improvement to the Gini index (Figure 14-4). The GST/HST rate reductions were the second largest income inequality improving measure instituted throughout the 2005-13 period, second only to the highly-redistributive Working Income Tax Benefit.

Value-added taxes, including the GST/HST, are among the most efficient taxes administered by government.<sup>67</sup> Research in the Canadian and international context suggests that reductions to consumption taxes have among the lowest potential welfare gains per dollar of foregone revenue of all tax types examined.<sup>68,69</sup>

<sup>67</sup> <http://emlab.berkeley.edu/users/auerbach/ftp/ebot.pdf>. Accessed May 2014.

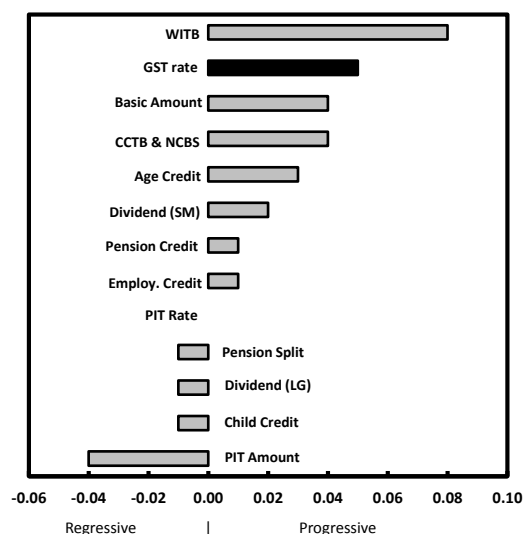
<sup>68</sup> [http://www.ecn.ulaval.ca/~sgor/cit/baylor\\_FinanceCanada\\_WP\\_2004/F21-8-2004-10E.pdf](http://www.ecn.ulaval.ca/~sgor/cit/baylor_FinanceCanada_WP_2004/F21-8-2004-10E.pdf). Accessed May 2014.

<sup>69</sup> <http://www.oecd.org/tax/tax-policy/39494113.pdf>. Accessed May 2014.

That said, tax system efficiency losses are difficult to quantify and are not measured in this report.

**Figure 14-4****Gini Index**

Per cent improvement



Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

**Box 14-5****GST/HST Historical Data Revisions**

The Canadian System of National Accounts is the primary database used by the PBO in the SPSP/M to estimate revenue and distributional impacts of GST/HST changes.

This classification system underwent a significant historical revision in 2012, generating a structural break in commodity tax data pre- and post-2009. As such, readers should exercise caution in comparing GST/HST estimates prior to 2009 with tax years 2010 and later.<sup>56</sup>

## Annex A – Description of Methods

### General

The PBO estimates are developed using the Statistics Canada Social Policy Simulation Database and Model (SPSD/M v. 21).<sup>70</sup>

The database draws upon four micro data sources:

- i. Survey of Labour and Income Dynamics<sup>71</sup>
- ii. Personal Income Tax Returns, 2009 tax year
- iii. Survey of Household Spending<sup>72</sup>
- iv. Employment Insurance Claimant History Data

The database is statistically representative of the personal income and commodity tax base.<sup>73,74,75</sup>

Estimates are developed using SPSP/M, which computes taxes paid to, and cash transfers received from, government on the basis of ‘[economic families](#)’ for personal income taxes and ‘[households](#)’ for GST/HST.<sup>76</sup> For the purposes of conciseness,

these tax units are referred to as households throughout this PBO report.<sup>77</sup>

The SPSP/M is a static accounting model, which estimates the primary effect a tax regime change has on government revenue, assuming that no actors in the economy change their behaviour in response to a tax change.

All projections are based off the 2009 tax year and scaled in SPSP/M to actual or PBO projected nominal gross domestic product (GDP) levels. Gross domestic product data are available from Statistics Canada and projections are summarized in the PBO Economic and Fiscal Outlook 2014.<sup>78,79</sup>

All PBO static fiscal cost estimates are derived in SPSP/M and are provided for each measure and tax year examined. However, static estimates are not the preferred PBO estimate provided for certain personal income tax measures and reductions to the GST/HST rate.

### Personal Income Tax Estimation

Static cost estimation of tax policy is limited. For example, a decrease in the effective personal income tax rate will directly decrease government revenues in a static accounting approach. This impact is fully captured in the static accounting model.

---

<sup>70</sup> <http://www.statcan.gc.ca/microsimulation/spsdm-bdmsps/spsdm-bdmsps-eng.htm>. Accessed May 2014.

<sup>71</sup> <http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3889>. Accessed May 2014.

<sup>72</sup> *ibid.*

<sup>73</sup> Personal income tax base is comprised of income from employment, old age security, CPP, dividends, self-employment and other sources. Details are provided on the Canada Revenue Agency website. <http://www.cra-arc.gc.ca/E/pbg/tf/5006-r/5006-r-13e.pdf>. Accessed May 2014.

<sup>74</sup> <http://www.cra-arc.gc.ca/tx/bsnss/tpcs/gst-tps/gnrl/txbl/xmptgs-eng.html>. Accessed May 2014.

<sup>75</sup> GST/HST rates, zero-rated supplies and exempt supplies are summarized on the Canada Revenue Agency website.

<http://www.cra-arc.gc.ca/tx/bsnss/tpcs/gst-tps/gnrl/txbl/xmpt-eng.html>. Accessed May 2014.

<sup>76</sup> <http://www.statcan.gc.ca/microsimulation/spsdm-bdmsps/overview-vuedensemble-02-eng.htm>. Accessed

---

<sup>77</sup> As defined by Statistics Canada, a single ‘household’ can include multiple economic families in certain cases.

<sup>78</sup> <http://www5.statcan.gc.ca/cansim/a45?lang=eng&CORID=3764>. Accessed May 2014.

<sup>79</sup> [http://www.pbo-dpb.gc.ca/files/files/EFO2014\\_EN.pdf](http://www.pbo-dpb.gc.ca/files/files/EFO2014_EN.pdf). Accessed May 2014.

However, taxation changes may cause individuals to change their behaviour, by choosing to work more (or fewer) hours, reallocate resources between potential income sources or alter tax avoidance strategies. Individuals' behavioural reaction to a new tax brings into question the prospective size of the tax base and hence, anticipated government revenues.<sup>80</sup>

Accounting for behavioural responses adds analytical complexity to estimating the fiscal impact of new or altered tax policies. This effect is most commonly measured using an estimated elasticity of taxable income (ETI), a measure that quantifies the responsiveness of a taxable income base to a change in the marginal tax rate.<sup>81,82</sup>

Data limitations, empirical challenges and differences in international tax regimes have prohibited the determination of a consensus ETI rate. Additionally, the majority of ETI estimation has been undertaken using U.S. data. Few studies of Canadian data have been completed.

Consequently, past estimates of many tax policy changes in Canada (and elsewhere) do not account for behavioural impacts in net revenue estimation (ETI = 0), including the three key federal government budgeting documents:

- the federal Budget,
- the Update of Economic and Fiscal Projections, and
- Finance Canada's Tax Expenditures and Evaluations<sup>83</sup>

Recent literature suggests that this simplifying assumption may not be the most accurate depiction of the true fiscal impact of tax policy changes.

In 2010, Finance Canada conducted a review of 30 public finance publications on estimated ETI in Canada and abroad.<sup>84</sup> This review concluded that the main Canadian studies estimate an overall rate of 0.2, and a median international rate of 0.4. In all cases examined, the estimated ETI was found to be greater than zero.

The budgeting consequence of a 'no behavioural response' assumption (or ETI = 0) is that fiscal estimates tend to overstate the government's net revenue loss (gain) resulting from a tax reduction (increase).

Recently, estimates of the fiscal impacts of tax policies have increasingly incorporated behaviour response, both in Canada and in other jurisdictions.<sup>85,86,87,88,89,90</sup>

<sup>80</sup> Other tax bases, such as consumption (GST/HST) or investment income may also be affected by behavioural changes. Additionally, economic effects may result from increased (decreased) labour input in real economy.

<sup>81</sup> Elasticity, as a general economic concept, describes the sensitivity of demand for one variable in response to a change in another variable.

<sup>82</sup> Individuals may respond to tax policy changes in the real economy (by altering work hours, savings or investment) as well as tax minimization strategies (by altering remuneration agreements or using tax deductions/credits).

<sup>83</sup> The 'no behavioural impact' assumption is noted as a caveat in Finance Canada projections, and described as an assumption that is unlikely to be true in practice in some cases.

<sup>84</sup> Finance Canada, Tax Expenditures and Evaluations 2010.

<sup>85</sup>

<sup>86</sup> <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/99xx/doc9917/2008-11.pdf>.

<sup>87</sup> <http://www.cbo.gov/sites/default/files/cbofiles/attachments/43334-TaxElasticityCapGains.pdf>.

<sup>88</sup> <http://www.ifs.org.uk/bns/bn84.pdf>.

<sup>89</sup> Canadian Centre for Policy Alternatives, Alternative Federal Budget 2014.

<sup>90</sup> [https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2014/02/AFB2014\\_MainDocument.pdf](https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2014/02/AFB2014_MainDocument.pdf).

<sup>89</sup> [http://www.cdhowe.org/pdf/Working\\_Paper\\_324.pdf](http://www.cdhowe.org/pdf/Working_Paper_324.pdf).

<sup>90</sup> [http://www.cdhowe.org/pdf/e-brief\\_155.pdf](http://www.cdhowe.org/pdf/e-brief_155.pdf).

For the purposes of this report, PBO uses the results of prior analytical work in this domain, drawing upon three studies of the tax-induced behavioural response of individual taxpayers in Canada:

- Sillamaa and Veall<sup>91</sup>
- Saez and Veall<sup>92</sup>
- Finance Canada<sup>93</sup>

Each examination found the ETI on personal income in Canada to be between 0.2 and 0.25.

The majority of literature examined also suggests that ETI estimates increase for very high income earners, those in the top 1 per cent or top 5 per cent of income earners.

As such, this report assumes ETI = 0.2 for all income groups, except for the top 5 per cent of income earners, for whom an ETI = 0.3 rate is applied. Sensitivity analysis for this assumption is provided for comparative purposes in Figure A-5, p. 47.

#### Box A-1

##### Elasticity of Taxable Income

The elasticity of taxable income (ETI) follows the standard economic definition of elasticity, measuring the per cent change in reported income when the net-of-tax rate increases by 1 per cent.

$$ETI = \frac{(1 - t)}{y} \times \frac{\Delta y}{\Delta t}$$

Sources: Office of the Parliamentary Budget Officer, Saez, E., J. Slemrod and S.H. Gieritz, The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review, *Journal of Economic Literature* 2012, 50:1, 3-50.

Additional revenues resulting from the behavioural changes of each taxpayer ( $\Delta y$ ) can be estimated by re-organizing the ETI equation in Box A-1 (Figure A-2).

#### Figure A-2

##### Behavioural Response Impact on the Taxable Income Base

$$\Delta y = ETI \times \frac{y}{(1 - t)} \times \Delta t$$

Sources: Office of the Parliamentary Budget Officer, Saez, E., J. Slemrod and S.H. Gieritz, The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review, *Journal of Economic Literature* 2012, 50:1, 3-50.

<sup>91</sup> Sillamaa, M.A. and M. Veall, The effect of marginal tax rates on taxable income: a panel study of the 1988 tax flattening in Canada. *Journal of Public Economics* 80(3), June 2001, 341-356.

<http://ideas.repec.org/a/eee/pubeco/v80y2001i3p341-356.html#biblio>. Accessed May 2014.

<sup>92</sup> Saez, E. and M. Veall, The Evolution of High Incomes in North America: Lessons from Canadian Evidence, *The American Economic Review*, 95(3), June 2005, 831-849. <http://elsa.berkeley.edu/~saez/saez-veallAER05canada.pdf>. Accessed May 2014.

<sup>93</sup> Finance Canada, *Tax Expenditures and Evaluations 2010*. [https://www.fin.gc.ca/taxexp-depfisc/2010/TEF2010\\_eng.pdf](https://www.fin.gc.ca/taxexp-depfisc/2010/TEF2010_eng.pdf). Accessed May 2014.



The level ( $t$ ) and change ( $\Delta t$ ) in effective marginal tax rates, along with the size of the taxable income base ( $y$ ) are estimated in the SPSP/M static accounting estimation.<sup>94</sup>

Effective marginal tax rates are applied to changes to taxable income to yield estimates of individual household tax impacts.

In summary, the federal and provincial revenue impacts resulting from behavioural changes of each taxpayer can be summed to household-level static cost estimates to yield a fiscal impact estimate adapted for taxpayer behaviour.

### GST/HST Estimation

Like personal income taxes, static cost estimation of GST/HST changes is limited, as tax price changes on goods and services may cause individuals to change their consumption behaviour. A decline in GST/HST rates will directly decrease government revenues in a static accounting approach.

However, lower after-tax consumer prices should, in turn, increase the market demand for impacted goods and services, having a secondary, positive impact on federal revenues. This implicitly assumes that GST/HST reductions are fully reflected in consumer prices.

The demand response to a tax decrease is estimated by the own-price elasticity of each good and service. Goods and services are categorized in one of 47 categories within SPSP/M, and each is assigned an own-price elasticity estimate.

<sup>94</sup> Taxable income, as defined on line 260 of the CRA T1 form. <http://www.cra-arc.gc.ca/E/pbg/tf/5006-r/5006-r-13e.pdf>. Accessed May 2014.

**Figure A-3**

### Own-Price Elasticity of Demand

$$e = \frac{p}{d} \times \frac{\Delta d}{\Delta p}$$

Source: Office of the Parliamentary Budget Officer.

Estimates of own-price elasticity for nine broad consumption categories were based on the findings of a United States Department of Agriculture (USDA) report and 2005 World Bank International Comparison Program data (Figure A-4).<sup>95</sup> Elasticity estimates provided are specific to Canada.<sup>96</sup>

**Figure A-4**

### Own-Price Elasticity Estimates: Canada

Food, beverages, & tobacco	-0.350
Clothing & footwear	-0.707
Housing	-0.779
House furnishings	-0.768
Medical & health	-0.903
Transport & communication:	-0.830
Recreation	-0.940
Education	-0.670
Other	-0.905

Sources: U.S. Department of Agriculture, Office of the Parliamentary Budget Officer.

PBO GST/HST fiscal impact estimates were not materially sensitive to own-price elasticity method choice.

<sup>95</sup> United States Department of Agriculture, *International Evidence on Food Consumption Patterns: An update using 2005 International Comparison Program Data*. Technical Bulletin No (TB-1929) 59pp, March 2011. <http://www.ers.usda.gov/publications/tb-technical-bulletin/tb1929.aspx>. Accessed May 2014.

<sup>96</sup> The Frisch approach is adopted for this report, as by construction, it is the median estimate of the three available methods. The Slutsky and Cournot approaches are the two alternatives. PBO estimates are not materially sensitive to any single approach.

### **Interaction between Tax Measures**

Section 3 of this report highlights summary findings, aggregating the cumulative costs of the 13 recent tax measures examined throughout this report. However, estimates for all fiscal costs and distributional impacts are provided in sections 4 through 15 based on analysis of individual tax regime changes in isolation. That is, a single tax regime change was estimated holding all else in the tax system constant in each tax year. Cumulative impacts largely correspond to the sum of the discrete measures examined, but are adjusted for the interaction between tax measures.

The estimated interaction between tax measures captures the effect a change in one tax measure has on the fiscal cost of another change (and vice versa), when introduced to (or removed from) the tax system simultaneously.

For example, an isolated decrease in the personal income tax rate will have a negative fiscal impact, as will an isolated increase in the maximum thresholds for each personal income tax bracket. However, when both tax measures are changed simultaneously, the 'new' higher bracket thresholds will reduce a portion of the negative fiscal costs of a PIT rate change.

Each tax measure may interact with others in this manner, to varying degrees based on the nature of the tax policies in question.

As such, PBO estimated the direct revenue impact each distinct tax policy change had on other measures between 2005 and 2013. In some cases, interaction increased revenue estimates and in others it decreased revenue estimates, depending on the nature of the tax measures in question.

The absolute value of tax measure interactions is about \$920 million in 2014, or 5 per cent of the total fiscal cost (Annex C). However, an estimated \$510 million had a positive fiscal impact, while \$410 million had an offsetting negative fiscal impact.

In summary, a \$100 million adjustment is required to the sum of all estimates of discrete tax measures to determine the estimated cumulative total. This downward adjustment reflects 0.5 per cent of the cumulative estimate. The cumulative total of tax regime changes, like other fiscal impact figures in this report, is an estimate that cannot fully account for all complexity within the personal income tax system.

Figure A-5

**Sensitivity Analysis of Elasticity of Taxable Income**

\$ Millions

	High elasticity	Preferred elasticity	Low elasticity	Static
Age Amount	(950)	(950)	(950)	(950)
Basic Amount	(3,740)	(3,840)	(3,940)	(4,040)
Canada Child Tax Benefit & National Child Benefit Supplement	(1,190)	(1,060)	(930)	(790)
Child Tax Credit	(1,650)	(1,680)	(1,710)	(1,740)
Dividend Tax Credit - Large Corp.	(320)	(320)	(320)	(330)
Dividend Tax Credit - Small Corp.	500	520	540	550
Employment Tax Credit	(2,040)	(2,110)	(2,190)	(2,270)
Pension Income Credit	(620)	(620)	(610)	(600)
Pension Income Splitting	(890)	(1,020)	(1,090)	(1,150)
Personal Income Tax Amounts	(1,670)	(1,790)	(1,920)	(2,050)
Personal Income Tax Rate	(2,920)	(3,040)	(3,180)	(3,320)
Working Income Tax Benefit	(1,360)	(1,320)	(1,280)	(1,240)
Subtotal	(16,850)	(17,230)	(17,580)	(17,920)
Adjustment for PIT interactions	120	110	100	90
<b>PIT Total</b>	<b>(16,730)</b>	<b>(17,120)</b>	<b>(17,480)</b>	<b>(17,820)</b>
Difference from preferred	2%		2%	4%
<b>Elasticity of Taxable Income</b>				
0-95th percentile	0.3	0.2	0.1	
96-100th percentile	0.4	0.3	0.2	

Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21.

Note: Behavioural response to policy changes for the pension income credit and pension income splitting are assumed to be smaller than for generally taxable income, as pension income earning households are assumed to be less responsive to tax policy than the general taxpaying population. For preferred, high and low elasticity scenarios, the PBO uses the mid-point of the static approach and the elasticity estimates (ETI) indicated at the bottom of each column of Figure A-5

**Annex B – Cumulative Distribution of After Tax and Transfer Benefits per Household**

**Personal Income Tax Rate**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11-20	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21-30	0.2%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
31-40	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
41-50	0.4%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
51-60	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
61-70	0.4%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
71-80	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
81-90	0.3%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
91-95	0.3%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%
96-100	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

**Basic Amount**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
11-20	0.2%	0.1%	0.2%	0.2%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%
21-30	0.2%	0.1%	0.4%	0.3%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
31-40	0.2%	0.1%	0.4%	0.3%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
41-50	0.2%	0.1%	0.4%	0.3%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%
51-60	0.1%	0.1%	0.3%	0.3%	0.5%	0.5%	0.4%	0.4%	0.5%	0.4%
61-70	0.1%	0.1%	0.3%	0.2%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%
71-80	0.1%	0.1%	0.3%	0.2%	0.4%	0.4%	0.3%	0.4%	0.4%	0.3%
81-90	0.1%	0.1%	0.2%	0.2%	0.4%	0.3%	0.3%	0.3%	0.3%	0.3%
91-95	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.2%	0.3%	0.3%	0.2%
96-100	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

Revenue and Distribution Analysis of Federal Tax Changes: 2005-2013

**GST/HST**

	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.4%	0.7%	1.6%	1.5%	1.5%	1.6%	1.6%	1.7%	1.7%
11-20	0.3%	0.7%	1.5%	1.4%	1.5%	1.6%	1.6%	1.6%	1.6%
21-30	0.3%	0.6%	1.4%	1.3%	1.3%	1.4%	1.4%	1.5%	1.5%
31-40	0.3%	0.6%	1.2%	1.1%	1.2%	1.3%	1.3%	1.3%	1.3%
41-50	0.3%	0.5%	1.2%	1.1%	1.2%	1.2%	1.2%	1.3%	1.3%
51-60	0.2%	0.5%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.2%
61-70	0.2%	0.5%	1.1%	1.0%	1.0%	1.1%	1.1%	1.1%	1.1%
71-80	0.2%	0.5%	1.0%	0.9%	1.0%	1.0%	1.0%	1.1%	1.1%
81-90	0.2%	0.4%	0.9%	0.9%	0.9%	1.0%	1.0%	1.0%	1.0%
91-95	0.2%	0.4%	0.9%	0.8%	0.9%	0.9%	0.9%	0.9%	0.9%
96-100	0.1%	0.3%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%

**Age Amount**

	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%
11-20	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
21-30	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%
31-40	0.1%	0.1%	0.1%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
41-50	0.1%	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
51-60	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
61-70	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
71-80	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
81-90	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
91-95	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
96-100	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

**Employment Tax Credit**

	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11-20	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21-30	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
31-40	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
41-50	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
51-60	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
61-70	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
71-80	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
81-90	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
91-95	0.0%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
96-100	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

**Dividend Tax Credit – Large Corporations**

	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11-20	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21-30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31-40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
41-50	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
51-60	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
61-70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
71-80	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
81-90	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
91-95	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
96-100	0.2%	0.2%	0.3%	0.3%	0.2%	0.1%	0.1%	0.1%	0.1%

**Child Tax Credit**

	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11-20	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21-30	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
31-40	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
41-50	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
51-60	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
61-70	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
71-80	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
81-90	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
91-95	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
96-100	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%

**Working Income Tax Benefit**

	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11-20	0.5%	0.5%	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
21-30	0.5%	0.4%	0.9%	0.9%	0.9%	0.8%	0.8%	0.8%
31-40	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.2%
41-50	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
51-60	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
61-70	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
71-80	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
81-90	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
91-95	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
96-100	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

**Pension Income Splitting**

	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11-20	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21-30	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31-40	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
41-50	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
51-60	0.1%	0.1%	0.1%	0.2%	0.1%	0.1%	0.2%	0.1%
61-70	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
71-80	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
81-90	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
91-95	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
96-100	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

**Pension Income Tax Credit**

	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11-20	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
21-30	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%	0.1%	0.2%
31-40	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
41-50	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
51-60	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
61-70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
71-80	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
81-90	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
91-95	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
96-100	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



**Personal Amount**

	2009	2010	2011	2012	2013	2014
0-10	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
11-20	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
21-30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
31-40	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
41-50	0.1%	0.0%	0.0%	0.0%	0.1%	0.1%
51-60	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%
61-70	0.2%	0.1%	0.1%	0.1%	0.2%	0.2%
71-80	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%
81-90	0.2%	0.2%	0.1%	0.2%	0.2%	0.2%
91-95	0.3%	0.2%	0.1%	0.2%	0.2%	0.2%
96-100	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%

**Federal Child Tax Benefit & National Child Tax Benefit**

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
0-10	0.2%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%	0.4%
11-20	0.2%	0.4%	0.4%	0.4%	0.5%	0.4%	0.4%	0.4%	0.4%	0.4%
21-30	0.2%	0.3%	0.3%	0.3%	0.4%	0.4%	0.4%	0.4%	0.4%	0.3%
31-40	0.1%	0.2%	0.2%	0.2%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
41-50	0.1%	0.1%	0.1%	0.1%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%
51-60	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
61-70	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
71-80	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
81-90	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
91-95	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
96-100	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

**Dividend Tax Credit – Small Corporations**

0-10	0.0%
11-20	0.0%
21-30	0.0%
31-40	0.0%
41-50	0.0%
51-60	0.0%
61-70	0.0%
71-80	0.0%
81-90	0.0%
91-95	0.0%
96-100	-0.1%

### Annex C – Tax Measure Interaction Estimates

Age Amount	Basic Amount	Canada Child Tax Benefit & National Child Benefit Supplement	Child Tax Credit	Dividend Tax Credit - Large Corp.	Dividend Tax Credit - Small Corp.	Employment Tax Credit	Pension Income Credit	Pension Income Splitting	Personal Income Tax Amounts	Personal Income Tax Rate
Basic Amount	76									
Canada Child Tax Benefit & National Child Benefit Supplement	(0)	(0)								
Child Tax Credit	0	24	(0)							
Dividend Tax Credit - Large Corp.	2	2	0	0						
Dividend Tax Credit - Small Corp.	(1)	(7)	0	(3)	(1)					
Employment Tax Credit	3	59	(0)	15	0	(2)				
Pension Income Credit	34	23	(0)	0	1	(1)	2			
Pension Income Splitting	(8)	(29)	0	1	(2)	1	(4)	(102)		
Personal Income Tax Amounts	(1)	1	0	0	1	(3)	(0)	1	30	
Personal Income Tax Rate	74	116	0	26	3	(11)	36	29	(66)	(213)
Working Income Tax Benefit	(0)	(0)	(0)	(0)	0	0	0	(0)	(0)	(0)
Total										110

**Annex D – PBO Income Group Classification**

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
10th	1,721	1,732	1,874	2,244	2,355	1,663	1,691	1,867	1,939	1,987	2,029
20th	10,286	10,679	11,366	12,158	12,442	11,304	11,217	11,566	11,889	12,075	12,207
30th	19,209	20,031	21,109	22,422	22,840	21,287	21,250	21,986	22,597	22,928	23,261
40th	29,085	30,390	32,045	33,893	34,640	33,024	33,217	34,195	35,107	35,694	36,253
50th	39,132	40,956	43,018	45,044	45,989	44,277	44,669	45,989	47,240	48,177	49,033
60th	51,782	54,316	56,662	59,227	60,262	58,309	58,921	60,819	62,402	63,645	64,851
70th	65,776	68,886	72,303	75,802	77,124	74,712	75,501	77,802	79,837	81,558	83,250
80th	85,318	89,254	93,951	98,238	99,964	97,761	99,080	101,989	104,693	106,954	109,196
90th	117,053	123,785	130,302	136,144	137,803	135,676	137,823	141,223	145,125	148,454	151,808
95th	152,264	160,223	169,634	178,388	179,246	176,111	179,589	184,403	189,562	194,025	198,237
Gini											54.13

Sources: Office of the Parliamentary Budget Officer, SPSP/M v. 21

Note: Income Groups and Gini Index data in this figure are determined by Market Income by Economic Family.