



Tax Expenditures and Evaluations 2011

©Her Majesty the Queen in Right of Canada (2012)
All rights reserved

All requests for permission to reproduce this document or any part thereof
shall be addressed to Public Works and Government Services Canada.

Cette publication est également disponible en français.

Cat. No.: F1-27/2011E-PDF
ISSN 1495-737X



Table of Contents

Preface.....	5
Part 1—Tax Expenditures: Estimates and Projections	7
Introduction	9
Caveats	9
What’s New in the 2011 Report.....	10
The Tax Expenditures	13
Part 2—Tax Evaluations and Research Reports.....	29
Distributional Impact of the Federal Personal Income Tax System and Refundable Credits: Analysis by Income, Sex, Age and Family Status	31
Evaluation of the Public Transit Tax Credit	48



Preface

The Department of Finance has published tax expenditures for personal and corporate income taxes as well as for the Goods and Services Tax since 1994. Beginning in 2000, the tax expenditure report has been separated into two documents. This document, *Tax Expenditures and Evaluations*, is published annually. It provides estimates and projections for broadly defined tax expenditures as well as evaluations and analytical papers addressing specific tax measures. This year's edition includes an analytical paper entitled "Distributional Impact of the Federal Personal Income Tax System and Refundable Credits: Analysis by Income, Sex, Age and Family Status" and an evaluation of the Public Transit Tax Credit.

The second document, *Tax Expenditures: Notes to the Estimates/Projections*, is a reference document which presents the objective of each tax expenditure and explains how the estimates and projections are calculated. This document is published periodically and the 2010 edition is available on the Department of Finance website.

Part 1
Tax Expenditures:
Estimates and Projections



Introduction

The principal function of the tax system is to raise the revenues necessary to fund government expenditures. The tax system can also be used directly to achieve public policy objectives through the application of special measures such as low tax rates, exemptions, deductions, deferrals and credits. These measures are often described as “tax expenditures” because they achieve policy objectives at the cost of lower tax revenue.

To identify and estimate tax expenditures, it is necessary to establish a “benchmark” tax structure that applies the relevant tax rates to a broadly defined tax base—e.g. personal income, business income or consumption. Tax expenditures are then defined as deviations from this benchmark. Reasonable differences of opinion exist about what should be considered part of the benchmark tax system and hence about what should be considered a tax expenditure. A more detailed discussion on the calculation of the tax expenditures presented in this document is available *Tax Expenditures: Notes to the Estimates/Projections 2010*.

This report takes a broad approach and includes estimates and projections of the revenue loss associated with all but the most fundamental structural elements of the tax system, such as the progressive personal income tax rate structure. This includes not only measures that may reasonably be regarded as tax expenditures but also other measures that may be considered part of the benchmark tax system. The latter are listed separately under “Memorandum Items.” For instance, the Dividend Tax Credit is listed under this heading because its purpose is to reduce or eliminate the double taxation of income earned by corporations and distributed to individuals through dividends. Also included under this heading are measures where data limitations do not permit a separation of the tax expenditure and benchmark components of the measure. This approach provides information on a full range of measures.

Caveats

Care must be taken in interpreting the estimates and projections of tax expenditures in the tables for the following reasons.

- The estimates and projections are intended to indicate the potential revenue gain that would be realized by removing individual tax measures. They are developed assuming that the underlying tax base would not be affected by removal of the measure. However, this is an assumption that is unlikely to be true in practice in some cases, as the behaviour of beneficiaries of tax expenditures, overall economic activity and other government policies could change along with the specific tax provision.
- The cost of each tax measure is determined separately, assuming that all other tax provisions remain unchanged. Many of the tax expenditures do, however, interact with each other such that the impact of several tax provisions at once cannot generally be calculated by adding up the estimates and projections for each provision.



- The federal and provincial income tax systems interact with each other to varying degrees. As a result, changes to tax expenditures in the federal system may have consequences for provincial tax revenues. In this publication, however, any such provincial effects are not taken into account—that is, the tax expenditure estimates and projections address strictly the federal tax system and federal tax revenue.
- The tax expenditure estimates and projections presented in this document are developed using the latest available taxation data. Revisions to the underlying data as well as improvements to the methodology can result in substantial changes to the value of a given tax expenditure in successive publications. In addition, estimates and projections for some tax measures, such as the partial inclusion of capital gains, are particularly sensitive to economic parameters and hence may also differ significantly from one publication to the next.

What's New in the 2011 Report

New tax measures were introduced and others modified in Budget 2011. Changes affecting tax expenditures are described below.

Personal Income Tax

Children's Arts Tax Credit

Budget 2011 introduced a Children's Arts Tax Credit allowing parents to claim a 15% non-refundable tax credit based on an amount of up to \$500 in eligible expenses per child paid in a year. The credit is available for the enrolment of a child, who is under 16 years of age at the beginning of the year, in an eligible program of artistic, cultural, recreational or developmental activities. For a child who is under 18 years of age at the beginning of the year and is eligible for the Disability Tax Credit, the 15% non-refundable tax credit may be claimed on an additional \$500 disability supplement amount when a minimum of \$100 is paid in eligible expenses. This measure applies to the 2011 and subsequent taxation years.

Volunteer Firefighters Tax Credit

Budget 2011 introduced a Volunteer Firefighters Tax Credit to allow eligible volunteer firefighters to claim a 15% non-refundable tax credit based on an amount of \$3,000. To be eligible, a volunteer firefighter must perform at least 200 hours of volunteer firefighting services in a taxation year, for one or more fire departments, that consist primarily of responding to and being on call for firefighting and related emergency calls, attending meetings held by the fire department and participating in required training related to the prevention or suppression of fires. An individual who claims the credit is ineligible for the existing tax exemption of up to \$1,000 for honoraria paid by a government, municipality or public authority in respect of firefighting duties. This measure applies to the 2011 and subsequent taxation years.



Family Caregiver Tax Credit

To provide new support to caregivers of dependants with a mental or physical infirmity, including spouses, common-law partners and minor children, Budget 2011 announced a Family Caregiver Tax Credit. This 15% non-refundable credit will be based on an amount of \$2,000 and will apply beginning in 2012. The \$2,000 amount will be indexed to account for inflation for 2013 and subsequent taxation years.

Caregivers will benefit from the Family Caregiver Tax Credit by claiming an enhanced amount for an infirm dependant under one of the existing dependency-related credits (i.e., Spouse or Common-Law Partner Credit, Child Tax Credit, Eligible Dependant Credit, Caregiver Credit or Infirm Dependant Credit). The effect of the Family Caregiver Tax Credit on the credit amount that can be claimed and the amount of the dependant's net income at which the amount will be fully phased out in 2012 are set out for each existing credit in Table A3.2 of Budget 2011.

Budget 2011 also increased for the 2012 taxation year the threshold at which the Infirm Dependant Credit begins to be phased out, so that the enhanced amount is fully phased out at the same income level as the 2012 enhanced Spouse or Common-Law Partner Credit.

Medical Expense Tax Credit for Other Dependants

To better recognize the impact that extraordinary medical expenses can have on a caregiver's ability to pay tax, Budget 2011 removed the \$10,000 limit on eligible expenses that can be claimed under the Medical Expense Tax Credit in respect of a dependent relative. This measure applies to the 2011 and subsequent taxation years.

Child Tax Credit Eligibility

Prior to Budget 2011, rules provided that not more than one individual could claim the Child Tax Credit in respect of the same domestic establishment, which meant that when two or more families shared a home, only one individual in one family could claim the Child Tax Credit in respect of his or her children. For example, if two adult sisters lived together and each had a child under 18 years of age, only one sister could claim the Child Tax Credit for her child.

To ensure that sharing a home does not prevent otherwise-eligible parents from claiming the Child Tax Credit in respect of their children, Budget 2011 repealed the rule that limits the number of Child Tax Credit claimants to one per domestic establishment. This measure applies to the 2011 and subsequent taxation years.



Tuition Tax Credit—Examination Fees

Budget 2011 amended the Tuition Tax Credit to recognize fees paid to an educational institution, professional association, provincial ministry or other similar institution to take an examination that is required to obtain a professional status recognized by federal or provincial statute, or to be licensed or certified in order to practise a profession or trade in Canada. Consistent with the general rule that applies for the existing Tuition Tax Credit, the total of tuition and examination fees paid to the institution, association or ministry in respect of a year must exceed \$100 to be eligible. These amendments do not apply to fees in respect of examinations taken in order to begin study in a profession or field, such as a medical college admission test. This measure applies to eligible amounts paid in respect of examinations taken in 2011 and subsequent taxation years.

Education Tax Measures—Study Abroad

To improve the tax recognition of education costs for Canadian post-secondary students who study outside Canada, Budget 2011 reduced the minimum course-duration requirement that a Canadian student at a foreign university must meet in order to claim the Tuition, Education and Textbook Tax Credits to 3 consecutive weeks from 13 consecutive weeks. Also, the 13-consecutive-week requirement for Educational Assistance Payments from a Registered Education Savings Plan was reduced to 3 consecutive weeks. This measure applies with respect to tuition fees paid for courses taken in the 2011 and subsequent taxation years, and to Educational Assistance Payments made after 2010.

Agri-Québec

Agriculture and Agri-Food Canada offers, through the AgriInvest program, an incentive to encourage farmers to set aside earnings in order to provide coverage against small income declines. Under the AgriInvest program, farmers who contribute to an AgriInvest account receive matching government contributions. Furthermore, the government contributions and interest earned in respect of the account are not taxable until withdrawn.

Beginning in 2011, the province of Quebec is supplementing AgriInvest with the new Agri-Québec program, an agricultural income stabilization account program that is very similar to the AgriInvest program.

Budget 2011 announced amendments to ensure that the Agri-Québec program is accorded the same income tax treatment as is currently provided to the AgriInvest program. These amendments apply to the 2011 and subsequent taxation years.

Mineral Exploration Tax Credit for Flow-Through Share Investors

The Mineral Exploration Tax Credit is a reduction in tax, available to individuals who invest in flow-through shares, equal to 15% of specified mineral exploration expenses incurred in Canada and transferred to flow-through share investors. The credit was introduced on a temporary basis in 2000 and has been extended since then. Budget 2011 extended eligibility for the credit for an additional year to flow-through share agreements entered into on or before March 31, 2012. Under the one-year “look-back” rule, funds raised with the benefit of the credit in 2012, for example, can be spent on eligible exploration up to the end of 2013.



Donations of Publicly Listed Flow-Through Shares

Budget 2011 announced rules to limit the excessive tax benefits that can result on the donation of flow-through shares as a result of the interaction between the exemption from capital gains tax on the donation of publicly listed securities and the tax incentives for flow-through shares. The new rules will allow the exemption only to the extent that the capital gain on the donation exceeds a threshold amount (generally equal to the acquisition price of the flow-through shares) at the time of the donation. This measure applies to flow-through shares that were issued to the taxpayer under a flow-through share agreement entered into on or after March 22, 2011.

Corporate Income Tax

Qualifying Environmental Trusts

The Income Tax Act contains special rules for qualifying environmental trusts (QETs) that facilitate the pre-funding of the costs associated with reclaiming or restoring a mine, quarry or waste disposal site. Budget 2011 expanded the scope of the QET rules to include trusts that are required to be established to fund reclamation costs associated with pipelines, applicable to trusts established after 2011. In addition, in order to provide more flexibility to regulators in determining appropriate investments for the trusts that they mandate, Budget 2011 expanded the range of eligible investments that a QET can make, applicable to trusts created after 2011 or those created before 2012 if the trust and the regulatory authority jointly so elect. As pipeline companies are not anticipated to begin setting aside funds until 2015, no financial impact is anticipated to result from these changes until that time.

The Tax Expenditures

Tables 1 to 3 provide tax expenditure values for personal income tax, corporate income tax and the Goods and Services Tax (GST) for the years 2006 to 2011. Values for the years 2006 to 2009 are generally based on tax data supplied by the Canada Revenue Agency, or are calculated from data supplied by Statistics Canada and other government departments and agencies. Values for the 2010 and 2011 projections are usually determined from the historical relationship between a tax expenditure and relevant economic variables. These economic variables are generally based on the forecast presented in the November 8, 2011 *Update of Economic and Fiscal Projections*. See Chapter 1 of *Tax Expenditures: Notes to the Estimates/Projections 2010*¹ for additional details on the methodology.

The tax expenditures are grouped according to functional categories. This grouping is provided solely for presentational purposes and is not intended to reflect underlying policy considerations.

¹ Available on the Department of Finance website.



All estimates and projections are reported in millions of dollars. The letter “S” (“small”) indicates that the absolute value of the tax expenditure is less than \$2.5 million, “n.a.” signifies that data are not available to support a meaningful estimate/projection, and a dash means that the tax expenditure is not in effect. The inclusion in the report of items for which estimates and projections are not available reflects the intention to provide information on measures included in the tax system even if it is not always possible to provide their revenue impacts. Work is continuing to obtain quantitative estimates and projections where possible.

Table 1
Personal Income Tax Expenditures (\$ millions)*

	Estimates ¹			Projections ¹		
	2006	2007	2008	2009	2010	2011
Charitable Donations and Political Contributions						
Charitable Donations Tax Credit (excluding donations of assets subject to a reduced inclusion rate for capital gains) ²	2,325	2,345	2,270	2,095	2,200	2,280
Donations of publicly listed securities ³						
Charitable Donations Tax Credit	125	165	90	98	110	115
Reduced inclusion rate for capital gains	37	50	27	29	33	34
Total tax expenditure	160	215	115	130	145	150
Donations of ecologically sensitive land ³						
Charitable Donations Tax Credit	4	6	9	8	5	7
Reduced inclusion rate for capital gains	S	S	3	3	S	S
Total tax expenditure	5	8	11	11	7	9
Donations of cultural property ³						
Charitable Donations Tax Credit	28	22	21	20	18	18
Non-taxation of capital gains	9	7	7	6	6	6
Total tax expenditure	37	30	27	26	25	24
Political Contribution Tax Credit ⁴	24	20	31	23	21	32
Culture						
Assistance for artists	S	S	S	S	S	S
Children’s Arts Tax Credit ⁵	–	–	–	–	–	100
Deduction for artists and musicians	S	S	S	S	S	S
Education						
Adult basic education—tax deduction for tuition assistance	5	5	5	5	5	5
Apprentice vehicle mechanics’ tools deduction	4	3	4	4	4	4
Education Tax Credit ⁶	240	210	215	200	205	210
Textbook Tax Credit ^{6,7}	46	41	42	38	39	41
Tuition Tax Credit ⁶	265	250	255	245	255	280
Transfer of Education, Textbook and Tuition Tax Credits	470	480	485	490	495	510

* The elimination of a tax expenditure would not necessarily yield the full tax revenues shown in the table. See the publication *Tax Expenditures: Notes to the Estimates/Projections 2010* for a discussion of the reasons for this.



Table 1 (cont'd)

Personal Income Tax Expenditures (\$ millions)*

	Estimates ¹			Projections ¹		
	2006	2007	2008	2009	2010	2011
Education (cont'd)						
Carry-forward of Education, Textbook and Tuition Tax Credits ⁸	420	425	540	490	510	535
Exemption of scholarship, fellowship and bursary income ⁹	37	37	41	39	40	43
Registered Education Savings Plans	170	185	165	180	175	185
Student Loan Interest Credit	66	71	63	63	65	68
Employment						
Canada Employment Credit ¹⁰	470	1,835	1,905	1,910	1,955	2,025
Child care expense deduction	740	750	790	775	790	810
Deduction for income earned by military and police deployed to high-risk international missions	25	35	36	36	37	38
Deduction of home relocation loans	S	S	S	S	S	S
Deduction of other employment expenses	915	970	990	985	1,015	1,055
Deduction for tradespeople's tool expenses ¹¹	4	4	4	4	4	4
Deduction of union and professional dues	660	705	755	740	765	795
Deferral of salary through leave of absence/sabbatical plans	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Disability supports deduction	S	S	S	S	S	S
Employee benefit plans	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Employee stock option deduction ¹²	1,085	1,155	760	435	710	725
Moving expense deduction	115	125	125	125	130	135
Non-taxation of certain non-monetary employment benefits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of strike pay	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Northern residents deductions ¹³	140	150	160	155	160	165
Overseas Employment Credit	56	64	78	72	73	75
Tax-free amount for emergency service volunteers	14	14	14	14	14	12
Volunteer Firefighters Tax Credit ¹⁴	–	–	–	–	–	15
Working Income Tax Benefit ¹⁵	–	455	480	1,025	1,030	1,030
Family						
Adoption Expense Tax Credit	S	3	S	S	S	S
Caregiver Credit	85	84	90	96	100	105
Child Tax Credit ¹⁶	–	1,445	1,470	1,465	1,485	1,525
Deferral of capital gains through transfers to a spouse, spousal trust or family trust	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Family Caregiver Tax Credit ¹⁷	–	–	–	–	–	–
Infirm Dependant Credit	5	5	5	5	5	6
Spouse or Common-Law Partner Credit ¹⁸	1,205	1,240	1,225	1,325	1,355	1,400
Eligible Dependant Credit ¹⁹	675	755	750	785	785	805
Inclusion of the Universal Child Care Benefit in the income of an eligible dependant ²⁰	–	–	–	–	5	5



Table 1 (cont'd)

Personal Income Tax Expenditures (\$ millions)*

	Estimates ¹			Projections ¹		
	2006	2007	2008	2009	2010	2011
Farming and Fishing						
Lifetime capital gains exemption for farm and fishing property ²¹	280	385	385	320	330	335
Cash basis accounting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of capital gains through intergenerational rollovers of family farms, family fishing businesses and commercial woodlots	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of income from destruction of livestock	S	S	S	S	S	S
Deferral of income from sale of livestock during drought, flood or excessive moisture years	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of income from grain sold through cash purchase tickets	10	35	45	-10	-10	30
Deferral through 10-year capital gain reserve	S	S	S	S	S	S
Exemption from making quarterly tax instalments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
AgriInvest (farm savings account) ²²	–	S	20	15	15	15
Agri-Québec (farm savings account) ²³	–	–	–	–	–	5
Flexibility in inventory accounting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tax treatment of the Net Income Stabilization Account ²⁴						
Deferral of tax on government contributions	S	S	S	S	–	–
Deferral of tax on bonus and interest income	S	S	S	S	–	–
Taxable withdrawals	-8	S	S	S	–	–
Federal-Provincial Financing Arrangements						
Logging Tax Credit	S	S	S	S	S	S
Quebec Abatement	3,495	3,520	3,605	3,405	3,660	3,810
Transfer of income tax points to provinces	16,995	17,450	17,585	16,225	17,490	18,195
General Business and Investment						
\$200 capital gains exemption on foreign exchange transactions	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
\$1,000 capital gains exemption on personal-use property	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Accelerated deduction of capital costs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deduction of carrying charges incurred to earn income	1,105	1,270	1,200	905	1,000	1,020
Deferral through use of billed-basis accounting by professionals	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral through five-year capital gain reserve	25	15	10	10	10	10
Investment tax credits	20	20	20	15	15	16
Flow-through share deductions	435	435	215	165	245	280
Mineral Exploration Tax Credit for flow-through share investors ²⁵	92	150	45	70	105	125
Reclassification of expenses under flow-through shares ²⁶	13	-4	-10	-11	-5	-3
Partial inclusion of capital gains ²⁷	5,100	5,740	2,995	2,425	3,535	3,605
Taxation of capital gains upon realization	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tax-Free Savings Account ²⁸	–	–	–	65	165	220



Table 1 (cont'd)

Personal Income Tax Expenditures (\$ millions)*

	Estimates ¹			Projections ¹		
	2006	2007	2008	2009	2010	2011
General Business and Investment (cont'd)						
<i>Small Business</i>						
Lifetime capital gains exemption for small business shares ²⁹	440	585	620	475	550	560
Deduction of allowable business investment losses	25	20	30	30	30	30
Deferral through 10-year capital gain reserve	S	S	S	S	S	S
Labour-Sponsored Venture Capital Corporations Credit	125	120	120	125	130	130
Non-taxation of provincial assistance for venture investments in small businesses	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Rollovers of investments in small businesses	5	10	10	5	5	5
Health						
Children's Fitness Tax Credit ³⁰	–	90	105	110	115	115
Disability Tax Credit ³¹	540	585	635	610	635	665
Medical Expense Tax Credit ³²	875	915	995	1,035	1,045	1,090
Non-taxation of business-paid health and dental benefits	2,310	2,535	2,620	2,795	2,970	3,155
Refundable Medical Expense Supplement ³³	115	110	120	135	135	140
Income Maintenance and Retirement						
Age Credit ³⁴	1,810	1,810	1,840	2,060	2,150	2,260
Deferred Profit-Sharing Plans	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of certain amounts received as damages in respect of personal injury or death	15	18	20	19	20	22
Non-taxation of Guaranteed Income Supplement and Allowance benefits ³⁵	180	170	175	82	92	105
Non-taxation of investment income from life insurance policies ³⁶	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of RCMP pensions/compensation in respect of injury, disability or death	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of social assistance benefits ³⁷	185	145	165	135	140	145
Non-taxation of up to \$10,000 of death benefits	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of veterans' allowances, income support benefits, civilian war pensions and allowances, and other service pensions (including those from Allied countries)	S	S	S	S	S	S
Non-taxation of veterans' disability pensions and support for dependants	150	150	150	135	140	140
Non-taxation of veterans' Disability Awards	3	11	19	22	31	35
Non-taxation of workers' compensation benefits	630	655	695	640	645	645
Registered Disability Savings Plans ³⁸	–	–	S	S	S	4
Pension Income Credit ³⁹	840	975	990	900	940	975
Pension income splitting ⁴⁰	–	840	850	850	875	925



Table 1 (cont'd)

Personal Income Tax Expenditures (\$ millions)*

	Estimates ¹			Projections ¹		
	2006	2007	2008	2009	2010	2011
Income Maintenance and Retirement (cont'd)						
Registered Pension Plans ⁴¹						
Deduction for contributions	9,830	9,430	9,840	11,730	11,770	11,860
Non-taxation of investment income	13,080	14,825	6,720	7,145	10,320	11,155
Taxation of withdrawals	-7,295	-6,790	-6,825	-6,585	-6,970	-7,390
Net tax expenditure	15,615	17,465	9,735	12,290	15,120	15,625
Registered Retirement Savings Plans ⁴¹						
Deduction for contributions	7,325	7,405	7,245	6,995	7,180	7,390
Non-taxation of investment income	7,990	9,110	3,700	4,095	6,855	7,645
Taxation of withdrawals	-4,620	-5,030	-4,825	-4,595	-4,865	-5,125
Net tax expenditure	10,695	11,485	6,120	6,495	9,170	9,910
Supplementary information: present value of tax-assisted retirement savings plans ⁴²						
	8,850	9,080	9,105	10,185	10,275	10,320
Saskatchewan Pension Plan	S	S	S	S	S	S
Treatment of alimony and maintenance payments	86	87	92	94	99	100
U.S. Social Security benefits ⁴³	S	S	S	S	S	S
Other Items						
Deduction for certain contributions by individuals who have taken vows of perpetual poverty	S	S	S	S	S	S
Deduction for clergy residence	75	82	82	80	83	85
First-Time Home Buyers' Tax Credit ⁴⁴	-	-	-	130	115	115
Home Renovation Tax Credit ⁴⁵	-	-	-	2,265	-	-
Non-taxation of capital gains on principal residences ⁴⁶	4,325	5,285	3,015	3,785	3,875	4,235
Non-taxation of income from the Office of the Governor General	S	S	S	S	S	S
Non-taxation of income of status Indians and Indian bands on reserve	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Special tax computation for certain retroactive lump-sum payments	S	S	S	S	S	S
Public Transit Tax Credit ⁴⁷	45	110	135	140	145	150
Memorandum Items						
<i>Avoidance of Double Taxation</i>						
Dividend gross-up and credit ⁴⁸	2,330	3,015	3,405	3,815	3,835	3,745
Foreign Tax Credit	705	780	750	740	760	785
Non-taxation of capital dividends	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Loss Offset Provisions</i>						
Capital loss carry-overs ⁴⁹	340	330	145	215	395	405
Farm and fishing loss carry-overs	15	15	15	10	15	15
Non-capital loss carry-overs	50	70	55	55	55	55



Table 1 (cont'd)

Personal Income Tax Expenditures (\$ millions)*

	Estimates ¹			Projections ¹		
	2006	2007	2008	2009	2010	2011
Memorandum Items (cont'd)						
<i>Social and Employment Insurance Programs</i>						
Canada Pension Plan and Quebec Pension Plan						
Employee-Paid Contribution Credit	2,665	2,750	2,875	2,885	2,985	3,130
Non-taxation of employer-paid premiums	4,145	4,445	4,650	4,590	4,765	5,030
Employment Insurance and Quebec Parental Insurance Plan						
Employee-Paid Contribution Credit ⁵⁰	965	945	955	955	995	1,075
Non-taxation of employer-paid premiums	1,835	1,865	1,885	1,865	1,925	2,075
<i>Other</i>						
Basic Personal Amount ⁵¹	24,350	26,015	26,205	27,795	28,505	29,510
Deferral through capital gains rollovers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of lottery and gambling winnings	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of allowances for diplomats and other government employees posted abroad	27	29	33	39	42	44
Partial deduction of meals and entertainment expenses	125	150	150	160	175	180

Notes:

- ¹ Unless otherwise indicated in the footnotes, changes in the estimates and projections from those in last year's report, as well as variations from year to year, result from new data and changes in the economic variables affecting the tax expenditures. Changes from last year's report may also reflect the availability of new data sources as well as methodological improvements, in which case the estimates and projections presented in this year's publication may not be comparable to those published in previous reports. In addition, the tax expenditure estimates and projections for a given measure are often affected by changes to other measures. In particular, the introduction or enhancement of broad-based non-refundable tax credits (e.g. the Basic Personal Amount, Age Credit, Pension Income Credit and Child Tax Credit), along with reductions in the lowest personal income tax rate, tend to reduce tax expenditure estimates and projections. Further details on the tax expenditures presented in this table are available in *Tax Expenditures: Notes to the Estimates/Projections 2010*.
- ² The components of the Charitable Donations Tax Credit associated with donations of publicly listed securities, ecologically sensitive land and cultural property are presented separately (see note 3). The estimates and projections presented on this line reflect the Charitable Donations Tax Credit associated with all other donations. The total tax expenditure for the Charitable Donations Tax Credit would take into account all relevant components.
- ³ The total tax expenditure cost of donations of these types of assets has two components: the cost of the Charitable Donations Tax Credit and the revenue forgone from the reduced inclusion rate for capital gains (or the non-taxation of capital gains in the case of gifts of cultural property). Budget 2006 reduced the inclusion rate for capital gains on donations of publicly listed securities and ecologically sensitive land from 25% to zero, effective May 2, 2006. Budget 2007 extended this provision to include donations of eligible securities to private foundations, effective March 19, 2007. Budget 2011 announced rules, effective March 22, 2011, to limit the excessive tax benefits that can result on the donation of flow-through shares as a result of the interaction between the exemption from capital gains tax on the donation of publicly listed securities and the tax incentives for flow-through shares. See the "What's New in the 2011 Report" section for details. The components may not add up to the totals due to rounding.
- ⁴ The higher levels for this tax expenditure in 2006, 2008 and 2011 are due to contributions in respect of the 39th, 40th and 41st general elections.
- ⁵ This measure was introduced in Budget 2011, effective 2011. See the "What's New in the 2011 Report" section for details.
- ⁶ These tax expenditures relate to amounts earned and claimed in the year by students (i.e. neither transferred nor carried forward). Changes to these measures were introduced in Budget 2011, effective 2011. See the "What's New in the 2011 Report" section for details.
- ⁷ This measure was introduced in Budget 2006, effective 2006.
- ⁸ For a given year, this tax expenditure represents the value of Education, Textbook and Tuition Tax Credits earned in past years and used in that year. The tax expenditure does not include the pool of unused Education, Textbook and Tuition Tax Credits that have been accumulated but will be deferred for use in future years.
- ⁹ Budget 2006 exempted all amounts received for post-secondary scholarships, fellowships and bursaries from tax, effective 2006, where these amounts are received in connection with enrolment in a program for which the student can claim the Education Tax Credit. The maximum exemption for tax years prior to 2006 was \$3,000 for these students. Budget 2007 extended this treatment to elementary and secondary school students, effective 2007.



- ¹⁰ This measure was introduced in Budget 2006. Because it was effective in July 2006, the maximum amount on which the credit is calculated for the 2006 taxation year is \$250. For 2007, the maximum amount on which the credit is calculated was increased to \$1,000. This maximum amount has been indexed for years after 2007.
- ¹¹ This measure was introduced in Budget 2006, effective 2006.
- ¹² This measure was changed in Budget 2010, effective March 4, 2010.
- ¹³ Budget 2008 enhanced this measure, effective 2008.
- ¹⁴ The Volunteer Firefighters Tax Credit was introduced in Budget 2011, effective 2011. See the "What's New in the 2011 Report" section for details. The value of the tax expenditure for the tax-free amount for emergency service volunteers decreased in 2011 to reflect the introduction of the Volunteer Firefighters Tax Credit.
- ¹⁵ This measure was introduced in Budget 2007, effective 2007. Budget 2009 enhanced this measure, effective 2009.
- ¹⁶ This measure was introduced in Budget 2007, effective 2007.
- ¹⁷ This measure was introduced in Budget 2011, effective 2012. See the "What's New in the 2011 Report" section for details.
- ¹⁸ Budget 2007 and the 2007 Economic Statement enhanced this credit, effective 2007. Budget 2009 enhanced the credit, effective 2009.
- ¹⁹ Budget 2007 and the 2007 Economic Statement enhanced this credit, effective 2007. Budget 2009 enhanced the credit, effective 2009.
- ²⁰ This measure was introduced in Budget 2010, effective 2010.
- ²¹ Budget 2006 extended the lifetime capital gains exemption (LCGE) to qualifying fishing property, effective May 2, 2006. Budget 2007 introduced an increase in the LCGE to \$750,000 from \$500,000, effective March 19, 2007.
- ²² This measure was introduced in Budget 2007. In December 2007, agreements were signed with the provinces to implement the program and the disbursement of funds began.
- ²³ This measure was introduced in Budget 2011. See the "What's New in the 2011 Report" section for details.
- ²⁴ The Net Income Stabilization Account (NISA) and the Canadian Farm Income Program were replaced by the Canadian Agricultural Income Stabilization Program, with the effect that government contributions under NISA ceased as of December 31, 2003. All funds in participant accounts were paid out by March 31, 2009. Tax expenditure estimates and projections reflect the wind-down schedule.
- ²⁵ This credit was introduced on a temporary basis in 2000 and has been extended since. It is set to expire on March 31, 2012. See the "What's New in the 2011 Report" section for details.
- ²⁶ The overall tax expenditure is negative for 2007 and subsequent years because the positive tax expenditure associated with new spending in those years is more than offset by the negative tax expenditure resulting from reclassifications that occurred in previous years. For more information, see the entry for this item in *Tax Expenditures: Notes to the Estimates/Projections 2010*.
- ²⁷ Projections for 2009 and 2010 are based on preliminary tax return information. This tax expenditure does not take into account the tax value of current-year capital losses applied against previous-year capital gains.
- ²⁸ The Tax-Free Savings Account was introduced in Budget 2008, effective January 1, 2009. The amount of the tax expenditure for this measure has been adjusted upwards for 2009 and 2010, reflecting improvements in data and methodology.
- ²⁹ Budget 2007 introduced an increase in the lifetime capital gains exemption to \$750,000 from \$500,000, effective March 19, 2007.
- ³⁰ This measure was introduced in Budget 2006, effective 2007. Budget 2007 enhanced this measure for children with disabilities.
- ³¹ The amount of the tax expenditure for this measure has been adjusted upwards for all years, reflecting improvements in data and methodology.
- ³² Budget 2010 made expenses incurred for purely cosmetic procedures ineligible for the credit (effective after March 4, 2010). Budget 2011 removed the \$10,000 limit on eligible expenses that can be claimed under the Medical Expense Tax Credit in respect of a dependent relative, effective 2011. See the "What's New in the 2011 Report" section for details.
- ³³ Budget 2006 increased the maximum amount from \$767 to \$1,000, effective 2006.
- ³⁴ The Age Credit amount was increased by \$1,000, to \$5,066 from \$4,066, in the Tax Fairness Plan (announced October 31, 2006 and confirmed in Budget 2007), effective January 1, 2006. Budget 2009 increased the amount by \$1,000, to \$6,408 from \$5,408, effective 2009.
- ³⁵ The decline in this tax expenditure in 2007 and 2009 is mainly explained by the increase in non-taxpaying seniors due to increases in the Basic Personal Amount and other non-refundable credits relevant to seniors (such as the Age Credit).
- ³⁶ Although this measure provides tax relief for individuals, it is implemented through the corporate income tax system. Tax expenditure amounts are shown under "investment income credited to life insurance policies" in the corporate income tax table.
- ³⁷ The decline in this tax expenditure in 2007 generally reflects the increase in non-taxpaying low-income earners due to increases in the Basic Personal Amount and the Eligible Dependant Amount, as well as the introduction of the Child Tax Credit. The decline in 2009 generally reflects the Budget 2009 increase in the Basic Personal Amount and related amounts.
- ³⁸ This measure was introduced in Budget 2007, effective 2008.
- ³⁹ Budget 2006 doubled the maximum amount that can be claimed under the Pension Income Credit to \$2,000 from \$1,000 for the 2006 and subsequent taxation years. The introduction of pension income splitting in 2007 increases the number of individuals claiming the Pension Income Credit and thus increases the value of this tax expenditure (i.e. spouses who previously did not have pension income, and thus could not claim the credit, now receive eligible pension income transferred from their spouse, allowing them to claim the Pension Income Credit).
- ⁴⁰ This measure, announced on October 31, 2006 in the Tax Fairness Plan and confirmed in Budget 2007, allows Canadian residents to allocate up to one-half of eligible pension income to their resident spouse or common-law partner, effective 2007.



- ⁴¹ Estimates and projections vary from those in last year's report due to changes in estimated levels of assets, contributions, investment income, capital gains/losses and withdrawals. In general, tax expenditure estimates and projections will be higher in years in which assets grow strongly, reflecting the tax forgone on that investment income, and lower in years in which assets grow slowly or decline.
- ⁴² The present-value estimates reflect the lifetime cost of a given year's contributions. This definition is different from that used for the cash-flow estimates and thus the two sets of estimates are not directly comparable. Further information on how these estimates are calculated is contained in the paper "Present-Value Tax Expenditure Estimates of Tax Assistance for Retirement Savings," which was published in the 2001 edition of this report. The present-value estimates do not reflect the potential effect of Tax-Free Savings Accounts on the average tax rate used to calculate the present value of the forgone tax on investment income.
- ⁴³ This measure was changed in Budget 2010, effective January 1, 2010.
- ⁴⁴ This measure was introduced in Budget 2009, effective January 28, 2009. The projection for 2009 is based on preliminary tax return information.
- ⁴⁵ This temporary measure was introduced in Budget 2009 for the 2009 tax year only. See note 46 of Table 1 in the 2010 edition of this publication for details.
- ⁴⁶ The estimates and projections for this tax expenditure reflect the cyclical nature of the housing market and its impact on the number of residence resales and on the average price of residences. Estimates and projections are based on housing market data and resale forecasts provided by Canada Mortgage and Housing Corporation and the Canadian Real Estate Association. Data on major additions and renovations obtained from Statistics Canada are used to estimate the average amount of capital expenditures on principal residences, which reduces the estimated amount of capital gains.
- ⁴⁷ This measure was introduced in Budget 2006, effective July 1, 2006. Budget 2007 extended the credit to electronic fare cards and weekly passes used on an ongoing basis.
- ⁴⁸ The estimates and projections include the revenue impact associated with both the enhanced Dividend Tax Credit, mainly applicable to dividends from large businesses, and the basic Dividend Tax Credit applicable to other dividends, mostly from small businesses. Budget 2008 introduced reductions in the enhanced Dividend Tax Credit rate and gross-up factor beginning in 2010 to mirror the general corporate income tax reductions introduced in the 2007 Economic Statement.
- ⁴⁹ This tax expenditure represents the revenue impact resulting from the application of prior years' capital losses against net capital gains realized in the current year.
- ⁵⁰ Estimates and projections include contributions paid to the Quebec Parental Insurance Plan, which took effect January 1, 2006. Effective in 2010, a tax credit is also provided in respect of premiums paid by a self-employed individual under the Employment Insurance Act.
- ⁵¹ The Basic Personal Amount has been increased by amounts over and above the inflation protection provided by full indexation (due to changes in Budget 2005, Budget 2006, the 2007 Economic Statement and Budget 2009).



Table 2
Corporate Income Tax Expenditures (\$ millions)*

	Estimates ¹				Projections ¹	
	2006	2007	2008	2009	2010	2011
Charities, Gifts and Political Contributions						
Deductibility of charitable donations	495	455	415	375	395	390
Donations of publicly listed securities ²						
Deductibility of donations ³	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Reduced inclusion rate for capital gains	36	55	106	34	62	67
Total tax expenditure	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Donations of ecologically sensitive land ²						
Deductibility of donations	5	3	4	11	S	5
Reduced inclusion rate for capital gains	3	22	4	10	S	5
Total tax expenditure	7	25	8	21	3	10
Donations of cultural property ²						
Deductibility of donations	19	8	6	4	19	10
Non-taxation of capital gains	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Total tax expenditure	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deductibility of gifts of medicine	–	S	S	S	S	S
Deductibility of gifts to the Crown	S	S	S	S	S	S
Non-taxation of registered charities	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of other non-profit organizations (other than registered charities)	160	175	115	90	95	85
Political Contribution Tax Credit ⁴	S	S	–	–	–	–
Culture						
Canadian Film or Video Production Tax Credit	195	210	220	230	240	255
Non-deductibility of advertising expenses in foreign media	S	S	S	S	S	S
Federal-Provincial Financing Arrangements						
Income tax exemption for provincial and municipal corporations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Transfer of income tax points to provinces	2,045	2,070	1,725	1,900	2,025	2,270
Logging Tax Credit	21	18	5	4	8	8
General Business and Investment						
Accelerated deduction of capital costs	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Capital Gains</i>						
Deferral through five-year capital gain reserve	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Partial inclusion of capital gains	5,880	5,480	4,205	2,950	3,915	3,920
Taxation of capital gains upon realization	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

* The elimination of a tax expenditure would not necessarily yield the full tax revenues shown in the table. See the publication *Tax Expenditures: Notes to the Estimates/Projections 2010* for a discussion of the reasons for this.



Table 2 (cont'd)

Corporate Income Tax Expenditures (\$ millions)*

	Estimates ¹				Projections ¹	
	2006	2007	2008	2009	2010	2011
General Business and Investment (cont'd)						
<i>Investment Tax Credits</i>						
Atlantic Investment Tax Credit						
Earned and claimed in current year	95	120	65	90	140	150
Claimed in current year but earned in prior years	70	165	75	30	40	115
Earned in current year but carried back to prior years	6	3	S	7	32	8
Total tax expenditure	171	288	142	127	212	273
Scientific Research and Experimental Development Investment Tax Credit						
Earned and claimed in current year	2,160	2,255	2,440	2,430	2,580	2,685
Claimed in current year but earned in prior years	565	990	770	775	820	855
Earned in current year but carried back to prior years	100	90	195	120	115	115
Total tax expenditure	2,825	3,335	3,405	3,325	3,515	3,655
Apprenticeship Job Creation Tax Credit						
Earned and claimed in current year	18	51	64	60	61	61
Claimed in current year but earned in prior years	S	3	10	11	13	13
Earned in current year but carried back to prior years	S	3	5	5	7	7
Total tax expenditure	19	56	80	76	81	81
Investment Tax Credit for Child Care Spaces	–	S	S	S	S	S
<i>Small Business</i>						
Deduction of allowable business investment losses	10	8	11	12	13	13
Low tax rate for small businesses ⁵	3,505	4,055	4,460	4,340	4,210	3,555
Non-taxation of provincial assistance for venture investments in small businesses	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
International						
Exemption from Canadian income tax of income earned by non-residents from the operation of a ship or aircraft in international traffic	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Exemption from tax for international banking centres ⁶	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Exemptions from non-resident withholding tax						
Dividends ⁷	1,145	1,395	2,590	1,485	1,580	1,640
Interest	2,055	1,960	1,305	1,685	1,835	1,910
Rents and royalties	225	305	270	310	330	345
Management fees	100	110	120	150	160	165
Non-taxation of life insurance companies' world income	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tax treatment of active business income of foreign affiliates of Canadian corporations and deductibility of expenses incurred to invest in foreign affiliates	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.



Table 2 (cont'd)

Corporate Income Tax Expenditures (\$ millions)*

	Estimates ¹				Projections ¹	
	2006	2007	2008	2009	2010	2011
Sectoral Measures						
<i>Farming</i>						
Cash basis accounting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of income from destruction of livestock	S	S	S	S	S	S
Deferral of income from sale of livestock during drought, flood or excessive moisture years ⁸	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of income from grain sold through cash purchase tickets	-8	-25	-26	8	-6	-9
Flexibility in inventory accounting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Agricultural co-operatives—patronage dividends issued as shares	3	3	7	5	4	4
AgriInvest (farm savings account) ⁹	—	—	3	S	3	3
Agri-Québec (farm savings account) ¹⁰	—	—	—	—	—	S
Exemption for farmers' and fishers' insurers	7	4	S	5	7	6
<i>Natural Resources</i>						
Corporate Mineral Exploration and Development Tax Credit	5	15	25	17	24	26
Deductibility of contributions to a qualifying environmental trust ¹¹	3	S	S	S	S	S
Earned depletion ¹²	48	6	4	S	11	11
Net impact of the resource allowance and the limited deductibility of Crown royalties and mining taxes ¹³	17	S	—	—	—	—
Tax rate on resource income ¹⁴	-430	-30	—	—	—	—
Transitional arrangement for the Alberta Royalty Tax Credit ¹⁵	S	S	—	—	—	—
Flow-through share deductions	110	120	75	70	65	60
Reclassification of expenses under flow-through shares ¹⁶	-5	-3	-4	-3	S	S
<i>Other Sectors</i>						
Exemption from branch tax for transportation, communications, and iron ore mining corporations	7	5	5	5	14	15
Film or Video Production Services Tax Credit	115	95	100	100	105	110
Low tax rate for credit unions	62	73	84	75	73	60
Surtax on the profits of tobacco manufacturers ¹⁷	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Other Items						
Deductibility of countervailing and anti-dumping duties	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deductibility of earthquake reserves	S	S	S	S	S	S
Deferral through use of billed-basis accounting by professional corporations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Holdback on progress payments to contractors ¹⁸	79	59	60	42	39	39
Investment income credited to life insurance policies	295	280	270	275	260	275
Tax status of certain federal Crown corporations ¹⁹	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.



Table 2 (cont'd)
Corporate Income Tax Expenditures (\$ millions)*

	Estimates ¹				Projections ¹	
	2006	2007	2008	2009	2010	2011
Memorandum Items						
<i>Avoidance of Double Taxation—Integration of Personal and Corporate Income Tax</i>						
Investment corporation deduction	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Refundable capital gains for investment and mutual fund corporations	415	430	89	51	185	185
Refundable taxes on investment income of private corporations						
Additional Part I tax ²⁰	-1,945	-2,145	-2,355	-1,855	-2,035	-2,245
Part IV tax	-2,650	-3,065	-4,675	-4,820	-3,725	-3,800
Dividend refund	5,445	6,080	8,170	8,425	7,010	7,145
Net tax expenditure	850	870	1,140	1,750	1,250	1,100
<i>Loss Offset Provisions</i>						
Capital loss carry-overs						
Net capital losses carried back	78	205	510	410	260	170
Net capital losses applied to current year	590	755	465	270	460	445
Farm and fishing loss carry-overs						
Farm and fishing losses carried back	14	13	15	17	20	18
Farm and fishing losses applied to current year	57	39	37	47	40	35
Non-capital loss carry-overs						
Non-capital losses carried back	1,720	2,140	6,145	3,240	2,680	2,115
Non-capital losses applied to current year	4,495	4,800	3,770	4,215	3,790	3,295
<i>Other</i>						
Deferral through capital gains rollovers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deduction for intangible assets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Partial deduction of meals and entertainment expenses	325	340	305	255	280	275
Patronage dividend deduction	360	475	420	340	315	295

Notes:

- ¹ Unless otherwise indicated in the footnotes, changes in the estimates and projections from those in last year's report, as well as variations from year to year, result from new data and changes in the economic variables affecting the tax expenditures. Changes from last year's report may also reflect the availability of new data sources as well as methodological improvements, in which case the estimates and projections presented in this year's publication may not be comparable to those published in previous reports. Estimates and projections also reflect the impact of reductions in the general corporate income tax rate from 21% to 19.5% on January 1, 2008, 19.0% on January 1, 2009, 18.0% on January 1, 2010 and 16.5% on January 1, 2011. The 4% corporate surtax (equivalent to a 1.12% corporate income tax rate) was eliminated on January 1, 2008. Further details on the tax expenditures presented in this table are available in *Tax Expenditures: Notes to the Estimates/Projections 2010*.
- ² The total tax expenditure cost of donations of these types of assets has two components: the revenue forgone as a result of the reduced inclusion rate and the cost of the deductibility of charitable donations. Budget 2006 reduced the inclusion rate for capital gains on donations of publicly listed securities and ecologically sensitive land from 25 per cent to zero, effective May 2, 2006. Budget 2007 extended this provision to include donations of eligible securities to private foundations, effective March 19, 2007.
- ³ There are no data available that allow this tax expenditure to be separated from the "deductibility of charitable donations" category. Therefore, the value of this tax expenditure is included under "deductibility of charitable donations."
- ⁴ The Federal Accountability Act prohibits political contributions from corporations as of January 1, 2007. Some tax expenditure occurred in 2007, however, as many firms reporting income in the 2007 tax year earned a portion of that income in the 2006 calendar year.



- ⁵ The amount of this tax expenditure reflects the impact of Budget 2006 and Budget 2009, which increased the amount of small business income eligible for the lower tax rate, and Budget 2004, which accelerated the Budget 2003 increase. In addition, Budget 2006 reduced the small business tax rate and the 2007 Economic Statement accelerated the rate reduction. The lower tax expenditure for 2007 compared to last year's report reflects an improvement in data and methodology. The reduction in the tax expenditure between 2008 and 2011 partly reflects the reduction in the general corporate income rate.
- ⁶ For confidentiality reasons, estimates and projections are not published.
- ⁷ This category includes the tax expenditure attributable to the exemption of estate and trust income distributions, including distributions by income trusts.
- ⁸ This measure was expanded to include prescribed flood or excessive moisture regions on March 5, 2009.
- ⁹ This measure was introduced in Budget 2007. In December 2007, agreements were signed with the provinces to implement the program and the disbursement of funds began.
- ¹⁰ This measure was introduced in Budget 2011. See the "What's New in the 2011 Report" section for details.
- ¹¹ The measure was expanded in Budget 2011 to include trusts that are required to be established to fund reclamation costs associated with pipelines, applicable to trusts established after 2011. No impact on the tax expenditure is anticipated from these changes until 2015. See the "What's New in the 2011 Report" section for details.
- ¹² Additions to earned depletion pools were eliminated as of January 1, 1990. The tax expenditure reflects use of the existing earned depletion pools.
- ¹³ The tax expenditure is the revenue cost of the resource allowance net of non-deductible Crown royalties and provincial mining taxes. Over a five-year period beginning in 2003, the resource allowance was phased out and a deduction for Crown royalties and mining taxes phased in, so that by 2007, this tax expenditure is eliminated. Costs for 2007 relate to companies with a tax year that ends on a date other than December 31, for which the 2007 tax year includes a portion of calendar year 2006.
- ¹⁴ The tax rate on resource income was reduced to the general corporate income tax rate over a five-year phase-in period beginning in 2003. Although the separate rate for resource income was eliminated as of 2007, there are still revenues in that year associated with companies having a tax year that ends on a date other than December 31, for which the 2007 tax year includes some income earned in calendar year 2006.
- ¹⁵ The Alberta government announced on September 21, 2006 that the Alberta Royalty Tax Credit (ARTC) program would be discontinued effective January 1, 2007. Although the ARTC no longer exists as of 2007, there are still small costs in that year associated with the related federal transitional measure for companies with off-calendar taxation years, for which the 2007 tax year includes some royalty credits earned in 2006.
- ¹⁶ The overall tax expenditure is negative for 2006 and subsequent years because the positive tax expenditure associated with new spending in those years is more than offset by the negative tax expenditure resulting from reclassifications that occurred in previous years.
- ¹⁷ For confidentiality reasons, estimates and projections are not published.
- ¹⁸ The amount of the tax expenditure for this measure has been adjusted for all years, reflecting improvements in data and methodology.
- ¹⁹ For confidentiality reasons, estimates and projections are not published.
- ²⁰ This item includes the additional 6 $\frac{2}{3}$ % refundable tax on investment income as well as the Part I tax paid on investment income in excess of the benchmark rate.



Table 3
GST Tax Expenditures (\$ millions)*

	Estimates ¹				Projections ¹	
	2006 ²	2007	2008 ²	2009	2010	2011
Status Indians and Aboriginal Self-Governments						
Non-taxation of personal property of status Indians and Indian bands on reserve	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Refunds for Aboriginal self-governments	5	5	5	5	5	5
Business						
Exemption for domestic financial services	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Exemption for ferry, road and bridge tolls ³	20	20	20	20	20	20
Exemption and rebate for legal aid services	25	25	20	20	25	25
Non-taxability of certain importations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Rebate for foreign visitors ⁴	70	20	–	–	–	–
Rebate for foreign conventions and tour packages ⁴	–	5	10	10	10	10
Small suppliers' threshold ³	185	180	155	150	160	165
Zero-rating of agricultural and fish products and purchases	S	S	S	S	S	S
Zero-rating of certain purchases made by exporters	S	S	S	S	S	S
Charities and Non-Profit Organizations						
Exemption for certain supplies made by charities and non-profit organizations	810	825	740	760	785	810
Rebate for registered charities	310	295	270	260	275	290
Rebate for qualifying non-profit organizations	75	70	70	70	75	80
Education						
Exemption for educational services (tuition)	520	505	445	460	475	490
Rebate for book purchases made by qualifying public institutions	30	25	25	25	25	25
Rebate for colleges	80	85	75	80	85	90
Rebate for schools	430	415	360	370	405	420
Rebate for universities	260	245	220	225	250	260
Health Care						
Exemption for health care services	605	620	580	605	635	670
Rebate for hospitals	515	525	485	515	570	590
Zero-rating of medical devices	190	190	165	175	185	195
Zero-rating of prescription drugs	725	720	630	660	695	740
Households						
Exemption for child care and personal services	140	135	120	130	135	145
GST/HST Credit	3,450	3,490	3,555	3,645	3,755	3,865
Zero-rating of basic groceries	3,635	3,515	3,105	3,290	3,455	3,680

* The elimination of a tax expenditure would not necessarily yield the full tax revenues shown in the table. See the publication *Tax Expenditures: Notes to the Estimates/Projections 2010* for a discussion of the reasons for this.



Table 3 (cont'd)
GST Tax Expenditures (\$ millions)*

	Estimates ¹				Projections ¹	
	2006 ²	2007	2008 ²	2009	2010	2011
Housing						
Exemption for sales of used residential housing and other personal-use real property	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Exemption for residential rent (long-term)	1,305	1,300	1,165	1,200	1,240	1,275
Rebate for new housing	985	850	690	595	675	705
Rebate for new residential rental property	50	60	55	50	60	60
Municipalities						
Exemption for municipal transit	165	165	150	155	160	165
Exemption for water and basic garbage collection services	240	240	220	225	235	240
Rebate for municipalities	1,810	1,805	1,745	1,890	2,080	2,160
Memorandum Items						
<i>Recognition of Expenses Incurred to Earn Income</i>						
Rebate to employees and partners	105	95	80	75	80	85
<i>Other</i>						
Partial input tax credits for meals and entertainment expenses	155	150	130	120	120	125

Notes:

- ¹ Unless otherwise indicated in the footnotes, changes in the estimates and projections from those in last year's report, as well as variations from year to year, result from new data and changes in the economic variables affecting the tax expenditures. Changes from last year's report may also reflect the availability of new data sources as well as methodological improvements, in which case the estimates and projections presented in this year's publication may not be comparable to those published in previous reports. Further details on the tax expenditures presented in this table are available in *Tax Expenditures: Notes to the Estimates/Projections 2010*.
- ² The GST rate was lowered from 7% to 6% effective July 1, 2006, and to 5% effective January 1, 2008. These rate reductions have the effect of lowering the cost of tax expenditures starting in 2006 from what they otherwise would have been. This is not true of the GST/HST Credit, however, since it was unaffected by the rate reductions.
- ³ The amount of the tax expenditure has been adjusted for all years, reflecting improvements in methodology.
- ⁴ The Visitors' Rebate Program (VRP) was replaced by the Foreign Convention and Tour Incentive Program effective April 1, 2007. Estimates for the VRP do not include amounts credited by suppliers at the point of sale.

Part 2
Tax Evaluations
and Research Reports

**Distributional Impact of the
Federal Personal Income Tax System and Refundable Credits:
Analysis by Income, Sex, Age and Family Status**



Introduction

The federal personal income tax system is progressive—that is, a taxfiler’s effective tax rate increases with income and higher-income taxfilers have higher average tax rates than lower-income taxfilers. In a progressive tax system, higher-income taxfilers bear a proportionally greater income tax burden than lower-income taxfilers.

This study analyzes the degree of progressivity of the federal personal income tax system and its impact on the distribution of income in Canada. Analyzing the distributional impact of the federal personal income tax system is of particular interest because personal income taxes, on average, represent more than 55% of federal tax revenues and about 45% of total federal revenues.¹ Studies have also shown that the personal income tax plays an important role in income redistribution.²

This study presents an analysis of the before- and after-tax income of Canadian taxfilers in 2008, the latest year for which data is available.³ Thus it takes into account measures that took effect in 2008 or earlier—for example, the Child Tax Credit, the Working Income Tax Benefit (WITB) and pension income splitting—but not those effective after 2008, such as the enrichment of the WITB announced in Budget 2009. It also takes into account the Canada Child Tax Benefit (CCTB) and the Goods and Services Tax (GST) Credit, two income-tested refundable credits that are delivered through the personal income tax system.⁴ The impact of the personal income tax system on income distribution is analyzed by income, sex, age and family status.

It is generally accepted that the personal income tax burden is borne primarily by the individuals paying the tax, but this may not always be the case. For example, given their international mobility, highly skilled professionals may receive additional compensation from their employers for taxes payable in a given country.⁵ For the purposes of this study, it is assumed that the personal income tax burden, rather than being shifted, is borne by those who pay the tax.

Also, with the exception of pension income splitting, the analysis presented in this study is based on the assumption that each taxfiler is an independent economic agent.⁶ Economic transfers occurring between taxfilers (e.g., spouses that pool their incomes and pay common expenses out of this pooled income) are not taken into account given the lack of information on the nature and magnitude of these transfers. Depending on circumstances, the results presented in this study could be different if such transfers were taken into account.

¹ See Department of Finance Canada, *Fiscal Reference Tables*, October 2011, Table 3.

² See Dagmar Dyck, “Fiscal Redistribution in Canada, 1994–2000,” *Canadian Tax Journal*, vol. 5(4), 2005, pp. 974–1006; and Marie-Anne Deussing, *Federal Taxes and Transfers Across Canada: Impact on Families*, Department of Finance Canada, Working Paper 2003-21, October 2003.

³ Methodological details on the main variables used in the study are discussed in the annex. All amounts are in 2008 dollars. Figures in tables may not add up to totals due to rounding.

⁴ In this study, references to the personal income tax system include these two credits.

⁵ See Jonathan R. Kesselman and Ron Cheung, “Taxation Impacts on Inequality in Canada: Methodologies and Findings,” in David A. Green and Jonathan R. Kesselman, *Dimensions of Inequality in Canada*, UBC Press, 2006, p. 389 ff.

⁶ The tax benefits resulting from pension income splitting are assumed to be shared equally by spouses. See the discussion in the annex.



The distributional impact of some tax measures may change from year to year, notably because of the business cycle. These measure-specific variations, which would not be captured in this study, may not necessarily have a significant distributional effect overall. For instance, while the year 2008 was marked by an economic slowdown, comparisons with prior years show that this did not significantly affect the overall distributional impact of the tax system and of its main components.

Individuals are affected differently by the tax system at different stages of their lives, in particular because their financial situation and family status change over time and because different components of the tax system benefit different age groups. The analysis presented in this paper focuses on one specific taxation year, using a very large sample of taxfilers. As such, while the analysis does not follow taxfilers over time, it does provide a representative snapshot of the effect of the tax system on the various types or profiles of taxfilers that currently form the population.

In assessing the distributional impact of the tax system, it is important to keep in mind that income redistribution is only one of many outcomes of the tax system. The key objective of a tax system is to raise tax revenues in a way that is fair, simple and economically efficient. Most of the credits, deductions and other specific rules that make up the tax system were put in place to achieve this general objective. For instance, the tax system contains a number of personal deductions and tax credits to recognize that some individuals have a reduced ability to pay tax due to certain non-discretionary expenses, such as above-average medical expenses, and that others must incur costs to earn income. Other measures may serve structural purposes such as avoiding double taxation or recognizing prior-year losses. Nevertheless, most tax measures will have an impact on the distribution of income among taxfilers. It is also important to recognize that the tax system is only one mechanism through which the Government can redistribute income and that there are many government programs providing benefits to lower-income Canadians.

The highlights of this study are as follows. The federal personal income tax system is progressive overall, largely because of the progressive statutory tax rate structure (including the Basic Personal Amount) and, to a lesser extent, the GST Credit and the CCTB. The remaining credits, deductions and rules that make up the tax system have a small overall impact on the distribution of income. The tax system also changes the distribution of income among different groups of taxfilers, in particular to the benefit of women, youth, seniors and members of single-parent families.

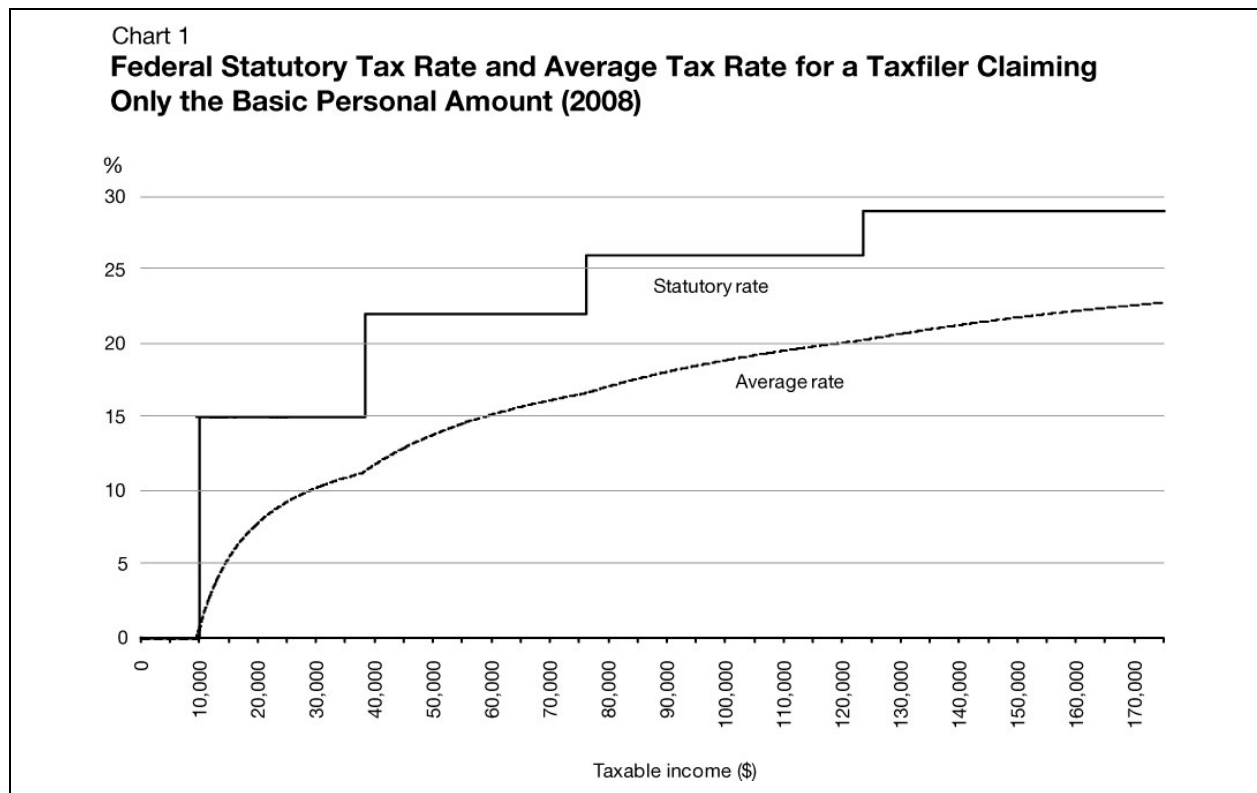
This study is divided into three parts. The first part presents an analysis of the progressivity of the federal personal income tax system. The second part discusses the impact of the personal income tax system as a whole on the distribution of income among taxfilers grouped by income class as well as by sex, age, and family status. The third part discusses the distributional impact of the main components of the federal personal income tax system (e.g., tax rates, deductions and credits).



Progressivity of the Federal Personal Income Tax System

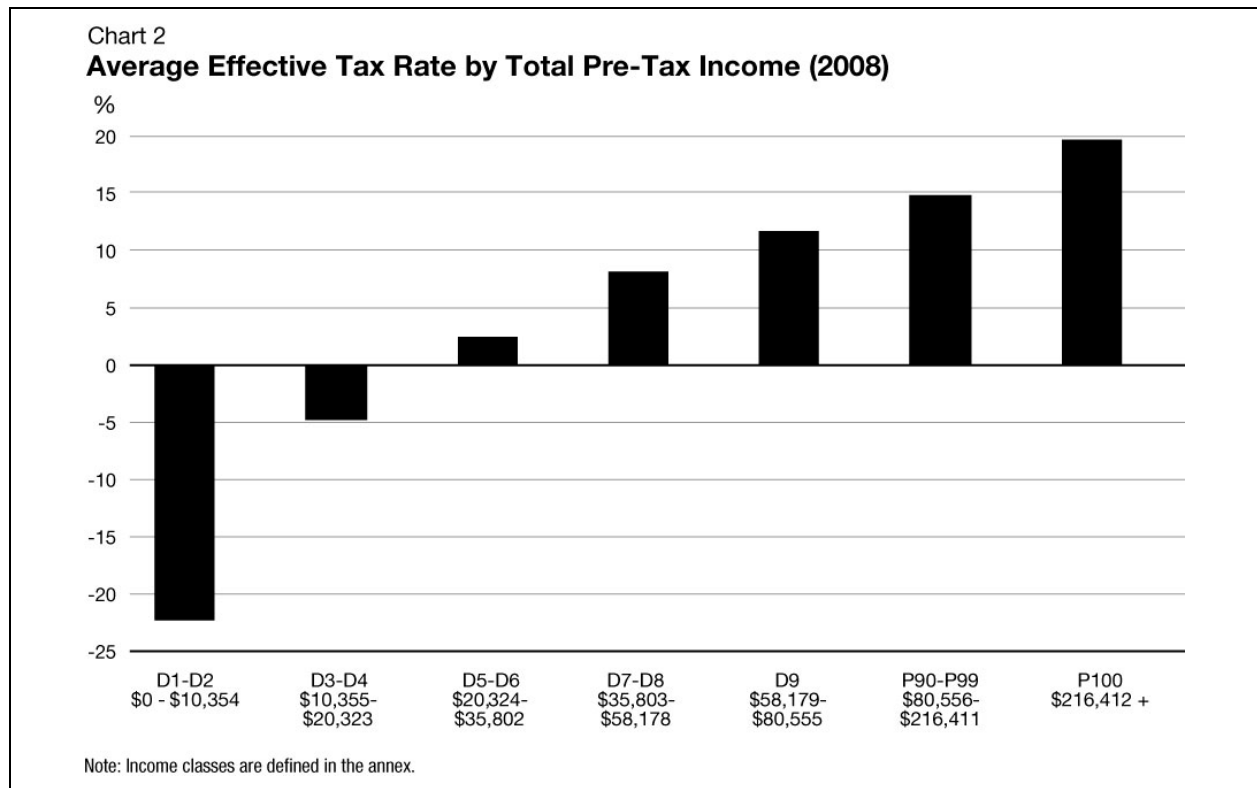
Various components of the federal personal income tax system contribute to its progressivity. First, individuals are taxed according to a progressive tax rate structure, in which the tax rate increases at specified taxable income thresholds. Since 2001, there have been four tax rates applicable to taxable income thresholds that are generally indexed annually to inflation. In addition, taxpayers may claim the Basic Personal Amount (also generally indexed annually to inflation) as a credit, which effectively exempts taxable income below this amount, thus creating a fifth tax rate (0%).

Chart 1 shows the statutory tax rates and tax brackets for 2008 (taking into account the Basic Personal Amount), as well as the average tax rate of a taxpayer claiming the Basic Personal Amount, but no other exemption, deduction or credit. A taxpayer's average tax rate is generally lower than the statutory tax rate that applies to the last dollar of taxable income earned by this taxpayer. This is due to the exemptions, deductions and credits that may be claimed as well as the fact that the first dollars of taxable income are subject to tax rates that apply to the lower-income tax brackets. The average tax rate gradually increases with taxable income (which, by assumption, is equal here to this taxpayer's total income), progressively approaching the tax rate applicable to the highest tax bracket.





An examination of aggregate average tax rates for all taxfilers reveals a similar pattern when the impact of the overall federal personal income tax system is considered, that is when, in addition to statutory tax rates and the Basic Personal Amount, all of the deductions and credits actually claimed by taxfilers are taken into account. As shown in Chart 2, the personal income tax system is progressive overall—in 2008, the average effective tax rate (equal to the total taxes paid less refundable tax credits, divided by pre-tax income) increased from -22.3% for taxfilers who had the lowest pre-tax incomes (deciles D1 and D2) to 19.7% for taxfilers in the highest percentile (P100), that is, those with the highest pre-tax incomes. Negative effective tax rates reflect the refundable tax credits that taxfilers can claim, as is further explained in the next section.



Overall Impact of the Income Tax System on the Distribution of Income

A progressive tax system such as the federal personal income tax system has an impact on the distribution of income among taxfilers with different incomes. This impact can also be seen on the distribution of income among different groups of taxfilers, for example, between men and women or between people in different age groups. This can occur if these groups have different average pre-tax incomes or if certain aspects of the tax system apply only to certain groups, regardless of their income (for example, when a credit is available only to taxfilers with children).

This section presents an analysis of the overall impact of the federal personal income tax system on the distribution of income among taxfilers. Absolute changes in income due to taxes are discussed first, followed by changes in income distribution among groups of taxfilers.



Absolute Changes in Income

A first step in analyzing the tax system's impact on the distribution of income is to consider its impact on taxfilers' income in "absolute" terms, that is, how much their income increases or decreases as a result of the tax system. Table 1 classifies all taxfilers in 2008 into three groups:

- Those who paid a net positive amount of tax;
- Those who benefited from refundable tax credits in excess of their tax payable, so that they received a net positive transfer through the federal personal income tax system; and,
- Those whose income did not change (zero tax payable, or tax payable equal to refundable credits).

The box below provides examples of taxfilers in each of these three situations.

Examples of the Impact of the Personal Income Tax System on Income for 2008

Example 1: An individual who paid a net positive amount of tax

A single individual without children had pre-tax employment income of \$68,000 and contributed \$8,100 to a Registered Retirement Savings Plan. This individual paid about \$8,500 in tax after claiming tax credits for the Basic Personal Amount, the Canada Employment Amount, Employment Insurance premiums and contributions to the Canada Pension Plan. This individual was not eligible for any income-tested benefits (e.g., the GST Credit). The after-tax income of this individual was \$59,500 (\$68,000 - \$8,500), which was 12.5% lower than pre-tax income. This individual's effective tax rate for 2008 was therefore 12.5%.

Example 2: An individual who received a net positive transfer

A single mother with one child had pre-tax employment income of \$14,500 and received \$1,200 in Universal Child Care Benefits. She was entitled to a number of tax credits (including those for the Basic Personal Amount and the amount for an eligible dependant, as well as those related to employment), which reduced her tax liability to zero. In addition, she received about \$5,060 in income-tested benefits (including the GST Credit, CCTB and WITB). Her after-tax income was \$20,760 (\$14,500 + \$1,200 + \$5,060), which was 32% higher than her income before tax. This individual's effective tax rate for 2008 was therefore -32%.

Example 3: An individual whose income did not change

An individual had \$16,000 in pre-tax income and was entitled to claim sufficient credits to reduce her tax liability to zero. This individual did not receive any income-tested benefits because her spouse is a high-income earner. Overall, this individual's income was unchanged by the tax system. This individual's effective tax rate for 2008 was therefore 0%.

The results show that more than 30% of all taxfilers saw an increase in their total income as a result of the application of the federal personal income tax system. In total, these taxfilers received about \$12.1 billion in net transfers, the equivalent of 11.6% of their total pre-tax income. Nearly 12% of taxfilers were unaffected by the tax system, neither paying tax nor receiving a transfer.



Table 1
Tax Status of Taxfilers (2008)

	Number of Taxfilers (thousands)	Number of Taxfilers (% of total)	Pre-Tax Income (\$ billions)	Tax Paid (\$ billions)	After-Tax Income (\$ billions)
Total	24,908	100.0	1,015.7	95.8	919.9
Paid net tax	14,309	57.4	880.5	107.8	772.6
Received a net positive transfer	7,697	30.9	103.7	-12.1	115.7
Other (zero tax/zero net transfer)	2,902	11.7	31.5	0.0	31.5

Table 2 classifies taxfilers according to how much their income changed due to taxes. About 2 million taxfilers saw their income increase by more than 15%. More than 60% of this group is made up of low-income women. Those whose income fell by more than 15% were primarily in the two highest deciles (D9 and D10), and three-quarters of them were men.

Table 2
Impact of the Tax System on Income, by Sex and Pre-Tax Income Decile (2008) (thousands)

Change in Income	Number of Taxfilers		
	Total	Men	Women
Total	24,908	12,124	12,784
Increase of more than 15%	2,061	599	1,462
D1-D4	1,831	534	1,297
D5-D8	230	65	164
D9-D10	0	0	0
Increase of 15% or less	5,636	2,331	3,304
D1-D4	4,507	1,860	2,647
D5-D8	1,111	461	650
D9-D10	17	10	7
No change	2,902	1,220	1,683
D1-D4	2,556	993	1,563
D5-D8	313	205	108
D9-D10	34	21	12
Decrease of 15% or less	12,872	6,875	5,997
D1-D4	1,068	441	627
D5-D8	8,308	4,244	4,064
D9-D10	3,496	2,190	1,307
Decrease of more than 15%	1,437	1,099	337
D1-D4	1	0	1
D5-D8	2	1	1
D9-D10	1,434	1,098	336

Note: Income classes are defined in the annex.



About 7.7 million taxfilers received a positive transfer in 2008 through the tax system, in large part because of the CCTB and the GST Credit. Without the CCTB and the GST Credit, only 1.7 million of these 7.7 million taxfilers would have still received a positive transfer (see Table 3).

Table 3
**Taxfilers Receiving a Net Positive Transfer and
 Situation Excluding the CCTB and GST Credit (2008)**

	Number of Taxfilers	
	(thousands)	(% of total)
Taxfilers receiving a net positive transfer	7,697	100.0
<i>Situation of these taxfilers excluding the CCTB and GST Credit:</i>		
Receive a net positive transfer	1,746	22.7
Pay net tax	1,090	14.2
Other (zero tax/zero net transfer)	4,860	63.1

Changes in the Distribution of Income Among Taxfilers

Chart 3 and Table 4 summarize the aggregate impact of the federal personal income tax system on the distribution of income among various groups of taxfilers. Chart 3 shows the changes due to taxes (in percentage points) in the share of total income for various groups of taxfilers, as well as their average effective tax rates; Table 4 shows the changes in percentage terms. The main results are as follows:

- Taxfilers in the two highest deciles (D9 and D10), that is, those with the highest pre-tax incomes, saw a decrease in their share of total income. Taxfilers in the first eight deciles saw an increase in their share of income.
- The share of total income rose by 1.39 percentage points for women as a result of the application of the tax system.
- The share of total income increased for taxfilers under age 45 and for those age 65 and older, while it fell for taxfilers age 45 to 64.
- Taxfilers in families with two income-earning spouses (two-earner families), a greater proportion of whom are in the upper deciles, saw a decrease in their share of total income, while taxfilers in all other types of families—particularly single-parent families—saw their share of total income increase.
- Men in the two highest deciles experienced a larger decrease in their share of total income than women in the same deciles (see Table 4), reflecting the higher average income of men in these two deciles.
- As a whole, women under age 45 in the four lowest deciles saw the largest percentage increase in their share of total income (see Table 4).



Chart 3
Percentage Point Changes in the Share of Total Income Due to Taxes and
Average Effective Tax Rate by Group of Taxfilers (2008)

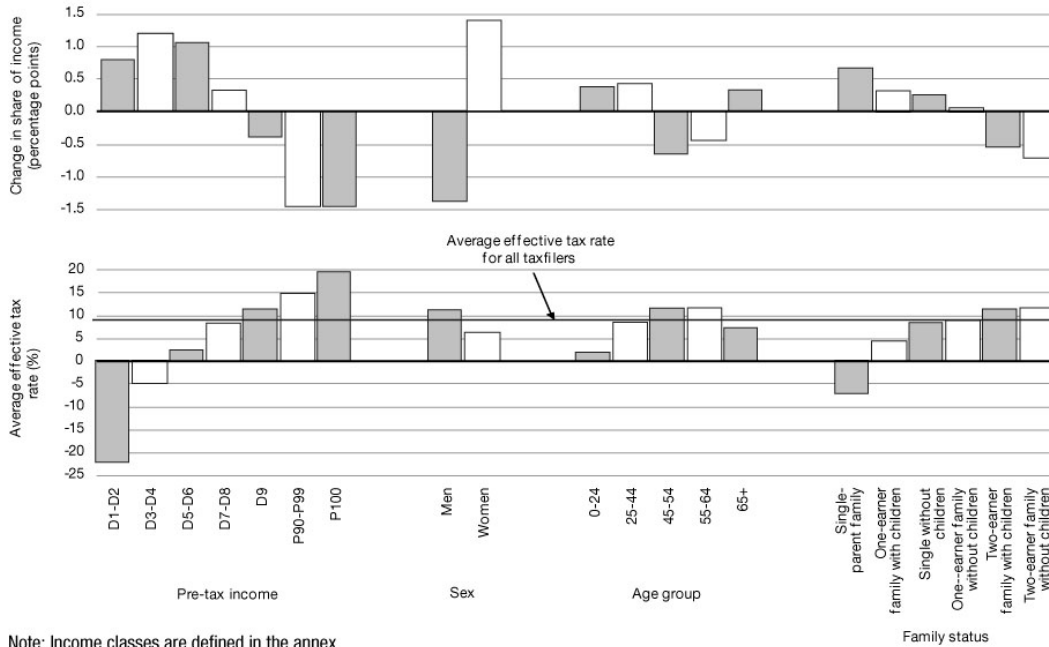


Table 4
Changes in the Share of Total Income Due to Taxes,
by Sex, Age and Pre-Tax Income (2008) (%)

Sex and Pre-Tax income	Overall Change in Share	Age Group		
		<45	45-64	65+
Men—Total	-2.3	-0.9	-4.2	0.1
D1-D4	16.9	19.0	17.6	12.6
D5-D8	3.1	3.1	2.3	4.5
D9	-2.6	-2.7	-2.5	-2.5
P90-P99	-6.3	-6.5	-6.3	-4.8
P100	-11.9	-12.7	-12.3	-9.5
Women—Total	3.5	6.3	0.4	4.6
D1-D4	22.3	31.7	18.0	13.1
D5-D8	4.5	5.8	2.8	5.1
D9	-2.2	-2.0	-2.3	-2.2
P90-P99	-5.2	-5.5	-5.3	-3.6
P100	-9.0	-10.8	-9.8	-5.8

Note: Income classes are defined in the annex.



Table 5 compares the proportion of taxfilers within various groups whose share of total income increased or decreased by less than 5% as a result of the personal income tax system with those whose share increased or decreased by 5% or more. About three-quarters of the taxfilers whose share of income decreased significantly (i.e., by 5% or more) were men; consequently, a greater proportion of men than women saw their share of income decrease significantly. A large majority of taxfilers age 65 or older saw their share of income increase significantly. More than 40% of taxfilers in the two highest deciles saw their share of income decrease significantly, while more than 95% of taxfilers in the four lowest deciles saw their share increase significantly.

Table 5
Distribution of the Number of Taxfilers by Change in Share of Income (2008)

Group	Change in Share of Income			Total
	Increased by 5% or More	Increased or Decreased by Less Than 5%	Decreased by 5% or More	
By sex				
Men	44.8	42.3	12.9	100.0
Women	61.6	34.2	4.3	100.0
By age group				
Under age 45	57.0	35.9	7.0	100.0
45 to 64	39.7	48.0	12.3	100.0
65 and older	70.8	24.5	4.7	100.0
By pre-tax income				
D1-D4	95.3	4.7	0.0	100.0
D5-D8	36.3	63.6	0.1	100.0
D9-D10	4.0	54.0	42.1	100.0

Note: Income classes are defined in the annex.

Tables 6a and 6b provide a breakdown of the 5% of all taxfilers who experienced the largest percentage increases and decreases in their share of total income as a result of the personal income tax system. Close to 40% of taxfilers whose share of total income increased the most were women in the lower deciles who were either in single-parent families or in families with one income earner (one-earner families) with children. More than 70% of taxfilers whose share of total income decreased the most were men in the highest decile—primarily men in two-earner families or single men without children.



Table 6a

Taxfilers With the Greatest Increase in Share of Total Income (2008)

	Number of Taxfilers (thousands)	Share of Total Income	
		Before Tax (%)	After Tax (%)
Taxfilers in deciles D1 and D2			
In single-parent families			
Women age 25 to 44	110.4	0.054	0.152
Other women	74.6	0.036	0.085
Men	16.4	0.007	0.017
In one-earner families with children			
Men	110.2	0.037	0.121
Women	298.3	0.076	0.270
In one-earner families without children			
Men	43.4	0.001	0.004
Women	131.6	0.006	0.020
Single individuals without children			
Men	147.8	0.001	0.005
Women	122.0	0.001	0.004
Other taxfilers	5.4	0.005	0.012
Taxfilers in deciles D3 and D4 age 25 to 44 in families with children	127.1	0.178	0.331
Other taxfilers	58.1	0.095	0.169

Table 6b

Taxfilers With the Greatest Decrease in Share of Total Income (2008)

	Number of Taxfilers (thousands)	Share of Total Income	
		Before Tax (%)	After Tax (%)
Taxfilers in the highest percentile			
Men in two-earner families	106.7	5.638	4.790
Other men	52.9	2.628	2.236
Women	38.1	1.649	1.414
Taxfilers in the highest decile (excluding the highest percentile)			
Single men without children	165.4	1.899	1.724
Men in two-earner families	459.8	5.703	5.178
Men age 25 to 64 in one-earner families	105.7	1.415	1.283
Women age 25 to 64 who are single without children or in two-earner families	186.5	2.263	2.059
Other taxfilers in the highest decile	50.7	0.642	0.584
Other taxfilers	79.4	0.580	0.540

Note: Income classes are defined in the annex.



Distributional Impact of the Income Tax System by Major Component

This section analyzes the impact of the progressive tax rate structure and of the other major components (deductions, credits, etc.) of the federal personal income tax system on the distribution of income among taxpayers. The progressivity of a tax system and, more generally, its impact on the distribution of income, is a function of both the progressivity of the tax rate structure and the distribution among taxpayers of tax reductions resulting from deductions, credits and other measures that make up the tax system.

Table 7 shows the distributional impacts of the main components of the federal personal income tax system as measured by changes in the Gini coefficient,⁷ while Table 8 shows changes in the distribution of income for different groups of taxpayers attributable to each component.

The most significant changes in income distribution are due to the progressive tax rate structure (including the Basic Personal Amount) and, to a lesser extent, the CCTB and GST Credit. The progressive tax rate structure alone accounts for about three-quarters of the decrease in the Gini coefficient and most of the redistribution of income that occurs between the groups of taxpayers listed in Table 8. Furthermore, the progressive distributional impact of the tax rate structure is entirely attributable to its direct impact on tax payable (i.e., to the fact that higher-income taxpayers pay tax on their income at higher tax rates), since its indirect interactions with the rules that determine taxable income result in a small increase in the Gini coefficient.⁸ Tax credits other than the Basic Personal Amount, the CCTB and the GST Credit contribute less than 10% to the overall progressivity of the tax system, in part because the Basic Personal Amount must be claimed before other credits and because taxpayers may not have sufficient tax owing to fully utilize those credits.

⁷ The Gini coefficient measures the degree of inequality in the distribution of income among individuals or groups of individuals. This index can range from 0 (equal distribution) to 1 (maximum inequality). Overall, the federal personal income tax system reduces the Gini coefficient from 0.5197 to 0.4764—a reduction of 0.0433 or approximately 8%.

⁸ These interactions arise because measures that reduce taxable income provide a greater benefit to higher-income taxpayers in a tax system with a progressive rate structure. These interaction effects are evident in the “adjustments to pre-tax income” and “deductions” rows of the middle column in Table 7.



Table 7

Change in the Gini Coefficient Attributable to Major Components of the Tax System (2008) (change in Gini coefficient)

Change due to:	Impact Calculated Under a Non-Progressive Tax Rate Structure	Additional Impact Resulting From the Progressive Tax Rate Structure ¹	Overall Impact
Tax rate structure	n/a	-0.0308	-0.0308
Of which: Basic Personal Amount	n/a	-0.0130	-0.0130
Adjustments to pre-tax income ²	0.0007	-0.0010	-0.0003
Deductions	-0.0006	0.0029	0.0023
Non-refundable credits	-0.0027	n/a	-0.0027
CCTB	-0.0079	n/a	-0.0079
GST Credit	-0.0032	n/a	-0.0032
Other refundable credits ³	-0.0007	n/a	-0.0007
Overall impact of the tax system	-0.0144	-0.0289	-0.0433

¹ Difference between the impacts calculated using existing progressive rates and using a single rate of 18.9% (see the annex for information on how this rate was calculated).

² The following rules are taken into account: partial inclusion of capital gains, gross-up of dividends from taxable Canadian corporations and pension income splitting.

³ Includes the WITB, the Refundable Medical Expense Supplement, the refund of investment tax credits and the tax credit for trust income in Part XII.2 of the Income Tax Act.



Table 8

**Changes in Distribution of Income Among Taxfiler Groups Attributable to Major Components of the Tax System (2008)
(percentage points, unless otherwise indicated)**

	By Sex		By Age Group			By Pre-Tax Income		
	Men	Women	<45	45-64	65+	D1-D4	D5-D8	D9-D10
Initial distribution of pre-tax income (%)	60.6	39.4	39.6	44.5	15.9	9.7	36.0	54.2
Progressive tax rate structure	-0.9	0.9	0.6	-0.8	0.2	1.2	1.7	-2.9
Of which: Basic Personal Amount	-0.3	0.3	0.2	-0.3	0.1	0.7	0.3	-1.0
Adjustments to pre-tax income ¹								
Calculated using a single tax rate	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.1
Additional impact of progressive tax rate structure ²	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-0.1
Deductions								
Calculated using a single tax rate	-0.1	0.1	-0.1	0.1	0.0	0.2	-0.2	0.1
Additional impact of progressive tax rate structure ²	0.1	-0.1	0.0	0.1	0.0	-0.1	-0.2	0.3
Non-refundable credits	-0.1	0.1	-0.1	-0.2	0.4	0.2	0.1	-0.2
CCTB	-0.3	0.3	0.5	-0.3	-0.2	0.6	0.0	-0.5
GST Credit	-0.1	0.1	0.1	-0.1	0.0	0.2	0.0	-0.2
Other refundable credits ³	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Final distribution of after-tax income (%)	59.1	40.9	40.4	43.3	16.3	12.0	37.4	50.6
Total change	-1.5	1.5	0.8	-1.2	0.4	2.2	1.3	-3.6
Distribution of number of taxfilers (%)	48.7	51.3	46.6	35.3	18.1	40.0	40.0	20.0

Note: Income classes are defined in the annex.

¹ The following rules are taken into account: partial inclusion of capital gains, gross-up of dividends from taxable Canadian corporations and pension income splitting.

² Difference between the impacts calculated using existing progressive rates and using a single rate of 18.9% (see the annex for information on how this rate was calculated).

³ Includes the WITB, the Refundable Medical Expense Supplement, the refund of investment tax credits and the tax credit for trust income in Part XII.2 of the Income Tax Act.

Conclusion

This study has presented an analysis of the progressivity of the federal personal income tax system, including refundable credits, and its impact on income distribution in Canada, based on an analysis of the before- and after-tax income of Canadian taxfilers in 2008. The federal personal income tax system is progressive overall in that the average effective tax rate of higher-income taxfilers is higher than that of lower-income taxfilers. The progressive nature of the tax system is mainly due to the progressivity of the tax rate structure (including the Basic Personal Amount). The GST Credit and the CCTB also contribute to its progressivity, though to a lesser extent. The other credits, deductions and rules that make up the tax system have a small distributional impact. In addition, the tax system changes the distribution of income among groups of taxfilers, in particular to the benefit of women, youth, seniors and members of single-parent families.



Annex: Methodology

Income Classes

The income classes used in this study are defined as follows:

Income Classes (2008)

Income Class	Pre-Tax Income Range (\$)
1 st and 2 nd deciles (D1-D2)	0 – 10,354
3 rd and 4 th deciles (D3-D4)	10,355 – 20,323
5 th and 6 th deciles (D5-D6)	20,324 – 35,802
7 th and 8 th deciles (D7-D8)	35,803 – 58,178
9 th decile (D9)	58,179 – 80,555
10 th decile (D10)	80,556 and over
90 th to 99 th percentiles (P90-P99)	80,556 – 216,411
100 th percentile (P100)	216,412 and over

Data Sources and Definitions

The data used in this study are from a sample of federal personal income tax returns filed for the 2008 tax year.⁹ The analysis therefore does not take into account individuals who did not file a return for 2008, most of whom were under 25. A number of low-income individuals living with higher-income individuals also did not file a federal income tax return for that year.

A taxfiler's pre-tax income is defined as total income for federal tax purposes, plus or minus certain adjustments so that it more closely reflects actual income. Specifically, a taxfiler's pre-tax income is his or her total income for tax purposes¹⁰ plus the non-taxable portion of capital gains, and minus the gross-up of dividends from taxable Canadian corporations and the amount of pension income transferred from a spouse or common-law partner. A taxfiler's pre-tax income therefore includes certain taxable government transfers (e.g., Employment Insurance benefits and the Universal Child Care Benefit) but excludes tax-exempt income for which no data is available (e.g., scholarships and lottery winnings). Net capital losses incurred during the year are also excluded, as well as losses carried forward from a previous year. Where spousal and child support payments are deductible by the payer, they are included in the income of the recipient.

Tax paid is net federal tax before the Quebec Abatement (if applicable), minus the various refundable credits for which the taxfiler is eligible, in particular the CCTB and the GST Credit. Tax paid is adjusted to account for the fact that when a couple takes advantage of pension income splitting, the resulting tax savings accrue to both spouses. Tax paid is thus calculated assuming that the tax savings resulting from pension income splitting are shared evenly between the spouses.

⁹ The sample was created by the Canada Revenue Agency. More information on the sample is available at www.cra-arc.gc.ca/gncy/stts/fnl-eng.html.

¹⁰ Corresponding to line 150 of the federal income tax return.



Data for the CCTB and GST Credit

Data for the CCTB and the GST Credit were calculated using a tax simulation model based on the features of these two measures. Amounts paid were calculated for families for the 2008 tax year (for payments made between July 2009 and June 2010) and then, in the case of the CCTB and the GST Credit in respect of a child, allocated to the spouse or common-law partner claiming a deduction for child care expenses, or if neither of the spouses or partners is claiming such a deduction, allocated randomly between the spouses or partners.¹¹

Assumptions Underlying the Analysis of the Distributional Impact of the Personal Income Tax System by Major Component

The decomposition of the tax system's impact on the distribution of income presented in the section "Distributional Impact of the Income Tax System by Major Component" is based on the following assumptions:

- Amounts included in the total income of each taxfiler, amounts allowed as a deduction in calculating taxable income, and credits claimed by taxfilers are taken as given. Changes in tax payable attributable to each component are therefore a function only of the rates at which these amounts are evaluated and are not a function of possible changes in the amounts. For instance, in calculating the tax savings associated with an amount allowed as a deduction, the fact that the deduction will reduce tax payable, thereby possibly reducing the total amount of non-refundable credits that can be claimed, is not taken into account.
- The tax savings associated with deductions and the rules affecting the calculation of total income¹² depend in part on the progressivity of the tax rate structure (e.g., a deduction is worth more for a taxfiler in the highest tax bracket than for one in the lowest tax bracket). The portion of tax savings that can be attributed to the progressivity of the tax rate structure was calculated as the change in total taxes paid when the tax savings are evaluated using the existing progressive tax rate structure rather than a single tax rate. For this purpose, a single tax rate of 18.9% was used, which corresponds to the rate that would generate the same tax revenues in 2008 as under the existing system if it were applied to pre-tax income (i.e., total income before any deductions and before the other rules affecting total income) rather than taxable income.
- The tax savings associated with the rules defining total income are calculated before those associated with the deductions allowable in calculating taxable income. This affects the relative impact of these two components of the tax system given the progressive tax rate structure.
- The tax savings resulting from credits are calculated at the rates applicable in 2008. These savings are not affected by the progressivity of the tax rate structure.

¹¹ In practice, the CCTB is paid to the person who is primarily responsible for the care and upbringing of a child, and this person is generally presumed to be the female parent if there is a female parent who lives with the child.

¹² The following rules are taken into account: partial inclusion of capital gains, gross-up of dividends from taxable Canadian corporations, and pension income splitting. Other rules related to the calculation of total income, in particular various exemptions, have not been included due to a lack of data on the changes in total income that result.

Evaluation of the Public Transit Tax Credit



Introduction

The Public Transit Tax Credit (PTTC) was introduced in Budget 2006 to encourage individuals to make a sustained commitment to public transit use and to reduce traffic congestion by providing a tax credit for the cost of public transit passes. The PTTC was part of a broader government strategy to promote a cleaner, healthier environment, which also included major investments in public transit infrastructure. The Government acknowledged at the time that the success of the credit would in part depend upon transit authorities' willingness to continue to work to boost ridership through quality service and low fares—two of the factors that affect the demand for public transit.

The Department of Finance has committed to the Commissioner of the Environment and Sustainable Development to undertake an evaluation of the PTTC starting in 2011. This study provides a descriptive analysis of the PTTC, examines the conditions required for the measure to be effective in changing individuals' behaviour with respect to public transit use, and discusses a number of factors relevant to an empirical assessment of the effect of the PTTC.

The main findings of this study are:

- Canadians are increasingly aware of the PTTC and benefit from it in large numbers: approximately 1.5 million taxfilers claim the credit annually for themselves and/or other family members.
- Key conditions for the PTTC to be effective in increasing public transit use are present:
 - The demand for public transit is sensitive to price: International research suggests that the behaviour of public transit users is sensitive to permanent shifts in transit fares. Research also indicates that the price sensitivity of public transit users increases with time as users gradually take into account the new price levels in their long-term decisions (such as where to live or whether to buy an automobile). This suggests that public transit users would react positively to a measure that has the effect of permanently reducing the after-tax cost of public transit, and that the degree of response to the measure is likely to increase with time.
 - The benefits of the PTTC appear to be captured by public transit users: The PTTC, which reduces the cost for individuals of using public transit by up to 15%, is delivered directly to transit users through the tax system. For the credit to be effective in providing an incentive to use public transit, the benefits from the credit must not be reduced or eliminated by coincidental increases in public transit fares. The fact that public transit fares have remained relatively stable following the introduction of the PTTC suggests that public transit users have been the main beneficiaries of the credit.
- Growth in public transit ridership in Canada has accelerated over the second half of the past decade, growing by 2.9% annually on average over the 2006 to 2010 period, compared to 1.9% over the 2001 to 2005 period.
- Factors such as economic conditions, the cost of alternative modes of transportation, the quality of public transit service, population aging, urbanization and environmental awareness can also affect the demand for public transit.



- A multivariate analysis over a prolonged period of time could help separate the effect of the PTTC from these factors, but this would remain a complex task. Such an analysis is not possible at this time given that the PTTC was introduced in July 2006, which provides for only a few years of observations.

The paper is organized as follows: the first section provides a description of the PTTC, the second section presents key facts on PTTC claims, the third section identifies the primary conditions necessary for the PTTC to be effective, the fourth section discusses some key observations relevant to the assessment of the effect of the PTTC on public transit use, and the final section presents the paper's conclusion.

Description of the PTTC

The PTTC came into effect on July 1, 2006, with the aim of encouraging public transit use by making public transit more affordable. The maximum value of this non-refundable credit is equal to the cost of eligible public transit passes times the lowest personal income tax rate (15.25% in 2006, and 15% in subsequent years). For example, an individual who purchases passes costing \$80 per month throughout the year would receive up to \$144 in federal tax relief for that year, at a 15% credit rate.

The PTTC applies to eligible transit passes purchased for travel in the current taxation year. An eligible transit pass is one that allows travel for an extended period of time. This includes annual and monthly passes, and, since 2007, weekly passes purchased for a period of at least four consecutive weeks, as well as electronic fare cards used for at least 32 one-way trips in a month. Individuals can claim trips taken by bus, ferry, subway, train or tram. There is no limit on the amount that may be claimed.

The credit applies to individuals who purchase public transit passes for use within Canada. It may be claimed by taxfilers on behalf of themselves, their spouse or common-law partner, and their children who are under age 19 at the end of the taxation year.

Key Facts About PTTC Claims

This section presents information on annual PTTC claims and on the provincial/territorial distribution of PTTC claims, as well as a profile of PTTC claimants based on their income level, gender, age and family type. The information was compiled using individual income tax returns for the 2006 to 2008 taxation years.¹

Because the PTTC can be claimed by a taxfiler on behalf of other family members (i.e., a spouse or common-law partner and children under the age of 19), care needs to be taken when interpreting the numbers. This section provides information on the number of claims and amounts claimed but does not provide information on the number of public transit users covered by these claims.

¹ Detailed tax return information for years after 2008 was not available at the time this study was carried out.



In addition, the numbers presented in this section are based on PTTC claims reported by individuals on their tax returns, whether or not the claims actually resulted in tax relief.

Annual and Provincial/Territorial Distribution of PTTC Claims

Table 1 presents the total number of PTTC claims and amounts claimed from 2006 to 2008, with a breakdown by amount claimed for 2008.

The large increase in the number of PTTC claims observed between 2006, the year the PTTC was introduced, and 2008 is consistent with Canadians' growing awareness of the credit:

- According to tax return data, the number of claims increased by 40% from 2006 to 2007, and by 15% from 2007 to 2008. These increases are well beyond growth rates in public transit demand observed over that period, which would suggest that a number of taxfilers already using public transit started to claim the PTTC after the introduction of the credit,² or that some frequent riders that previously bought tickets started buying transit passes eligible for the credit since they became less expensive. Changes to eligibility criteria to include weekly passes and electronic fare cards also likely contributed to increases in PTTC claims in 2007.
- In comparison, preliminary data for 2009 indicate a 2% increase in the number of PTTC claims from the previous year, which suggests that most people were likely fully aware of the credit two years after its implementation.

Table 1 also shows that the average claim for 2008 was \$710, with three quarters of the claims being under \$1,000. The significantly lower average claim for 2006 is due to the fact that the PTTC was introduced in July 2006, allowing individuals to claim only up to six months of public transit expenses for that year.

Table 1
Public Transit Tax Credit Claims (2006 to 2008)

	Claims		Amount Claimed		
	Number	Share of Total (%)	Average (\$)	Total (\$ ('000))	Share of Total (%)
2006	916,525		390	357,564	
2007	1,276,776		661	843,333	
2008	1,473,046	100.0	710	1,045,632	100.0
By amount claimed (\$), 2008:					
0–500	624,135	42.4	248	154,466	14.8
501–1,000	504,805	34.3	754	380,724	36.4
1,001–1,500	243,883	16.6	1,219	297,302	28.4
1,501–2,000	52,243	3.5	1,702	88,919	8.5
2,001–2,500	29,968	2.0	2,249	67,409	6.4
2,501 and over	18,012	1.2	3,154	56,811	5.4

Note: Numbers may not add up due to rounding.

Source: Department of Finance.

² The PTTC applies to both existing and incremental public transit expenditures. As such, individuals already using public transit at the time of the introduction of the credit benefited to the same extent from the measure as new public transit users.



Table 2 presents the distribution of PTTC claims by province and territory for the 2008 taxation year. It shows that the average amount claimed varies substantially across jurisdictions, with higher values generally observed in jurisdictions with large urban centres, where public transit tends to be more developed. For instance, Ontario and Quebec together accounted for about 77% of the total amount claimed in 2008. In comparison, they accounted for 60% of the total taxable income reported by individuals in 2008.

Variations across jurisdictions could also potentially be explained by differences in characteristics of the population since, as is shown in the following section, the use of public transit may vary significantly among categories of individuals.

Other factors not related to the urban concentration or characteristics of the population might also help explain variations across jurisdictions. For instance, public transportation arrangements made available to students by school boards or universities can have an effect on amounts claimed to the extent that the monetary benefits provided by these arrangements or the eligibility criteria differ across jurisdictions.

Table 2
Public Transit Tax Credit Claims by Province and Territory (2008)

	Claims		Amount Claimed		
	Number	Share of Total (%)	Average (\$)	Total (\$ ('000))	Share of Total (%)
Newfoundland and Labrador	3,286	0.2	267	878	0.1
Prince Edward Island	221	0.0	339	75	0.0
Nova Scotia	18,773	1.3	483	9,067	0.9
New Brunswick	3,902	0.3	379	1,480	0.1
Quebec	443,394	30.1	674	298,953	28.6
Ontario	557,378	37.8	903	503,187	48.1
Manitoba	37,638	2.6	454	17,085	1.6
Saskatchewan	17,014	1.2	244	4,154	0.4
Alberta	176,016	11.9	461	81,055	7.8
British Columbia	213,613	14.5	603	128,721	12.3
Northwest Territories	348	0.0	297	103	0.0
Yukon	184	0.0	223	41	0.0
Nunavut	38	0.0	234	9	0.0
Other ¹	1,241	0.1	664	824	0.1
Total	1,473,046	100.0	710	1,045,632	100.0

Note: Numbers may not add up due to rounding.

¹ Includes non-resident and multi-jurisdiction taxpayers.

Source: Department of Finance.



Profile of PTTC Claimants

Table 3 presents a breakdown of PTTC claims by taxable income level, gender, age and family type for the 2008 taxation year. In order to facilitate comparison between the different categories of taxfilers, the table also includes a relative claiming ratio for each category. The relative claiming ratio represents the share of total PTTC claims accounted for by a given category of taxfilers relative to their share of the overall taxfiler population. For instance, women accounted for 53.0 per cent of all taxfilers claiming the PTTC in 2008, in comparison to 51.3 per cent of the overall taxfiler population. In this case, the relative claiming ratio of women is 1.03 (i.e., 53.0 divided by 51.3). A ratio above 1 (below 1) indicates that taxfilers claiming the PTTC in the category in question account for more (less) than their share of the total taxfiler population.

With respect to income levels, the table shows that:

- Individuals in the first tax bracket (those with less than \$37,886 in taxable income) account for nearly 60% of all PTTC claims. This group, however, has the lowest relative claiming ratio among the various income classes (at 0.87).
- Individuals in the second and third tax brackets (those with incomes between \$37,886 and \$123,184) account for slightly less than 40% of all PTTC claims but have the highest relative claiming ratios (1.26 and 1.33 respectively).

With respect to gender, the table indicates that women reported proportionally more PTTC claims than men (their relative claiming ratio being 1.03). This result is consistent with the 2006 Census, which reveals that nearly 14% of employed women used public transit to commute to work in 2006, compared to nearly 9% of employed men (see Table 4).

The relative claiming ratio appears to have a negative relationship with age.

- The youngest age group (between 15 and 24 years of age) has a relative claiming ratio of 1.63 compared to 0.22 for the oldest group, which includes those age 65 and over.
- This is consistent with the facts that the primary reason for regularly using public transit is to commute to school or work and that the proportion of the population that is employed decreases substantially after age 65.³
- This is also consistent with the 2006 Census which shows that, even among the employed, the use of public transit to commute to work decreases with age. About 15% of employed individuals between 15 and 34 years of age relied on public transit in 2006, compared to about 7% of employed individuals age 65 and over (see Table 4).

³ The labour force participation rate for individuals age 65 and over was 23% in 2009 versus 69% for those age 15 and over (Statistics Canada, Labour Force Survey).



Table 3
**Public Transit Tax Credit Claims
 by Income Level, Gender, Age and Family Type (2008)**

	Claims			Amount Claimed	
	Number	Share of Total (%)	Relative Claiming Ratio	Total (\$) ('000)	Share of Total (%)
Total	1,473,046	100.0	1.00	1,045,632	100.0
By taxable income level (\$):					
0–37,885	851,039	57.8	0.87	508,640	48.6
37,886–75,769	461,497	31.3	1.26	389,344	37.2
75,770–123,184	122,414	8.3	1.33	112,281	10.7
123,185 and over	38,096	2.6	1.03	35,366	3.4
By gender:					
Male	692,159	47.0	0.96	503,705	48.2
Female	780,887	53.0	1.03	541,927	51.8
By age:					
15–24	303,087	20.6	1.63	134,507	12.9
25–34	360,670	24.5	1.52	258,183	24.7
35–44	296,370	20.1	1.15	245,450	23.5
45–54	313,284	21.3	1.08	259,692	24.8
55–64	139,996	9.5	0.61	123,056	11.8
65 and over	59,639	4.0	0.22	24,744	2.4
By family type:					
Singles, no children	741,025	50.3	1.30	456,606	43.7
Couples, no children	288,014	19.6	0.59	233,229	22.3
Singles, one or more children	89,252	6.1	1.34	64,784	6.2
Couples, one or more children	354,755	24.1	1.04	291,013	27.8

Notes: Numbers may not add up due to rounding. Income levels correspond to the 2008 personal income tax brackets.

Source: Department of Finance.

The distribution of PTTC claims across family types indicates a high relative claiming ratio for single individuals and a low ratio for couples without children.

- Singles are on average younger and therefore more likely to use public transit than the population as a whole, which contributes to their high relative claiming ratio (1.30 for singles without children and 1.34 for those with children). In fact, about 45% of single taxfilers are between 15 and 34 years of age, compared to about 29% of the overall population of taxfilers. These individuals, according to the 2006 Census, are the biggest users of public transit within the employed labour force.
- In contrast, couples without children are on average older than the overall population of taxfilers, and are therefore less likely to use public transit. About 64% of couples without children are couples where one or both spouses are age 55 or over, compared to about 35% of the taxfiler population as a whole. This helps explain the low relative claiming ratio (0.59) observed for that category of taxfilers.



Table 4
Use of Public Transit by Employed Labour Force Participants (2006)

	Employed Labour Force Number of Individuals	Employed Labour Force Using Public Transit to Go to Work Number of Individuals	As a Share of Total (%)
Total	14,714,260	1,622,725	11.0
By gender:			
Male	7,755,770	670,350	8.6
Female	6,958,490	952,375	13.7
By age:			
15–24	2,321,495	384,695	16.6
25–34	3,011,125	405,100	13.5
35–44	3,633,245	344,660	9.5
45–54	3,652,960	315,445	8.6
55–64	1,804,755	151,800	8.4
65 and over	290,670	21,020	7.2

Note: Numbers may not add up due to rounding.

Source: Statistics Canada (2006 Census).

Primary Conditions for the PTTC to Be Effective

The effectiveness of the PTTC in increasing public transit use primarily depends on the extent to which potential users are sensitive to a reduction in the cost of using public transit. It also depends on the incidence of the tax credit and whether the benefits provided by the PTTC (up to 15% of eligible public transit expenses) are captured, as intended, by individual users of public transit and not by public transit providers through increased fares.

Price Sensitivity of Public Transit Users

Substantial international research has been conducted on the responsiveness of public transit users to a permanent change in transit fares. The results vary somewhat by region, with studies reporting a slightly higher degree of commuter responsiveness in Europe than in North America and Australia, and by the type of transportation, with bus riders being generally more sensitive to price changes than subway or light train users.

Nevertheless, one important point of consensus emerges: the majority of studies have found that public transit users are sensitive to a permanent change in price, and that the responsiveness increases with time. The longer a price adjustment is in effect, the greater will be the response of transit users. This finding is key to the assessment of the PTTC as it suggests that the effectiveness of the credit should increase over time as individuals take into account the price reduction due to the credit when making their long-term decisions (such as where to live or whether to buy an automobile).



Since the degree of sensitivity varies with time, price elasticity estimates⁴ are often calculated for the short run and the long run.

- Based on a review of recent economic studies on public transit (listed in the annex), the median short-run elasticity estimate is -0.4. This means that a 10% drop in the price of public transit would lead to a 4% increase in transit demand.
- In comparison, the median long-run elasticity estimate is -0.75. This estimate also corresponds to the mid-point elasticity obtained by Litman (2011) from his review of the literature, and to the estimates obtained for Canada, the U.S. and Australia by Holmgren (2007) from his literature review.

Incidence of the PTTC

Trends in prices to date suggest that the benefits of the PTTC are largely captured by public transit users as intended, and not by public transit operators through increased fares, which would reduce the incentive effect of the measure.

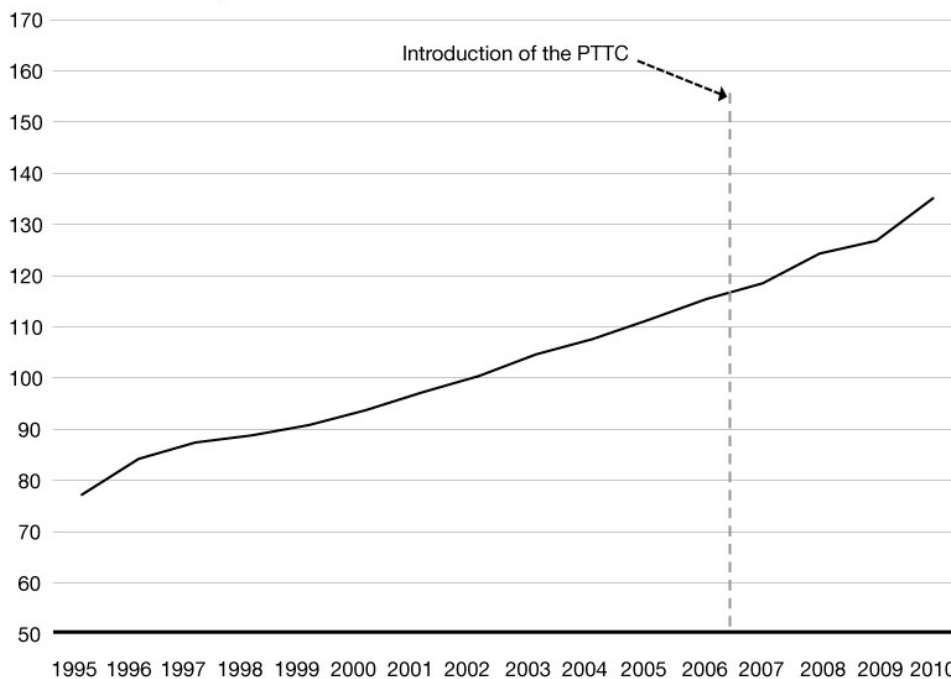
Chart 1 presents the Consumer Price Index (CPI) for public transit from 1995 to 2010. The data show that public transit fares grew at a steady pace in Canada over the 15-year period, averaging about 3.8% per year. There were no marked price increases following the introduction of the PTTC: the average annual growth rate in public transit CPI from 2006 to 2010 was 4.0%, slightly higher than the long-term growth rate.

⁴ Price elasticity is the percentage change in quantity demanded in response to a percentage change in price. For instance, if a 10% decrease in the price of a good or service causes the demand for that good or service to increase by 5%, the elasticity would be equal to -0.5.



Chart 1
Consumer Price Index for Public Transit in Canada (1995–2010)

Consumer Price Index, 2002 = 100



Source: Statistics Canada.

Impact of the PTTC on Public Transit Use—Some Observations

The PTTC was introduced in July 2006, which means that it is not possible at this time to empirically assess its impact through a time series analysis of the data.⁵ Nonetheless, a number of observations regarding recent trends in public transit use and factors affecting the demand for public transit can be made.

⁵ There exist other methodologies, in particular the difference-in-difference method, which could be applied to data covering short time periods. The difference-in-difference method estimates the impact of an event (e.g., the introduction of a new tax credit) by comparing the behaviour of individuals affected by the event (the treatment group) with the behaviour of individuals not affected by it (the control group). It would be very difficult, however, to apply this method to the PTTC given that the credit applies to all regular public transit users across Canada and that provincial/territorial variation in the credit rate is almost non-existent (only Yukon adopted a similar credit).



Data Availability and Trends in Public Transit Use

Ridership is a commonly adopted indicator to measure the use of public transit. It is generally defined as the number of trips taken by transit passengers in a particular geographic area over a given period of time, typically a calendar year. For instance, an individual regularly using public transit to commute to work would count as 480 passenger trips over a year (assuming 240 working days during the year). Whether this individual has to transfer to another vehicle or not during his or her trip may influence ridership estimates, depending on how these transfers are treated. Unless otherwise specified, passenger trip estimates do not generally count transfers as separate trips.⁶

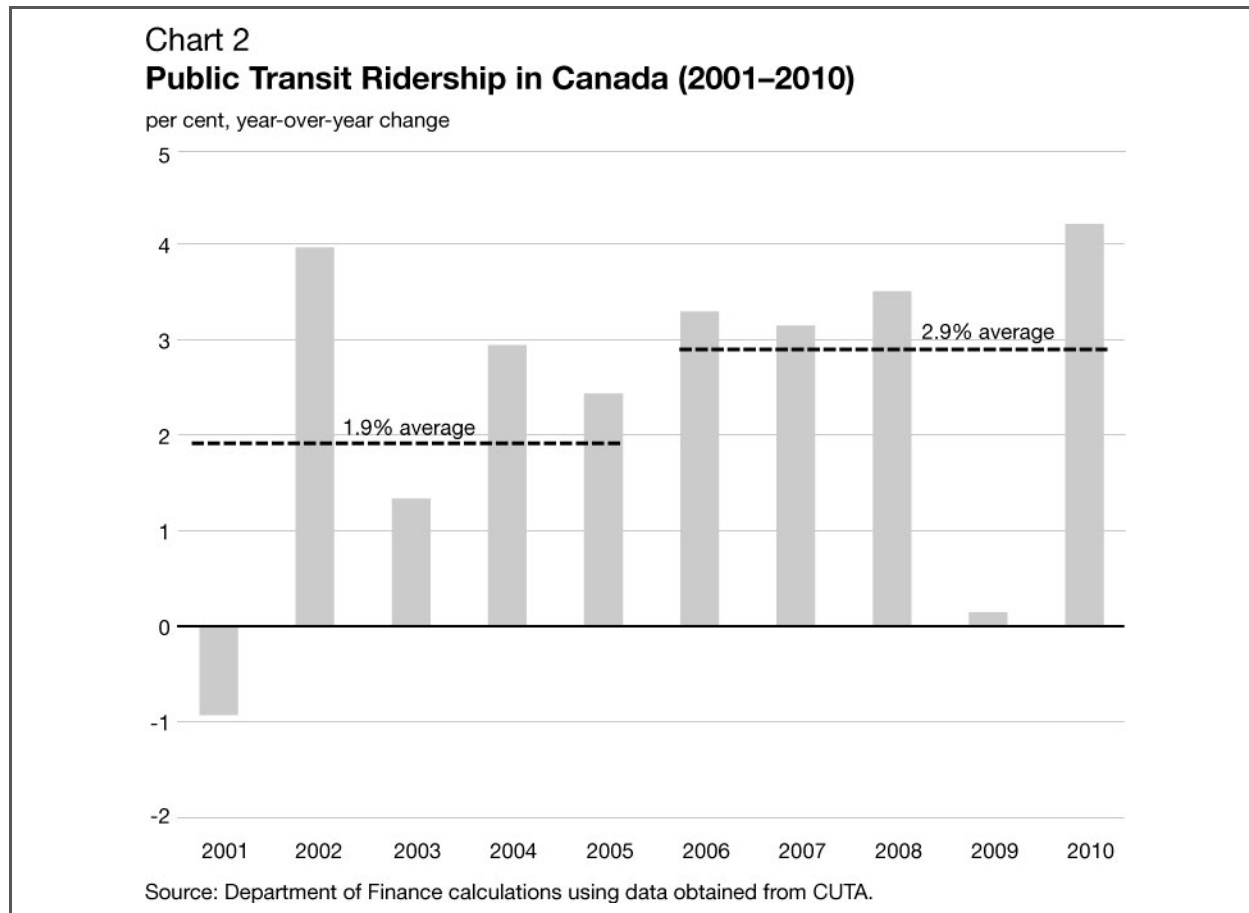
Ridership numbers provide an indicator of the use of public transit by all types of riders, including regular commuters and sporadic users. As such, it may not be the best measure to assess the effect of the PTTC, which targets regular public transit users. Measures such as the number of riders boarding vehicles with a pass or the number of monthly or weekly passes sold each year may be better indicators. Such measures, however, are not available in Canada on a consistent basis.

The Canadian Urban Transit Association (CUTA) is the primary source of statistics on urban transit in Canada. CUTA collects on an annual basis a wide range of statistics through a survey of its membership, which includes most transit operators across Canada. In this study, CUTA statistics on passenger trips have been used to examine recent trends in ridership in Canada. The data, which cover the 2000 to 2010 period, have been adjusted to take into account the effect of changes in the list of transit operators covered by CUTA data on total ridership estimates.

According to CUTA data, total public transit ridership in Canada increased by 27% over the last decade from 1.478 billion passenger trips in 2000 to 1.872 billion in 2010. This represents an average annual growth rate of 2.4%.

As shown in Chart 2, annual ridership growth varied from year to year, with significantly lower rates in years of poor economic conditions such as 2001 and 2009. Growth in public transit ridership accelerated following the introduction of the PTTC, with ridership growing by 2.9% annually on average over the 2006 to 2010 period, compared to 1.9% over the 2001 to 2005 period. The lower ridership growth observed in 2003 is in part attributable to the effect in Ontario of the SARS (severe acute respiratory syndrome) crisis and the electricity blackout that occurred in August of that year across much of the northeastern part of North America.

⁶ When transfers are counted as separate trips, passenger trips are generally referred to as “unlinked” passenger trips.



While recent trends in public transit use could suggest a positive effect from the PTTC, a multivariate analysis would be required to attempt to capture the net contribution of the PTTC to ridership growth. To be statistically meaningful, such an analysis would need to consider several years of data and take into account other factors affecting the demand for public transit.

Other Factors Affecting the Demand for Public Transit

Although price level is important, other factors also affect the demand for public transit, which can make it difficult to determine the effect of individual factors.

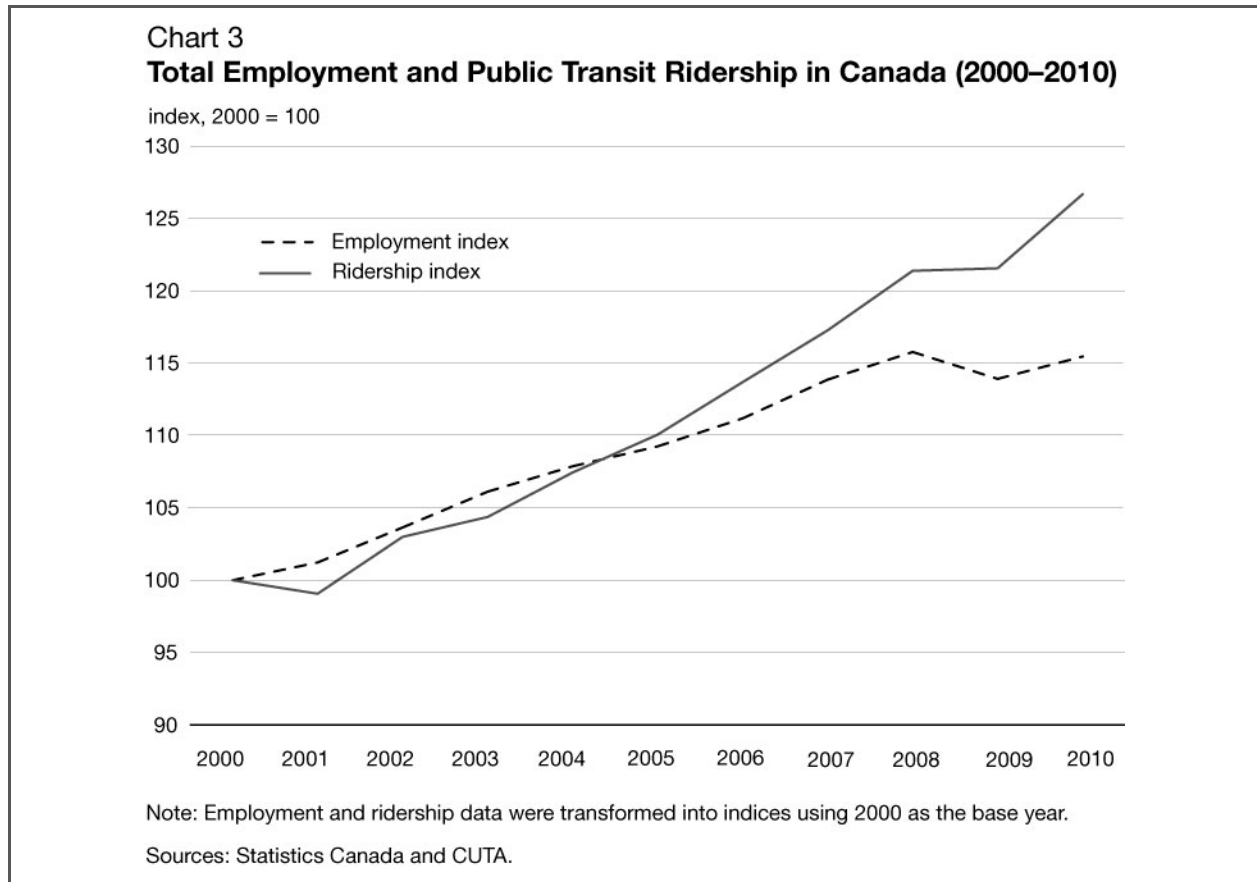
Economic Conditions

Economic conditions, in particular employment, are key determinants of the demand for public transit. A primary reason for using public transit on a regular basis is to commute to work. The deterioration in employment typically observed during depressed economic periods will therefore translate into reduced use of public transit.



Chart 3 shows employment and public transit ridership growth in Canada from 2000 to 2010. Each data series has been transformed into an index to facilitate their comparison. The chart suggests that there is a strong positive correlation between transit ridership and employment. It is worth noting that, after 2005, ridership grew more quickly than employment.

The strong correlation observed between employment and the demand for public transit means that economic conditions in the coming years and the pace at which the economy will create new jobs will be key factors in determining the effect of the PTTC on public transit ridership.



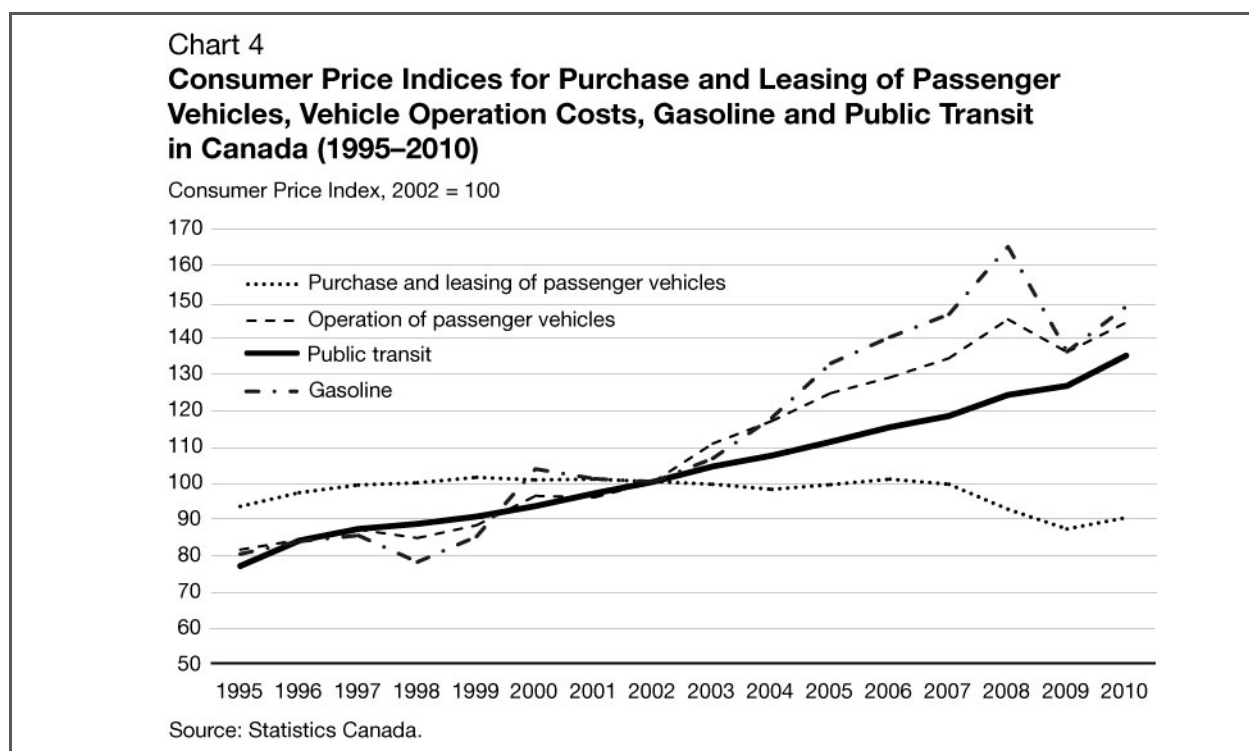
Cost of Using an Automobile

While walking, biking or taking a taxi can be considered as alternatives to public transit, for most individuals the practical alternative is the automobile. When deciding which mode of transportation to use, individuals generally compare these two options in terms of cost and commuting time.



For example, a significant increase in the price of gasoline may induce greater use of public transit. It is generally estimated that an increase of 10% in the price of gasoline results in an increase of about 1.5% in public transit ridership.⁷

Chart 4 presents the Consumer Price Indices for the purchase and leasing of passenger vehicles, overall vehicle operation costs, gasoline and public transit. It shows that, despite reductions in the cost of purchasing and leasing passenger vehicles over the last decade, the overall cost of operating a passenger vehicle still increased at a higher rate than the cost of using public transit, in part due to an increase in the price of gasoline.



Quality of Service

There is a general consensus in the literature that quality of service is a key determinant of the demand for public transit. Quality of service includes variables such as the quality and availability of information on schedules and trips, security in vehicles and at stations, cleanliness and age of vehicles, coverage of the transportation network, and rapidity and punctuality of service. The quality of public transit service is also affected by the number of public transit vehicles: more public transit vehicles on the road would generally mean more frequent service and more seats available for transit riders.

⁷ Based on an average of literature results for the elasticity of transit ridership to gas price. See, for instance, American Public Transportation Association (2011) and Carrie and Phung (2006).



Capital spending by transit operators grew substantially over the second part of the last decade due to major increases in funding from all levels of government. While public transit falls under the jurisdiction of the provinces, territories and municipalities, the federal government has made significant investments in this area through a number of infrastructure funding programs in partnership with other levels of government. Since 2006, close to \$5 billion in federal funding has been provided in support of public transit infrastructure projects across Canada, leveraging investments of \$7.9 billion from other funding partners. This includes funding for public transit through one-time initiatives such as the Public Transit Trusts in Budget 2006 and Budget 2008. In addition, \$1.1 billion in investments have been made in public transit infrastructure since 2006 through the Gas Tax Fund. According to CUTA data, capital spending by public transit operators from 2006 to 2010 averaged \$3.3 billion annually, compared to about \$1.2 billion annually from 2001 to 2005.

Such levels of spending would be expected to translate into significantly better transit networks and increased quality of service. Table 5 shows changes in three indicators of the quality of service over the past decade. Reported numbers are weighted average values calculated for the largest transit operators in 2010, which accounted for more than 90% of total ridership. The table shows that the second half of the past decade was marked by a significant renewal of bus fleets (the average bus age decreased by 32% from 2005 to 2010, compared to less than 9% from 2000 to 2005) and major increases in the per-capita total hours of operation of all vehicles (an increase of almost 16% from 2005 to 2010 compared to 1.2% from 2000 to 2005). The average speed of vehicles in service has not improved over the past decade. However, it is not clear what this indicates for the quality of service. For example, it could reflect an increase in the number of routes that are in urban centres relative to suburban or rural zones, rather than a lack of improvement in commuting time.

Table 5
Selected Indicators of Quality of Service (2000, 2005 and 2010)

	Year			Percentage Change (%)	
	2000	2005	2010	2000-2005	2005-2010
Average bus age (years)	10.33	9.41	6.40	-8.7	-32.0
Total hours of operation of all vehicles, per capita	2.01	2.04	2.36	1.2	15.9
Average speed (km/h)	22.71	22.55	22.16	-0.7	-1.7

Note: Based on public transit operators reporting more than 10 million passenger trips in 2010, weighted according to the service area population of each operator.

Source: Department of Finance calculations using data obtained from CUTA.

In addition, events that could cause major disruptions to public transit services, such as strikes, would also need to be taken into account when explaining variations in ridership. For instance, it is estimated (based on CUTA data) that removing the effect of labour disputes on urban transportation in 2009 would increase ridership growth for that year from 0.1% to 0.9%.

Overall, it appears that public transit operators have made significant investments to improve the quality of service offered in recent years. These improvements, which were coincidental to the introduction of the PTTC, likely contributed to increased ridership levels in the second half of the last decade.



Population Aging, Urbanization and Environmental Awareness

Over the long term, the demand for public transit may also be affected by demographic factors such as population aging and urbanization, as well as greater environmental awareness.

The demand for public transit is affected by the age profile of the population it services. As one of the primary purposes for commuting is to travel to work, an increase in the proportion of retirees in the population will likely result in slower growth in the number of regular transit users.

On the other hand, as individuals get older, they may be more attracted to larger urban centres where social, health and other services tend to be more accessible. A greater concentration of the population around large urban centres would be expected to have a positive effect on the use of public transit since larger urban centres tend to have more developed systems of public transit. Also, operating an automobile in large cities is generally more expensive and less attractive due to heavier traffic congestion and higher parking fees.

In addition, individuals may also factor in environmental concerns in their transportation decisions. These considerations could, over time, be increasingly important as individuals become more aware of environmental issues.

Conclusion

The PTTC, which provides tax relief to Canadians in the form of a non-refundable tax credit for the cost of public transit passes, was introduced in July 2006 in order to encourage individuals to make a sustained commitment to public transit use. Data from tax returns show that Canadians are increasingly aware of the PTTC and claim it in large numbers.

There is evidence that the key conditions for the credit to be effective are present: econometric studies indicate that public transit users are responsive to a permanent change in fares, and data on the price of public transit indicate that the benefits of the PTTC appear to be captured by the target population. It is expected that the effectiveness of the credit will increase as time passes and individuals continue to include it as a consideration in their long-term decisions regarding their transportation options.

Recent trends in ridership could suggest that the PTTC has had an impact on public transit use. However, factors such as economic conditions, the cost of alternative modes of transportation, the quality of public transit service, population aging, urbanization and environmental awareness can also affect the demand for public transit. A multivariate analysis over a prolonged period of time could help separate the effect of the PTTC from these factors, but this would remain a complex task. Such an analysis is not possible at this time given that the PTTC was introduced in July 2006, which provides for only a few years of observations.



Annex

Public Transit Demand Price Elasticity Estimates Obtained From Selected Studies

Authors	Estimates	
	Short-Run	Long-Run
Balcombe et al. (2004)	-0.40	-1.00
Bresson, Dargay, Madre and Pirotte (2003)		
<i>United Kingdom:</i>	-0.54	-0.75
<i>France:</i>	-0.30	-0.59
Dargay and Hanly (2002)	-0.40	-0.90
Gkritza, Golias and Karlaftis (2004)	-0.12	-0.53
Graham, Crotte and Anderson (2009)	-0.05	-0.33
Hensher (2008)	-0.40	
Holmgren (2007)		
<i>Europe:</i>	-0.75	-0.91
<i>Canada/U.S./Australia:</i>	-0.59	-0.75
Litman (2011)	-0.20 to -0.50	-0.60 to -0.90
Parry and Small (2009)		
<i>Peak hours:</i>	-0.40	
<i>Off-peak hours:</i>	-0.80	
Taylor and Fink (2004)	-0.34 to -0.44	
Taylor, Miller, Iseki and Fink (2009)	-0.52	
Transit Cooperative Research Program (2004)	-0.40	
Median estimate	-0.40	-0.75

Note: Some studies estimated price elasticity for different modes of transportation (e.g., bus, metro, light train). Estimates presented in this table are for bus transport.



References

- American Public Transportation Association (2011). *Potential Impact of Gasoline Price Increases on U.S. Public Transportation Ridership, 2011-2012*.
- Balcombe, R., R. Mackett, N. Paulley, J. Preston, J. Shires, H. Titheridge, M. Wardman and P. White (2004). *The Demand for Public Transport: A Practical Guide*, TRL, Report TRL593.
- Bresson, G., J. Dargay, J.-L. Madre and A. Pirotte (2003). "The Main Determinants of the Demand for Public Transport: A Comparative Analysis of England and France Using Shrinkage Estimators," *Transportation Research Part A*, 37: 605-627.
- Currie, G. and J. Phung (2006). *Exploring the Impacts of Fuel Price Increases on Public Transport Use in Melbourne*, Social Research in Transport Clearinghouse.
- Dargay, J. M. and M. Hanly (2002). "The Demand for Local Bus Services in England," *Journal of Transport Economics and Policy*, 36 (1): 73-91.
- Gkritza, K., I. Golias and M. G. Karlaftis (2004). "Estimating Elasticities for Multi-Modal Public Transport Demand: A Time Series Approach," *Journal of the Transportation Research Forum*, 43 (2): 53-68.
- Graham, D. J., A. Crotte and R. J. Anderson (2009). "A Dynamic Panel Analysis of Urban Metro Demand," *Transportation Research Part E*, 45: 787-794.
- Hensher, D. A. (2008). "Assessing Systematic Sources of Variation in Public Transport Elasticities: Some Comparative Warnings," *Transportation Research Part A*, 42: 1031-1042.
- Holmgren, J. (2007). "Meta-Analysis of Public Transport Demand," *Transportation Research Part A*, 41: 1021-1035.
- Litman, T. (2011). *Transit Price Elasticities and Cross-Elasticities*, Victoria Transport Policy Institute.
- Parry, I. W. H. and K. A. Small (2009). "Should Urban Transit Subsidies Be Reduced?" *American Economic Review*, 99 (3): 700-724.
- Taylor B. D. and C. N. Y. Fink (2004). *The Factors Influencing Transit Ridership: A Review and Analysis of the Ridership Literature*, UCLA Department of Urban Planning.
- Taylor B. D., D. Miller, H. Iseki and C. Fink (2009). "Nature and/or Nurture? Analyzing the Determinants of Transit Ridership Across US Urbanized Areas," *Transportation Research Part A*, 43 (1): 60-77.
- Transit Cooperative Research Program (2003). *Strategies for Increasing the Effectiveness of Commuter Benefits Programs*, TCRP Report 87.
- Transit Cooperative Research Program (2004). *Transit Pricing and Fares: Traveler Response to Transportation System Changes*, TCRP Report 95, Chapter 12.
- Transit Cooperative Research Program (2005). *Analyzing the Effectiveness of Commuter Benefits Programs*, TCRP Report 107.