

TAX EXPENDITURES AND EVALUATIONS

2007



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Tel: 613-995-2855
Fax: 613-996-0518

Price \$15.70 including GST

Also available on the Internet at
www.fin.gc.ca

Cette publication est également disponible en français.

Cat. No.: F1-27/2007E
ISBN 978-0-660-19797-5



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Preface

Since 2000 the tax expenditure report has been separated into two documents. This document, *Tax Expenditures and Evaluations*, is published on an annual basis. It provides estimates and projections for broadly defined tax expenditures as well as evaluations and descriptive papers addressing specific tax measures. This year's edition includes an analytical paper entitled "Corporate Income Taxes and Investment: Evidence From the 2001–2004 Rate Reductions."

The companion document, *Tax Expenditures: Notes to the Estimates/Projections*, was published in 2004. It is a reference document for readers who wish to know more about how the estimates and projections are calculated and who want descriptions of, or information on the objectives of, particular tax expenditures. New tax expenditures are described in the relevant section of this document.

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 that reflect society's priorities. The tax system can also be used directly to achieve public policy objectives through the application of special tax rates, exemptions, deductions, rebates, deferrals and credits that affect the level and distribution of tax. 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 a normal part of the tax system and hence about what should be considered a tax expenditure. For example, a deduction for expenses incurred in earning income is generally considered as part of the benchmark and thus not as a tax expenditure. But in some cases the deduction may confer some personal benefit, making its classification ambiguous.

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 for which there may be some debate over whether they should be considered tax expenditures, or 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 as the behaviour of economic agents, 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 various 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.
- In the case of the harmonized sales tax in effect in Nova Scotia, New Brunswick, and Newfoundland and Labrador, only the federal cost of the tax expenditures is reported.

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 2007 Report

A number of new tax measures were introduced and others modified in Budget 2007 and the 2007 Economic Statement. The changes introduced are described below.

Personal Income Tax

Personal Income Tax Rates

The 2007 Economic Statement reduced the lowest personal income tax rate, on incomes up to \$37,178, to 15 per cent from 15.5 per cent. This rate applies effective January 1, 2007, with the upper income limit for application indexed for taxation years subsequent to 2007. The rate will also generally be used to calculate non-refundable tax credits and the alternative minimum tax for the 2007 and subsequent taxation years.

Basic Personal Amount

The 2007 Economic Statement increased the basic personal amount to \$9,600 for 2007 and 2008, with a further increase to \$10,100 in 2009.

Spousal and Other Amounts

Budget 2007 announced an increase in the amount upon which the spouse or common-law partner and eligible dependant credits are calculated to match the basic personal amount, with a corresponding elimination of the threshold above which the dependant's net income must be taken into account. These changes took effect beginning in 2007. For the 2008 and subsequent taxation years, these personal credit amounts will be increased in accordance with any changes legislated for the basic personal amount.

Child Tax Credit

Objective: To reduce the tax burden on families.

Budget 2007 introduced a new non-refundable child tax credit for parents based on an amount of \$2,000 (indexed) for each child under the age of 18 years at the end of a taxation year. The tax credit is calculated by reference to the lowest personal income tax rate for the taxation year (i.e. 15 per cent in 2007). This new tax credit took effect beginning in 2007.



Registered Education Savings Plans

Budget 2007 announced changes that will encourage greater savings in registered education savings plans (RESPs):

- Eliminating the \$4,000 limit on annual RESP contributions.
- Increasing the lifetime limit on RESP contributions to \$50,000 from \$42,000.
- Increasing the maximum annual amount of Canada Education Savings Grant that can be paid in any year to \$500 from \$400 (and to \$1,000 from \$800 if there is unused grant room from low contributions made in previous years).

As well, Budget 2007 improved access to RESP assistance for part-time post-secondary students by allowing these students to access up to \$2,500 of their income and grants for each 13-week semester of study. Students are required to spend at least 12 hours per month on courses, in a course lasting at least 3 consecutive weeks. Previously, students were required to spend at least 10 hours per week on courses, in a course lasting at least 3 consecutive weeks.

Full Exemption for Elementary and Secondary School Scholarships and Bursaries

Budget 2006 fully exempted from federal income tax scholarship, fellowship and bursary income received by post-secondary students. Budget 2007 extended this treatment to elementary and secondary school students.

Public Transit Tax Credit

Budget 2007 extended the public transit tax credit to electronic fare cards and weekly passes when used on an ongoing basis. The cost of an electronic fare card is eligible for the credit if the cost relates to the use of public transit for at least 32 one-way trips during an uninterrupted period not exceeding 31 days. Weekly passes are eligible where the combination of these purchases provides an individual with the right to at least 20 days of unlimited transit use within a 28-day period.

Working Income Tax Benefit

Objective: To improve incentives to work for low-income Canadians and to lower the welfare wall.

Budget 2007 implemented a \$550-million Working Income Tax Benefit (WITB). The WITB is a refundable tax credit that will supplement the earnings of low-income workers to encourage labour force participation. It will be generally available to individuals aged 19 and older, not attending full-time school.

Effective in the 2007 taxation year, the WITB will provide up to \$1,000 for couples and single parents and up to \$500 for single individuals. In addition, a supplement of up to \$250 per year will be available for low-income working Canadians with disabilities who are eligible for the disability tax credit. For the 2008 and future taxation years, families will be able to apply for advance payment of one-half of their estimated annual entitlements.



Provincial and territorial governments can propose specific changes to the design of the WITB to the extent that they are consistent with the following principles:

- They build on actions taken by the province or territory to improve work incentives for low-income individuals and families.
- They are cost-neutral to the federal government.
- They provide for a minimum benefit level for all WITB recipients.
- They preserve harmonization of the WITB with existing federal programs.

Registered Disability Savings Plan

Objective: To help parents and others save for the long-term financial security of a child with a severe disability.

Budget 2007 introduced a new Registered Disability Savings Plan (RDSP). RDSPs will be available commencing in 2008 and will be based generally on the existing RESP design. An individual eligible for the disability tax credit (DTC), their parent or other legal representative will be allowed to establish an RDSP. The DTC-eligible individual will be the plan beneficiary.

Parents, beneficiaries and others wishing to save will be able to contribute to an RDSP. Contributions to an RDSP for a beneficiary will be limited to a lifetime maximum of \$200,000. Contributions will be permitted up until the end of the year in which a beneficiary attains 59 years of age.

Annual RDSP contributions will attract Canada Disability Savings Grants (CDSGs) at matching rates of 100, 200 or 300 per cent, depending on family income and the amount contributed, up to a maximum lifetime CDSG limit of \$70,000. Canada Disability Savings Bonds (CDSBs) of up to \$1,000 per year will be provided to RDSPs established by low- and modest-income families, up to a maximum lifetime CDSB limit of \$20,000, and will not be contingent on contributions. An RDSP will be eligible to receive CDSGs and CDSBs up until the end of the year in which the plan beneficiary attains 49 years of age.

Contributions to an RDSP will not be deductible and will not be included in income when paid out of an RDSP. The investment income earned in the plan will accumulate tax-free. CDSGs, CDSBs and investment income earned in the plan will be included in the beneficiary's income for tax purposes when paid out of an RDSP. Only the plan beneficiary, or the beneficiary's legal representative, will be permitted to receive payments from an RDSP. Payments from an RDSP will be required to commence by the end of the year in which the beneficiary attains 60 years of age.

Children's Fitness Tax Credit—Enhancements for Children With Disabilities

Budget 2007 increased the age limit for children eligible for the disability tax credit (DTC) from under 16 to under 18 years of age at the beginning of the year for the purposes of the children's fitness tax credit.



A separate \$500 non-refundable amount for DTC-eligible children has been introduced, subject to spending a minimum of \$100 on registration or membership fees for a prescribed program of physical activity. This additional amount provides general recognition of the extra costs that children with disabilities encounter in becoming involved in programs of physical activity, notably with regard to specialized equipment, transportation and attendant care.

As well, for DTC-eligible children, the requirements for a program to be a prescribed program of physical activity have been relaxed to cover a broader range of programs more suited to the challenges experienced by these children.

Eliminating Capital Gains Tax on Charitable Donations to Private Foundations

Budget 2007 eliminated taxation of capital gains arising from donations of publicly listed securities to private foundations.

In addition, when an arm's length employee acquires a publicly listed security under an option granted by the employer and donates the security to a public charity within 30 days, the employee may be eligible for a special deduction, the general effect of which is to exempt the associated employment benefit from tax. Budget 2007 extends this provision to qualifying donations to private foundations.

This zero inclusion rate for gains and income in respect of publicly listed securities applies to gifts made on or after March 19, 2007.

Mineral Exploration Tax Credit for Flow-Through Share Investors

In October 2000, a 15-per-cent tax credit was introduced to help moderate the impact of a global downturn in mineral exploration on mining communities by promoting exploration. This tax incentive, available to individuals investing in flow-through shares used to finance exploration, was scheduled to expire at the end of March 2007, after three extensions.

Budget 2007 extended eligibility of the mineral exploration tax credit to flow-through share agreements entered into on or before March 31, 2008. The one-year "look-back" rule will allow funds raised with the benefit of the credit in 2008, for example, to be spent on eligible exploration activity up until the end of 2009.

Increasing the Lifetime Capital Gains Exemption

Budget 2007 increased the lifetime capital gains exemption to \$750,000 from \$500,000. This new limit applies to dispositions on or after March 19, 2007, of qualified farm and fishing property and qualified small business corporation shares.

Increasing the Age Limit for Maturing Registered Pension Plans and Registered Retirement Savings Plans

Budget 2007 increased the age by which an individual must convert a registered retirement savings plan to a registered retirement income fund and begin receiving a pension from a registered pension plan from 69 to 71.



Increased Deductibility of Meal Expenses for Long-Haul Truck Drivers

Objective: To provide better recognition of the significant meal expenses incurred by long-haul truck drivers while on the road.

The deductibility, for personal income tax purposes, of meals consumed on the road by long-haul truck drivers is increasing from 50 per cent to 80 per cent over a five-year phase-in period beginning March 19, 2007. This measure also affects corporate income tax revenues as it applies to employers that pay, or reimburse, such costs incurred by long-haul truck drivers that they employ. The measure affects goods and services tax revenues as well, because the deductible portion is eligible for an input tax credit. Projections for the relevant personal, corporate and goods and services tax expenditures reflect the increased deductibility.

Corporate Income Tax

Investment Tax Credit for Child Care Spaces

Objective: To encourage businesses to create licensed child care spaces for the children of their employees and, potentially, for children in the surrounding community.

In order to encourage businesses to create licensed child care spaces for the children of their employees and, potentially, for children in the surrounding community, Budget 2007 put in place a new investment tax credit for child care spaces, effective March 19, 2007. Eligible businesses receive a non-refundable investment tax credit equal to 25 per cent of eligible expenditures, to a maximum credit of \$10,000 per child care space created. Eligible expenditures include the cost or incremental cost of the building in which the child care facility is located, as well as the cost of furniture, appliances, computer equipment, audio-visual equipment, playground structures and playground equipment. Initial start-up costs such as landscaping costs for the children's playground, architect's fees, building permit costs and costs to acquire children's educational materials are also eligible.

Reduction in the General Corporate Income Tax Rate

The general corporate income tax rate will be reduced to 15 per cent by 2012. The rate will be reduced to 19.5 per cent in 2008, 19 per cent in 2009, 18 per cent in 2010, 16.5 per cent in 2011 and 15 per cent in 2012 and thereafter. The rate reductions will apply to income that is taxed at the general corporate income tax rate.



Goods and Services Tax

Reduction in the Goods and Services Tax Rate

The 2007 Economic Statement reduced the goods and services tax rate by 1 percentage point, to 5 per cent, effective January 1, 2008. The tax expenditure estimates reflect this reduction.

Foreign Convention and Tour Incentive Program

As part of a package of specific spending restraint measures announced on September 25, 2006, the Government of Canada proposed the elimination of the Visitor Rebate Program, effective April 1, 2007. Budget 2007 introduced the Foreign Convention and Tour Incentive Program (FCTIP), effective April 1, 2007. The FCTIP provides goods and services tax/harmonized sales tax relief in respect of the accommodation portion of tour packages for non-residents and certain property and services used in the course of conventions held in Canada.



The Tax Expenditures

Tables 1 to 3 provide tax expenditure values for personal income tax, corporate income tax and the goods and services tax for the years 2002 to 2009.

Estimates and projections are developed using the methodology set out in Chapter 1 of *Tax Expenditures: Notes to the Estimates/Projections*.¹ The economic variables used to develop the projections are based on the average of private sector forecasts presented in the 2007 Economic Statement.

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.

All estimates and projections are reported in millions of dollars. The letter “S” (“small”) indicates that the cost is less than \$2.5 million, “n.a.” signifies that data is 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 is warranted given that the report is designed 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.

¹ Available on the Department of Finance website at www.fin.gc.ca.

Table 1
*Personal Income Tax Expenditures**

	Estimates			Projections				
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
Charities, Gifts and Contributions								
Charitable donations credit	1,580	1,825	2,000	2,180	2,380	2,495	2,585	2,640
Reduced inclusion rate for capital gains arising from donations of publicly listed securities and ecologically sensitive land ¹	5	6	10	10	28	47	47	47
Non-taxation of capital gains on gifts of cultural property ²	4	15	6	3	4	5	5	5
Non-taxation of gifts and bequests	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Political contribution tax credit ³	9	11	22	22	22	12	12	22
Culture								
Assistance for artists	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deduction for artists and musicians	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Education								
Adult basic education—tax deduction for tuition assistance	10	5	5	5	5	5	5	5
Apprentice vehicle mechanics' tools deduction	10	10	10	10	10	10	10	10
Education tax credit ⁴	250	235	240	220	225	200	210	210
Tuition tax credit ⁴	275	270	290	275	275	255	270	280
Textbook tax credit ^{4,5}	—	—	—	—	80	80	81	83
Education, tuition and textbook tax credits carried forward from prior years ⁶	245	290	345	315	320	320	385	425
Transfer of education, tuition and textbook tax credits ⁷	420	440	460	440	490	480	490	495
Partial exemption of scholarship, fellowship and bursary income ⁸	13	11	11	10	38	38	38	39
Registered education savings plans ⁹	110	130	150	145	165	180	225	295
Student loan interest tax credit	59	63	58	56	59	57	59	61
Employment								
Canada Employment Credit ¹⁰	—	—	—	—	465	1,775	1,845	1,900
Deduction for income earned by military and police deployed to high-risk international missions ¹¹	—	—	26	24	30	34	35	36
Deduction of home relocation loans	S	S	S	S	S	S	S	S
Deferral of salary through leave of absence/sabbatical plans	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Employee benefit plans	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Employee stock options ¹²	415	480	725	925	1,050	1,070	1,090	1,110
Non-taxation of certain non-monetary employment benefits	n.a.	n.a.	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*, published in 2004 and available on the Department of Finance website (www.fin.gc.ca), for a discussion of the reasons for this.



Table 1
Personal Income Tax Expenditures (cont'd)

	Estimates			Projections				
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
Non-taxation of strike pay	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Northern residents deduction	130	135	135	135	135	135	140	145
Overseas employment credit	50	50	50	55	55	55	55	55
Tax-free amount for emergency service volunteers	14	14	14	14	14	14	14	14
Deduction for tradespeople's tool expenses ¹³	–	–	–	–	15	15	15	15
Working Income Tax Benefit ¹⁴	–	–	–	–	–	555	555	560
Family								
Adoption expense tax credit ¹⁵	–	–	–	5	5	5	5	5
Caregiver credit	65	73	79	75	80	75	80	80
Child tax credit ¹⁶	–	–	–	–	–	1,380	1,420	1,450
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.	n.a.	n.a.
Infirm dependant credit	6	6	6	6	6	6	6	6
Spouse or common-law partner credit ¹⁷	1,180	1,190	1,195	1,235	1,265	1,320	1,340	1,440
Eligible dependant credit ¹⁸	630	660	665	670	700	755	770	810
Farming and Fishing								
Lifetime capital gains exemption for farm/fishing property ¹⁹	255	240	255	275	330	375	390	410
Cash-basis accounting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of capital gains through intergenerational rollovers of family farms and commercial woodlots	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of income from destruction of livestock ²⁰	S	S	10	-9	S	S	S	S
Deferral of income from sale of livestock during drought years	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of income from grain sold through cash purchase tickets ²¹	21	S	S	24	-10	6	6	3
Deferral through 10-year capital gain reserve	S	S	S	S	S	S	S	S
Exemption from making quarterly tax instalments	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Flexibility in inventory accounting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tax treatment of the Net Income Stabilization Account²²								
Deferral of tax on government contributions	170	45	S	S	S	S	S	S
Deferral of tax on bonus and interest income	26	22	21	7	S	S	S	S
Taxable withdrawals	-105	-98	-180	-155	-8	S	S	S
Federal-Provincial Financing Arrangements								
Logging tax credit	S	S	S	S	S	S	S	S
Quebec abatement	3,050	3,215	3,345	3,405	3,615	3,800	3,945	4,170
Transfer of income tax points to provinces	13,585	14,235	14,980	15,935	16,965	17,820	18,520	19,565

Table 1
Personal Income Tax Expenditures (cont'd)

	Estimates			Projections				
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
General Business and Investment								
\$200 capital gains exemption on foreign exchange transactions	n.a.	n.a.	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.	n.a.	n.a.
Deduction of accelerated capital cost allowance	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral through use of billed-basis accounting by professionals	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral through capital gains rollovers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral through five-year capital gain reserve	31	20	23	23	24	22	21	21
Investment tax credits	36	43	55	55	56	57	58	59
Mineral exploration tax credit for flow-through share investors ²³	25	45	51	71	67	96	-16	-5
Partial inclusion of capital gains ²⁴	1,665	2,040	2,840	3,975	4,965	5,060	5,165	5,270
Taxation of capital gains upon realization	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Small Business</i>								
Lifetime capital gains exemption for small business shares ¹⁹	305	305	380	405	425	490	510	530
Deduction of allowable business investment losses	43	29	33	39	41	40	40	40
Deferral through 10-year capital gain reserve	S	S	S	S	S	S	S	S
Labour-sponsored venture capital corporations credit ²⁵	180	160	150	125	120	120	120	120
Rollovers of investments in small businesses	3	4	4	5	5	4	4	4
Health								
Children's fitness tax credit ²⁶	-	-	-	-	-	155	160	165
Disability tax credit ²⁷	350	365	390	420	430	420	435	445
Medical expense tax credit ²⁸	635	700	795	815	855	870	945	1,005
Non-taxation of business-paid health and dental benefits	1,875	2,010	2,155	2,135	2,310	2,480	2,605	2,725
Refundable medical expense supplement ²⁹	64	68	76	90	105	110	115	120
Income Maintenance and Retirement								
Age credit ³⁰	1,360	1,440	1,490	1,385	1,745	1,690	1,800	1,840
Deferred profit-sharing plans	n.a.	n.a.	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	10	12	13	13	14	15	16	17
Non-taxation of Guaranteed Income Supplement and Allowance benefits ³¹	265	295	295	240	175	140	160	150


Table 1
Personal Income Tax Expenditures (cont'd)

	Estimates			Projections				
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
Non-taxation of investment income on life insurance policies ³²	n.a.	n.a.	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.	n.a.	n.a.
Non-taxation of social assistance benefits ³³	225	220	205	155	145	83	86	75
Non-taxation of up to \$10,000 of death benefits	n.a.	n.a.	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) ³⁴	4	4	3	3	S	S	S	S
Non-taxation of veterans' disability pensions and support for dependants ³⁵	140	145	150	140	150	160	165	165
Non-taxation of veterans' Disability Award ³⁵	–	–	–	–	–	14	18	17
Non-taxation of workers' compensation benefits	700	630	630	635	685	685	740	795
Registered Disability Savings Plan ³⁶	–	–	–	–	–	–	S	S
Pension income credit ³⁷	415	430	440	410	790	895	930	945
Pension income splitting ³⁸	–	–	–	–	–	665	700	730
Registered pension plans ³⁹								
Deduction for contributions	5,325	6,615	7,740	8,415	9,420	9,750	10,100	10,455
Non-taxation of investment income	5,060	7,525	10,385	12,465	13,700	13,975	14,250	14,535
Taxation of withdrawals	-6,370	-6,575	-7,090	-7,180	-7,360	-6,770	-7,095	-7,370
Net tax expenditure	4,015	7,560	11,030	13,700	15,755	16,950	17,255	17,620
Registered retirement savings plans ³⁹								
Deduction for contributions	5,915	6,000	6,410	6,760	7,230	7,705	8,210	8,740
Non-taxation of investment income	2,345	4,075	5,785	7,160	7,915	8,072	8,235	8,400
Taxation of withdrawals	-3,510	-3,670	-4,010	-4,155	-4,405	-4,545	-4,855	-5,155
Net tax expenditure	4,755	6,410	8,190	9,765	10,740	11,235	11,595	11,985
Supplementary information:								
Present value of tax assistance for retirement savings plans ⁴⁰	5,850	6,820	7,450	8,340	9,250	10,100	10,620	11,210
Saskatchewan Pension Plan	S	S	S	S	S	S	S	S
Treatment of alimony and maintenance payments	115	115	105	105	105	110	110	105
Other Items								
Deduction related to vows of perpetual poverty	S	S	S	S	S	S	S	S
Deduction for clergy residence	74	70	67	68	69	69	71	73
Non-taxation of capital gains on principal residences ⁴¹								
Partial inclusion rate	1,405	1,830	2,605	3,405	4,000	4,200	4,285	4,370
Full inclusion rate	2,810	3,655	5,210	6,805	8,000	8,400	8,570	8,740

Table 1
Personal Income Tax Expenditures (cont'd)

	Estimates			Projections				
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
Non-taxation of income from the Office of the Governor General	S	S	S	S	S	S	S	S
Non-taxation of income of Indians on reserves	n.a.	n.a.	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	S	S
Public transit tax credit ⁴²	-	-	-	-	100	210	240	255
Memorandum Items								
<i>Avoidance of Double Taxation</i>								
Dividend gross-up and tax credit ⁴³	1,260	1,330	1,480	1,695	2,185	2,280	2,380	2,445
Foreign tax credit	665	580	615	625	635	640	655	665
Non-taxation of capital dividends	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Recognition of Expenses Incurred to Earn Income</i>								
Child care expense deduction ⁴⁴	535	535	570	570	735	770	780	790
Deduction of carrying charges incurred to earn income	730	725	775	870	1,060	1,105	1,160	1,225
Deduction of union and professional dues	575	600	615	635	660	680	705	725
Disability supports deduction (attendant care deduction) ⁴⁵	S	S	S	5	5	8	10	12
Moving expense deduction	88	82	88	90	93	95	98	100
<i>Loss Offset Provisions</i>								
Capital loss carry-overs ⁴⁶	91	165	250	300	330	330	340	345
Farm and fishing loss carry-overs	15	10	14	14	14	14	14	14
Non-capital loss carry-overs	82	62	62	62	63	63	65	66
<i>Social and Employment Insurance Programs</i>								
Canada Pension Plan and Québec Pension Plan								
Employee-paid contribution credit	2,245	2,455	2,570	2,505	2,670	2,720	2,855	2,975
Non-taxation of employer-paid premiums ⁴⁷	3,400	3,730	3,835	3,950	4,175	4,420	4,605	4,810
Employment Insurance								
Employment Insurance contribution credit	1,075	1,050	1,020	965	930	900	900	935
Non-taxation of employer-paid premiums	2,140	2,085	1,990	1,990	1,900	1,895	1,965	1,985
<i>Other</i>								
Basic personal amount ⁴⁸	21,085	21,705	22,860	23,275	24,205	25,480	25,975	27,575
Deduction of farm losses for part-time farmers	61	61	59	57	58	59	60	61
Deduction of other employment expenses	775	825	870	900	935	965	995	1,025
Deduction of resource-related expenditures	175	270	370	415	485	485	485	485



Table 1
Personal Income Tax Expenditures (cont'd)

	Estimates			Projections				
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
Reclassification of flow-through shares ⁴⁹	31	35	54	53	56	48	48	48
Non-taxation of lottery and gambling winnings ⁵⁰	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of allowances for diplomats, military and other government employees posted abroad	10	10	9	9	9	9	9	9
Partial deduction of meals and entertainment expenses ⁵¹	72	76	62	62	63	81	91	100

Notes:

¹ The increase in the tax expenditure in 2006 reflects the elimination in that year of capital gains tax on donations to public charities of both publicly listed securities and ecogifts. The further increase in 2007 reflects Budget 2007's announcement of an extension to private foundations of the elimination of capital gains tax on donations of listed securities. The total tax expenditure cost of this measure has two components: the revenue forgone as a result of the reduced inclusion rate (which is shown in the main table), and the increased cost of the charitable donations credit from any increase in donations that results from the measure. If all of the donations of listed securities and ecologically sensitive land would have been made in the absence of this measure, then (as shown in the main table) the total cost ranges from \$5 million to \$47 million between 2002 and 2009. If, on the other hand, all donations of listed securities and ecologically sensitive land came about as a result of the reduced inclusion rate on capital gains, and if in the absence of the measure the shares and land would have been sold instead of donated, then the cost of the measure ranges from \$37 million to \$205 million between 2002 and 2009, as shown below (in millions of dollars):

2002	2003	2004	2005	2006	2007	2008	2009
37	50	82	74	122	205	205	205

The true costs fall somewhere between the lower and upper bounds set by the ranges indicated.

² The total tax expenditure cost has two components: the revenue forgone as a result of the reduced inclusion rate (which is shown in the main table), and the increased cost of the charitable donations credit from any increase in donations that results from the measure. If all of the donations of cultural property would have been made in the absence of this measure, then (as shown in the main table) the total cost ranges from \$3 million to \$15 million between 2002 and 2009. If, on the other hand, all donations of cultural property came about as a result of this measure, and if the property would otherwise have been sold instead of donated, then the cost of the measure ranges from \$13 million to \$77 million between 2002 and 2009, as shown below (in millions of dollars):

2002	2003	2004	2005	2006	2007	2008	2009
22	77	29	13	23	25	25	25

The true costs fall somewhere between the lower and upper bounds set by the ranges indicated.

³ The increase in the tax expenditure in 2004 reflects both the impact of the 38th general election and the onset of two additional factors. First, the three political contribution tax credit thresholds were increased by \$200 each, for 2004 and subsequent years. Second, An Act to amend the Canada Elections Act and the Income Tax Act, which received Royal Assent on May 14, 2004, enables additional political parties to become registered and eligible for the tax credit. The continuing high levels for the tax expenditure in 2005 and 2006 reflect the fact that contributions in respect of the 39th general election were spread over the two calendar years. It is assumed that the next general election will be held in October 2009, the fixed date established by legislation.

⁴ This tax expenditure relates to amounts earned in the year and claimed by the student himself or herself (i.e. neither transferred nor carried forward).

⁵ This measure was introduced in Budget 2006, effective 2006.



Table 1

Personal Income Tax Expenditures (cont'd)

- ⁶ For a given year, the tax expenditure represents the value of education, tuition and textbook tax credits earned in past years, and used in that year. The tax expenditure does not include the pool of unused education, tuition and textbook tax credits that have been accumulated but will be deferred for use in future years. For example, in taxation year 2007, it is projected that taxpayers will defer \$42 million of education, tuition and textbook tax credits (tax value) accumulated in past years, for use in 2008 and future taxation years. In addition, the tax expenditure for the carry-forward for 2007 and beyond increases substantially due to the impact of the textbook tax credit and the full exemption of scholarship, fellowship and bursary income, which were introduced in Budget 2006.
- ⁷ The tax expenditure for the transfer of education, tuition and textbook tax credits for 2006 and beyond increases substantially due to the impact of the textbook tax credit and the full exemption of scholarship, fellowship and bursary income, which were introduced in Budget 2006.
- ⁸ The tax expenditure equals the tax revenue forgone from exempting scholarship, fellowship and bursary income from tax. Budget 2006 introduced a measure that makes all amounts received for post-secondary scholarships, fellowships and bursaries exempt from tax, where these amounts are received in connection with enrolment in a program for which the student can claim the education tax credit. Budget 2007 extended this treatment to elementary and secondary school students, effective 2007. All other scholarships, fellowships and bursaries receive a tax exemption on the first \$500.
- ⁹ The tax expenditure equals the tax revenue forgone on the tax-sheltered income earned on registered education savings plan (RESP) assets, minus the revenue from taxing withdrawals of income (as an educational assistance payment or accumulated income payment) from RESPs. Projections are lower than in last year's report due to revised administrative data from Human Resources and Social Development Canada. The projections also include the impact of the Budget 2007 announcement of an enhancement of RESPs, effective 2007 (see the "What's New in the 2007 Report" section for details).
- ¹⁰ This measure was introduced in Budget 2006. Because this measure started in July 2006, the maximum amount on which the credit is calculated for the 2006 taxation year was \$250. For 2007, the maximum amount on which the credit is calculated is increased to \$1,000. This maximum amount will be indexed in subsequent years.
- ¹¹ This measure was introduced in Budget 2004, effective 2004. In prior years' publications, tax expenditure estimates for this credit were based on the original cost estimate for the measure. As of this publication, the estimate for 2004 is based on actual tax information and projections have been modified to incorporate actual tax information and detailed administrative data supplied by the Department of National Defence. This tax expenditure declined in 2005, largely as a result of the reduction in the Canadian component of the NATO-led Stabilization Force (SFOR) mission in Bosnia-Herzegovina. The growth in the Canadian Forces presence in Afghanistan is largely responsible for the tax expenditure increase for 2006 and beyond.
- ¹² In last year's report, this tax expenditure was projected to decline from 2004 to 2005, partly due to expectations that changes to the accounting treatment of stock options starting in 2005 would have resulted in a reduced use of this form of compensation. However, tax return data indicate that this tax expenditure increased in 2005 and again in 2006.
- ¹³ This measure was introduced in Budget 2006, effective May 2, 2006.
- ¹⁴ This measure was announced in Budget 2007, effective 2007 (see the "What's New in the 2007 Report" section for details).
- ¹⁵ This measure was introduced in Budget 2005, effective 2005.
- ¹⁶ This measure was announced in Budget 2007, effective 2007 (see the "What's New in the 2007 Report" section for details).
- ¹⁷ Budget 2007 and the 2007 Economic Statement enhanced the spouse or common-law partner credit, effective 2007 (see the "What's New in the 2007 Report" section for details). At the same time, however, pension income splitting reduces the value of this credit starting in 2007 (see footnote 38 for details). Also, Universal Child Care Benefit (UCCB) payments are included in the net income of the lower-income spouse or common-law partner, thus reducing the value of this credit. UCCB payments started in July 2006, and 2007 is the first full year for these payments.
- ¹⁸ Budget 2007 enhanced the eligible dependant credit, effective 2007 (see the "What's New in the 2007 Report" section for details).
- ¹⁹ Budget 2006 extended the lifetime capital gains exemption (LCGE) to qualifying fishing property, effective May 2, 2006. Budget 2007 increased the LCGE to \$750,000 from \$500,000, effective March 19, 2007 (see the "What's New in the 2007 Report" section).
- ²⁰ The tax expenditure in 2004 is higher than in other years due to the effects of the outbreak of avian flu in British Columbia. Because this provision is a deferral measure, the deferred income from 2004 is reported in 2005, resulting in a negative tax expenditure for that year.



Table 1

Personal Income Tax Expenditures (cont'd)

- ²¹ Estimates and projections are based on Statistics Canada data available up to 2005, which includes cash purchase tickets for wheat, barley, oats, canola, flax and rye. Projections after 2005 are calculated using a historical average growth rate.
- ²² The data for the Net Income Stabilization Account (NISA) program are observed values up to 2004. Since the Canadian Agricultural Income Stabilization (CAIS) program has replaced NISA, tax expenditure projections reflect wind-down provisions. It should also be noted that CAIS does not result in a tax expenditure.
- ²³ The estimates and projections have been revised to reflect recent data and the Budget 2007 announcement of the extension of the credit to flow-through share agreements entered into on or before March 31, 2008. The net negative figures for 2008 and 2009 reflect the inclusion in income for those years of an amount equal to the credit claimed in the previous year (e.g. credit claimed in 2007 included in 2008 income). A deduction for the full amount of the eligible exploration expenditure is allowed for the year for which the credit is claimed. An amount equal to the credit is required to be included in income the following year, however, so as to reverse the deduction in respect of the portion of the expenditure that was effectively paid for by the credit.
- ²⁴ Recent data indicate that capital gains realizations continued to increase substantially in 2005 and 2006. This is consistent with the strong performance of equity and real estate markets in these years. Much slower growth in capital gains realizations is assumed for years after 2006. These projections do not reflect the increased value of capital losses carried back and applied against capital gains in previous years or carried forward and applied against capital gains in subsequent years under a 100-per-cent inclusion rate.
- ²⁵ The projections of this tax expenditure for 2005 and 2006 are based on preliminary information showing reduced sales of shares of labour-sponsored venture capital corporations for those years. Projections assume sales remain constant after 2006.
- ²⁶ This measure was introduced in Budget 2006, effective 2007. Budget 2007 enhanced this measure for children with disabilities (see the "What's New in the 2007 Report" section for details).
- ²⁷ Budget 2005 extended eligibility for the disability tax credit (DTC) to individuals who face multiple restrictions that together have a substantial impact on their everyday lives, and amended the DTC to ensure that more individuals requiring extensive life-sustaining therapy on an ongoing basis are eligible.
- ²⁸ The increase in the projected tax expenditure reflects enhancements to the credit announced in the 2003, 2004 and 2005 budgets.
- ²⁹ The increase in the projected tax expenditure reflects enhancements to the credit announced in the 2005 and 2006 budgets. Specifically, Budget 2005 increased the maximum amount of the supplement from \$571 to \$750 per year, effective 2005, and Budget 2006 subsequently increased the maximum amount from \$767 to \$1,000, effective 2006.
- ³⁰ The age credit amount was increased by \$1,000, from \$4,066 to \$5,066, in the Tax Fairness Plan (announced October 31, 2006, and confirmed in Budget 2007), effective 2006.
- ³¹ The projected decline in this tax expenditure is mainly explained by increases to the basic personal amount and other non-refundable credits relevant to seniors (such as the age credit and the pension income credit).
- ³² Although this measure does provide tax relief for individuals, it is implemented through the corporate tax system. See under "interest credited to life insurance policies" in Table 2 of this report for estimates and projections of this tax expenditure.
- ³³ The decline in this tax expenditure reflects increases in the basic personal amount, reductions in the lowest personal income tax rate and increases in the spouse or common-law partner amount as implemented in Budget 2000 (the Five-Year Tax Reduction Plan), the 2000 Economic Statement and Budget Update, Budget 2005, Budget 2006, Budget 2007 and the 2007 Economic Statement.
- ³⁴ This tax expenditure is based on data received from Veterans Affairs Canada. As part of the New Veterans Charter, in 2006 the Canadian Forces Income Support Benefit was established as a tax-free amount for eligible low-income veterans.
- ³⁵ This tax expenditure is based on data received from Veterans Affairs Canada. As of 2006, the new Disability Award has replaced the Veterans Disability Pension for eligible new applicants (current disability pensioners have been grandfathered).
- ³⁶ This measure was implemented in Budget 2007, effective 2008 (see the "What's New in the 2007 Report" section for details).



Table 1

Personal Income Tax Expenditures (cont'd)

- ³⁷ Budget 2006 increased the maximum amount that can be claimed under the pension income credit from \$1,000 to \$2,000 for the 2006 and subsequent taxation years. The introduction of pension income splitting in 2007 will increase the number of individuals claiming the pension income credit and thus increase the value of this tax expenditure (see footnote 38).
- ³⁸ This measure, announced on October 31, 2006, in the Tax Fairness Plan and confirmed in Budget 2007, allows a Canadian resident to allocate up to one-half of eligible pension income to his or her resident spouse or common-law partner, effective 2007.
- Pension income splitting has an impact on other tax expenditures starting in 2007. This measure reduces the effective tax rate on registered pension plan (RPP) benefits and withdrawals from registered retirement savings plans (RRSPs) and registered retirement income funds, thus increasing the net value of the RPP/RRSP tax expenditures. Also, since eligible pension income allocated to a lower-income spouse or common-law partner retains its character, some couples will be able to receive a second pension income tax credit where previously only one was available. This increases projections for the pension income credit tax expenditure. At the same time, since eligible pension income allocated to a lower-income spouse or common-law partner will raise his or her net income, projections for the spouse or common-law partner credit tax expenditure are lower than they would be in the absence of pension income splitting.
- ³⁹ Estimates and projections vary from those in last year's report due largely to a methodological change in the calculation of the tax expenditure associated with the non-taxation of investment income. This tax expenditure was previously calculated on an accrual basis, which usually overstated the tax expenditure associated with the non-taxation of capital gains, since only realized capital gains would be taxable if the tax deferral on registered pension plans (RPPs) and registered retirement savings plans (RRSPs) were removed. This year's estimates and projections are based on realized capital gains, based on observed data from trustee pension plans. The revised figures for 2002–2004 reflect this methodological change. This has the effect of smoothing the tax expenditure associated with the non-taxation of investment income. Still, tax expenditure estimates will typically be higher in years when assets grow strongly, reflecting the tax forgone on that investment income, and lower in years when assets grow slowly or decline. In addition, pension income splitting decreases the tax rates on withdrawals for 2007 and beyond, thereby increasing net tax expenditures for RPPs and RRSPs.
- ⁴⁰ 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.
- ⁴¹ Projected tax expenditures reflect anticipated increases in home resales and resale housing prices. Values for this tax expenditure can vary significantly from year to year, primarily due to unanticipated year-to-year fluctuations in the number of residence resales and in the average price of residences.
- ⁴² 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 (see the "What's New in the 2007 Report" section for details).
- ⁴³ Budget 2006 enhanced the gross-up and dividend tax credit for eligible dividends (generally those paid by large corporations), effective 2006.
- ⁴⁴ Prior to 2006, some families with young children who claimed little or no child care expenses were eligible to receive the Canada Child Tax Benefit (CCTB) under-7 supplement. Thus the value of the tax expenditure was partially offset by the increase in the CCTB under-7 supplement that would follow any decrease in the amount of child care expenses claimed. The increase in the tax expenditure in 2006 and later years reflects the phase-out of the CCTB under-7 supplement as of June 30, 2006, for children under the age of 6, and June 30, 2007, for 6-year-old children.
- ⁴⁵ Budget 2004 replaced the attendant care deduction with a broader disability supports deduction, beginning with the 2004 taxation year. Budget 2005 expanded the list of expenses eligible for the disability supports deduction.
- ⁴⁶ In last year's report, this tax expenditure was projected to decline after 2004. Preliminary data for 2005 indicate that it increased from 2004 to 2005.
- ⁴⁷ Self-employed individuals may deduct the employer share of their Canada/Québec Pension Plan contributions paid for their own coverage. This is included in the tax expenditure for the non-taxation of employer-paid premiums.
- ⁴⁸ During this period, the basic personal amount has been increased by amounts over and above the inflation protection provided by full indexation (due to changes legislated in Budget 2005, Budget 2006 and the 2007 Economic Statement).



Table 1*Personal Income Tax Expenditures (cont'd)*

⁴⁹ This tax expenditure applies to a subset of resource-related deductions. Data is available for 2002 to 2004 on the volume of reclassified shares and are used to calculate these estimates. Projections after 2004 are based on observed and forecast growth rates in the oil and gas industry.

⁵⁰ A number of substantial methodological difficulties call into question the accuracy and utility of estimates and projections of the revenue implications of non-taxation of lottery and gambling winnings. The first methodological difficulty is that the data on payouts/winnings is incomplete. There is solid information on aggregate payouts only for government-run lotteries and bingos. Data on payouts at casinos, video lottery terminals, horseracing, and racetrack slot machines, which constitute a rising share of total spending on gaming, is fragmentary. In addition, no data is available on the payouts/winnings from activities sponsored by charities and other non-government organizations. Second, even if complete information on aggregate payouts were available, the revenue implications of non-taxation still could not be determined with precision. For example, if the benchmark tax system were to include taxation of gambling and lottery winnings, consideration would have to be given to including a deduction for expenses incurred in earning this income, i.e. ticket purchases or wagers/losses. This deduction could be allowed either against all income or against only lottery and gambling winnings. A threshold below which winnings would not be taxable would also be necessary, due to the large administrative cost of taxing very small prizes. In the absence of information on the distribution of prizes and the incomes of winners, the resulting potential tax base is difficult to estimate. Further, it would be impractical to tax some forms of winnings (e.g. slot machines) because of the way in which prizes are paid out.

It is also important to note that under federal-provincial agreements negotiated in 1979 and 1985, the federal government, in exchange for an ongoing payment, undertook to refrain from re-entering the field of gaming and betting and to ensure that the rights of the provinces in that field are not reduced or restricted.

⁵¹ The most recent data indicate that deductions of meals and entertainment expenses declined in 2004. This also affects the projected tax expenditure in 2005 and 2006. Budget 2007 increased the deductible portion of the cost of food and beverages consumed by long-haul truck drivers during eligible periods of travel. Thus, the projected tax expenditure increases starting in 2007.

Table 2
*Corporate Income Tax Expenditures**

	Estimates				Projections ¹			
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
Charities, Gifts and Contributions								
Deductibility of charitable donations ²	295	245	470	345	385	410	400	405
Deductibility of gifts of cultural property and ecologically sensitive land	26	10	24	13	14	14	14	14
Deductibility of gifts to the Crown	S	S	S	S	S	S	S	S
Non-taxation of registered charities	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Non-taxation of other non-profit organizations (other than registered charities) ³	175	160	150	140	165	190	195	215
Political contribution tax credit ⁴	S	S	S	S	S	S	-	-
Culture								
Canadian film or video production tax credit	155	155	185	180	190	200	210	220
Non-deductibility of advertising expenses in foreign media	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Federal-Provincial Financing Arrangements								
Income tax exemption for provincial and municipal corporations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Transfer of income tax room to provinces	1,065	1,210	1,455	1,645	1,830	1,945	2,040	2,165
Logging tax credit ⁵	22	16	55	42	58	43	45	47
General Business and Investment								
Accelerated write-off of capital assets and resource-related expenditures	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral through capital gains rollovers	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Taxation of capital gains upon realization	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Partial inclusion of capital gains ⁶	2,370	2,050	2,815	3,575	5,160	5,065	5,070	5,040
Expensing of advertising costs ⁷	-110	-150	5	-5	20	50	50	50
Atlantic investment tax credit								
Earned and claimed in current year	95	65	125	135	140	145	150	160
Claimed in current year but earned in prior years	190	96	160	280	220	230	240	250
Earned in current year but carried back to prior years	8	13	3	5	5	5	6	6
Total tax expenditure	293	174	288	420	365	380	396	416
Scientific research and experimental development investment tax credit⁸								
Earned and claimed in current year	1,855	1,715	1,910	2,135	2,390	2,680	3,000	3,355
Claimed in current year but earned in prior years	440	545	1,055	1,180	1,320	1,480	1,655	1,850
Earned in current year but carried back to prior years	99	97	98	99	100	100	100	105
Total tax expenditure	2,394	2,357	3,063	3,414	3,810	4,260	4,755	5,310
Write-off of capital assets before available for use	n.a.	n.a.	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*, published in 2004 and available on the Department of Finance website (www.fin.gc.ca), for a discussion of the reasons for this.



Table 2
Corporate Income Tax Expenditures (cont'd)

	Estimates				Projections ¹			
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
Apprenticeship job creation tax credit	–	–	–	–	145	200	205	210
Investment tax credit for child care spaces ⁹	–	–	–	–	–	S	S	S
<i>Small Business</i>								
Deduction of allowable business investment losses ¹⁰	31	27	17	18	24	26	26	27
Low tax rate for small businesses ¹¹	3,610	3,245	3,035	3,305	3,770	4,115	4,215	4,195
Accelerated rate reduction for small businesses ¹²	65	45	10	–	–	–	–	–
Non-taxation of provincial assistance for venture investments in small businesses	n.a.	n.a.	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.	n.a.	n.a.
Exemption from tax for international banking centres	S	S	S	S	S	S	S	S
Exemptions from non-resident withholding tax ¹³								
Dividends ¹⁴	395	465	655	1,000	1,025	990	1,035	1,085
Interest								
On deposits	195	140	115	195	160	170	180	185
On corporate debt ¹⁵	175	215	395	240	255	270	470	600
Other ¹⁶	245	300	270	215	280	295	315	320
Rents and royalties								
Copyright royalties	28	26	23	32	29	30	32	34
Rents and royalties for the use of, or right to use, other property	115	120	98	120	120	125	130	140
Research and development royalties	4	4	3	S	3	3	4	4
Natural resource royalties	S	S	S	S	S	S	S	S
Rents from real property	S	S	S	S	S	S	S	S
Management fees	76	70	74	73	76	80	84	88
Non-taxation of life insurance companies' world income	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tax exemption on income of foreign affiliates of Canadian corporations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sectoral Measures								
<i>Farming</i>								
Cash-basis accounting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deferral of income from destruction of livestock ¹⁷	S	S	3	S	S	S	S	S
Deferral of income from grain sold through cash purchase tickets ¹⁸	12	S	S	13	-6	S	S	S
Flexibility in inventory accounting	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Agricultural cooperatives ¹⁹	–	–	–	–	30	30	30	30

Table 2
Corporate Income Tax Expenditures (cont'd)

	Estimates				Projections ¹			
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
<i>Resource</i>								
Corporate mineral exploration tax credit ²⁰	–	S	13	20	23	26	31	36
Deductibility of contributions to a qualifying environmental trust	S	S	S	7	3	3	3	3
Earned depletion ²¹	23	13	22	41	42	39	34	33
Net impact of the resource allowance and the non-deductibility of Crown royalties and mining taxes ²²	360	115	10	105	50	15	–	–
Tax rate on resource income ²³	-210	-220	-525	-610	-505	-115	–	–
Transitional arrangement for the Alberta Royalty Tax Credit ²⁴	–	S	S	S	S	S	–	–
<i>Other Sectors</i>								
Exemption from branch tax for transportation, communications, and iron ore mining corporations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Film or video production services tax credit ²⁵	77	98	105	110	120	125	130	140
Low tax rate for credit unions	80	73	60	64	72	76	77	79
Manufacturing and processing allowance ²⁶	1,105	465	80	–	–	–	–	–
Surtax on the profits of tobacco manufacturers ²⁷	-75	-75	-55	-50	n.a.	n.a.	n.a.	n.a.
Other Measures								
Deductibility of countervailing and anti-dumping duties	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deductibility of earthquake reserves	5	5	5	5	6	6	6	6
Deferral through use of billed-basis accounting by professional corporations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Holdback on progress payments to contractors ²⁸	5	30	50	50	50	50	50	50
Interest credited to life insurance policies	68	76	81	84	88	91	95	98
Non-taxation of certain federal Crown corporations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Memorandum Items								
<i>Mechanisms for the Integration of Personal and Corporate Income Tax</i>								
Investment corporation deduction	S	S	S	S	S	S	S	S
Refundable capital gains for investment and mutual fund corporations ²⁹	35	55	115	345	155	175	185	190
Refundable taxes on investment income of private corporations ³⁰								
Additional Part I tax ³¹	-675	-790	-1,145	-1,555	-2,100	-2,285	-2,675	-3,000
Part IV tax	-1,940	-1,960	-1,990	-2,170	-2,675	-2,855	-3,015	-3,165
Dividend refund	3,805	3,265	3,945	4,475	6,065	6,595	6,960	7,315
Net tax expenditure	1,190	515	810	750	1,140	1,235	1,185	1,140



Table 2
Corporate Income Tax Expenditures (cont'd)

	Estimates				Projections ¹			
	2002	2003	2004	2005	2006	2007	2008	2009
	(\$ millions)							
<i>Recognition of Expenses Incurred to Earn Income</i>								
Deduction for intangible assets	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Deductibility of provincial royalties (joint venture payments) for the Syncrude project (remission order) ³²	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<i>Loss Offset Provisions</i>								
<i>Capital loss carry-overs</i>								
Net capital losses carried back ³³	800	365	115	89	90	97	105	110
Net capital losses applied to current year	155	300	355	475	645	640	640	635
<i>Farm and fishing loss carry-overs</i>								
Farm and fishing losses carried back ³⁴	6	11	12	15	18	19	20	21
Farm and fishing losses applied to current year	24	19	25	33	45	27	27	28
<i>Non-capital loss carry-overs</i>								
Non-capital losses carried back	2,315	2,265	1,615	1,760	1,855	1,955	2,060	2,220
Non-capital losses applied to current year ³⁵	3,375	3,280	3,765	4,575	4,420	4,595	4,200	4,275
<i>Other</i>								
Non-resident-owned investment corporation refund ³⁶	430	135	–	–	–	–	–	–
Partial deduction of meals and entertainment expenses ³⁷	270	280	285	300	325	330	305	295
Patronage dividend deduction ³⁸	390	330	270	285	320	335	325	335

Notes:

¹ Unless otherwise indicated in the footnotes, changes in the projections from those in last year's edition of this document as well as variations from year to year result from changes in the explanatory economic variables upon which the projections are based. These changes and variations also reflect the availability of new data and improvements to the methodology used to derive the estimates/projections. Estimates from 2002 to 2005 as well as projections for 2006 and subsequent years reflect the impact of the reduction in the general corporate income tax rate to 25 per cent on January 1, 2002, 23 per cent on January 1, 2003, 21 per cent on January 1, 2004, 19.5 per cent on January 1, 2008 and 19.0 per cent on January 1, 2009. The corporate surtax, which raises these rates by 1.12 percentage points, will be eliminated on January 1, 2008.

² Donations in 2004 were significantly higher than the historical average. Projections for 2007 onwards include projected tax expenditures associated with the Budget 2007 announcement for donations of medicines to the developing world.

³ The 2005 estimate is based on information from 2004 corporate income tax returns and gross domestic product growth between 2004 and 2005.

⁴ The Federal Accountability Act prohibits political contributions from corporations as of January 1, 2007. Some tax expenditure occurs in 2007, however, as many firms reporting income in the 2007 taxation year earned a portion of that income in the 2006 calendar year.

⁵ The tax expenditure in 2004 and 2005 reflects significant improvements in industry performance. The high use of the credit in 2006 in part reflects the settlement of the Canada-U.S. softwood lumber dispute. Subsequent years may not be as strong, so the 2007 projection is an average of the previous four years.

⁶ The 2006 projection reflects preliminary corporate income tax returns.



Table 2

Corporate Income Tax Expenditures (cont'd)

- ⁷ The amount of this tax expenditure can fluctuate significantly from year to year depending upon the amount of advertising expenses claimed. Since this tax expenditure is estimated on a cash-flow basis, annual advertising costs above the average of the previous two years will result in a positive estimate of the tax expenditure. Advertising costs under this average will result in a negative estimate. For more information about this measure, refer to the document *Tax Expenditures: Notes to the Estimates/Projections*, published in 2004 and available on the Department of Finance website at www.fin.gc.ca.
- ⁸ The tax expenditure for 2005 is based on estimated growth of investment tax credits claimed between 2004 and 2005.
- ⁹ This measure was introduced in Budget 2007 (see the "What's New in the 2007 Report" section for more details).
- ¹⁰ The amount of this tax expenditure can fluctuate from year to year depending on the amount of current-year losses and the availability of income against which to apply these losses.
- ¹¹ The reduction in the tax expenditure from 2002 to 2004 results from reductions in the benchmark rate. The tax expenditure for 2003 and subsequent years reflects the impact of the 2003, 2004 and 2006 budget increases in the amount of income eligible for the small business deduction, and the 2006 budget and 2007 Economic Statement proposals to reduce the small business tax rate. The decrease from last year's projection for 2006 is mainly due to a decrease in projected taxable income.
- ¹² This measure was announced in Budget 2000 and became effective January 1, 2001. On that date the general federal corporate income tax rate on income between \$200,000 and \$300,000 earned by a Canadian-controlled private corporation from an active business carried on in Canada was reduced to 21 per cent. Declines in the tax expenditure are a result of the reduction in the general corporate income tax rate and the increase, announced in Budget 2003, in the amount of income eligible for the small business deduction. This measure was effectively eliminated on January 1, 2004, when the general corporate income tax rate was reduced to 21 per cent. Some tax expenditure occurs in 2004, however, as many firms reporting income in the 2004 taxation year earned a portion of that income in the 2003 calendar year.
- ¹³ Estimates and projections were computed on the basis of an analysis of payments to non-residents and withholding tax collections available for 1997 to 2005. Variations from last year's estimates and projections are mainly due to revised and new data, as well as to certain minor methodological changes.
- ¹⁴ This category includes the tax expenditures attributable to the exemption of estate and trust income distributions, including distributions by income trusts. The significant increase in 2005 reflects growth in income trust distributions and dividend payments to residents of the United States.
- ¹⁵ Projections for this category reflect the changes announced in Budget 2007 with respect to withholding tax on interest payments, and are based on the assumption that interest payments to arm's length foreign lenders will be exempt from withholding tax as of January 2008, while the rate of withholding on interest payments to non-arm's length U.S. lenders will be reduced to 7 per cent as of January 2008 and to 4 per cent as of January 2009. The tax expenditure associated with the exemption of those payments is higher than the corresponding budget cost estimate as the latter also accounts for the reduction in foreign tax credits claimed in Canada that will follow from the elimination of U.S. withholding tax on interest paid to Canada from U.S. borrowers.
- ¹⁶ This category includes interest paid to non-resident persons or organizations that would be exempt from income tax in Canada were they residents in Canada. Also included is interest paid under certain securities-lending arrangements exempt under subparagraph 212(1)(b)(xii) of the Income Tax Act, and interest exempt under certain other domestic and treaty provisions.
- ¹⁷ Estimates and the 2006 projection are based on actual data obtained from Statistics Canada.
- ¹⁸ Projections are calculated using a historical average growth rate. Since this tax expenditure is estimated on a cash-flow basis, an increase in the balance of uncashed grain tickets represents additional income that is being deferred and results in a positive tax expenditure. A decrease in the balance of uncashed grain tickets indicates that less income is being deferred and results in a negative tax expenditure. The tax expenditure estimates and projections are volatile over time since a small number of corporations are affected in a very specific sector. Estimates and the 2006 projection are based on actual data obtained from Statistics Canada.
- ¹⁹ This measure applies only to patronage dividends paid after 2005. See the "What's New in the 2005 Report" section of the 2005 *Tax Expenditures and Evaluations* document for further details about this measure.
- ²⁰ This credit was introduced in Budget 2003 and phased in starting at 5 per cent in 2003, 7 per cent in 2004 and 10 per cent in subsequent years. In the prior years, tax expenditure estimates for this credit were based primarily on exploration estimates. The estimates have now been modified to incorporate actual tax collection information for 2003, 2004 and 2005. Cost estimates include: (a) the value of credits used in the year, whether they were earned in the current year or carried forward from a previous year, and (b) credits carried back to a previous year in the current year's tax return.



Table 2

Corporate Income Tax Expenditures (cont'd)

- ²¹ Additions to earned depletion pools were eliminated as of January 1, 1990. The tax expenditure reflects use of the existing earned depletion pools.
- ²² 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 that do not have a December 31 year-end for which the 2007 year includes a portion of 2006. Year-to-year variations reflect volatility in the relationship between the resource allowance and Crown royalties. See the technical paper "Improving the Income Taxation of the Resource Sector in Canada" (Department of Finance, March 2003) for further details.
- ²³ The general corporate income tax rate was extended to resource income over a five-year phase-in period beginning in 2003. Although the rate difference between the general and resource rates no longer exists as of 2007, there are still costs in that year associated with 2006 rates for companies with off-calendar taxation years, for which the 2007 taxation year includes some income earned in 2006.
- ²⁴ 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 costs in that year associated with the measure for companies with off-calendar taxation years, for which the 2007 taxation year includes some royalties earned in 2006. The estimate for 2005 is derived using the growth rate in royalty claims and oil and gas tax receipts.
- ²⁵ The estimates for 2004 and 2005 are based on 2003 corporate income tax return data and the growth rate of gross domestic product.
- ²⁶ Although this tax expenditure was effectively eliminated on January 1, 2004, when the general corporate income tax rate was reduced to 21 per cent, many firms reporting income in the 2004 taxation year earned a portion of that income in the 2003 calendar year, before the tax expenditure was effectively eliminated.
- ²⁷ The decrease in this tax expenditure after 2003 is due to the decrease in tobacco manufacturers' profits. For confidentiality reasons, projections for 2006 to 2009 are not published.
- ²⁸ The amount of this tax expenditure can fluctuate significantly from year to year depending primarily on the level of construction activity. Therefore, the 2004 and 2005 estimates and the projections reflect the historical average for this tax expenditure.
- ²⁹ The amount of this tax expenditure can fluctuate from year to year depending on the amount of capital gains withdrawn by the shareholders of these corporations.
- ³⁰ Refundable tax provisions of the corporate income tax system provide some integration of the corporate and personal income tax regimes. For more information about these measures, refer to the document *Tax Expenditures: Notes to the Estimates/Projections*, published in 2004 and available on the Department of Finance website at www.fin.gc.ca.
- ³¹ This item includes the additional 6% per cent refundable tax on investment income as well as the Part I tax paid on investment income in excess of the benchmark rate.
- ³² The cost of the Syncrude Remission Order ("Order Respecting the Remission of Income Tax for the Syncrude Project," P.C. 1976-1026, May 6, 1976 [C.R.C. 1978 Vol. VII, c. 794]) is published annually in the *Public Accounts of Canada* (ISBN 0-660-177792-7). The order expired on December 31, 2003.
- ³³ The large value in 2002 reflects, for the most part, the capital losses recorded that year resulting from declines in the market value of technology stocks. Methodological improvements have resulted in lower tax expenditures in all years compared to the 2006 publication.
- ³⁴ The availability of new data allows the separation of the farm and fishing loss carry-overs into two categories. This tax expenditure is presented for the first time in this year's report.
- ³⁵ Higher estimates and projections relative to last year's publication reflect the availability of more recent data indicating that more losses than previously estimated are being applied against taxable income due to the increased profitability of Canadian companies. In addition, companies claiming such losses have, on average, a higher effective tax rate than previously estimated. Finally, this year's estimates and projections are also affected by methodological improvements in calculating the effective tax rate.
- ³⁶ This measure was repealed in 2000. To allow for an orderly restructuring of their operations, however, existing non-resident-owned investment corporations were entitled to retain their status until the end of their last taxation year that began before 2003.
- ³⁷ Budget 2007 increased to 80 per cent from 50 per cent, over five years, the deductible portion of the cost of food and beverages consumed by long-haul truck drivers during certain long-haul trips. This measure will also apply to employers that pay, or reimburse, such costs incurred by long-haul truck drivers that they employ. This measure applies to eligible expenses incurred on or after March 19, 2007.
- ³⁸ The 2005 estimate is based on information from 2004 corporate income tax returns and gross domestic product growth between 2004 and 2005.

Table 3
*Goods and Services Tax Expenditures**

	Estimates ¹				Projections ²			
	2002	2003	2004	2005	2006 ³	2007 ³	2008 ³	2009 ³
	(\$ millions)							
Aboriginal Self-Government								
Refunds for Aboriginal self-government ⁴	S	S	S	S	S	S	S	S
Business								
Exemption for domestic financial services ⁵	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Exemption for ferry, road and bridge tolls ⁶	5	10	5	10	10	5	5	5
Exemption and rebate for legal aid services	25	25	25	25	25	25	20	25
Non-taxability of certain importations ⁷	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Rebates for foreign visitors ⁸	85	75	75	80	70	15	n.a.	n.a.
Foreign Convention and Tour Incentive Program ⁸	n.a.	n.a.	n.a.	n.a.	n.a.	10	10	10
Small suppliers' threshold	165	175	185	195	195	190	170	175
Zero-rating of agriculture and fish products and purchases ⁹	S	S	S	S	S	S	S	S
Zero-rating of certain purchases made by exporters	S	S	S	S	S	S	S	S
Charities and Non-Profit Organizations								
Exemption for certain supplies made by non-profit organizations	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Rebates for registered charities	255	270	285	290	290	280	245	255
Rebates for non-profit organizations	65	70	75	75	75	70	60	65
Education								
Exemption for education services (tuition) ⁶	435	480	515	550	535	520	455	475
Rebates for book purchases made by qualifying public institutions	30	30	30	30	30	30	25	25
Rebates for colleges	85	85	80	80	80	75	65	70
Rebates for schools	380	380	400	425	425	410	355	375
Rebates for universities	205	240	260	270	270	260	225	235
Health Care								
Exemption for health care services ⁶	425	475	505	570	555	540	470	495
Rebates for hospitals	395	425	465	515	515	495	435	455
Zero-rating of medical devices ⁶	130	135	150	160	155	150	130	140
Zero-rating of prescription drugs ⁶	465	475	530	570	555	540	470	490
Households								
Exemption for child care and personal services ⁶	120	130	140	150	150	145	125	130
Goods and services tax/harmonized sales tax credit ¹⁰	3,070	3,180	3,330	3,450	3,515	3,585	3,650	3,710
Zero-rating of basic groceries ⁶	3,455	3,620	3,740	3,945	3,855	3,735	3,255	3,410

* 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*, published in 2004 and available on the Department of Finance website (www.fin.gc.ca), for a discussion of the reasons for this.



Table 3
Goods and Services Tax Expenditures (cont'd)

	Estimates ¹				Projections ²			
	2002	2003	2004	2005	2006 ³	2007 ³	2008 ³	2009 ³
	(\$ millions)							
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.	n.a.	n.a.
Exemption for residential rent (long-term) ⁶	1,265	1,340	1,415	1,510	1,475	1,430	1,240	1,300
Rebates for new housing	785	835	920	950	965	960	880	935
Rebates for new residential rental property	45	50	55	55	55	55	50	55
Municipalities								
Exemption for municipal transit ⁶	100	105	160	170	165	160	140	145
Exemption for water and basic garbage collection services ⁶	180	185	230	245	240	230	200	210
Rebates for municipalities ¹¹	725	805	1,435	1,725	1,715	1,665	1,450	1,520
Memorandum Items								
<i>Recognition of Expenses Incurred to Earn Income</i>								
Rebates to employees and partners ¹²	110	115	115	115	110	100	85	85
<i>Other</i>								
Exemption for quick method accounting	205	215	230	245	240	235	205	215
Partial input tax credits for meals and entertainment expenses ¹³	125	130	130	140	135	135	115	120

Notes:

- ¹ Unless otherwise indicated in the footnotes, estimates are based on administrative data from the Canada Revenue Agency and Statistics Canada.
- ² Unless otherwise indicated in the footnotes, changes in the projections from last year's report are the result of revised forecasts of economic indicators prepared by the Department of Finance and The Conference Board of Canada.
- ³ The goods and services tax rate was lowered from 7 per cent to 6 per cent effective July 1, 2006, and to 5 per cent effective January 1, 2008. The 2006 rate reduction lowers the tax expenditures for 2006 and 2007, and the 2008 rate reduction reduces them further for 2008 and 2009. In addition, there is more uncertainty than usual in tax expenditure projections (2006–2009), as the economic effects of the rate changes are not yet reflected in the underlying data.
- ⁴ These refunds are paid to Aboriginal governments that have an agreement providing for a goods and services tax/harmonized sales tax (GST/HST) refund for goods and services acquired for self-government activities.
- ⁵ Vendors are not entitled to claim input tax credits to recover the GST/HST paid on inputs to these products. Final consumers and businesses do not pay the direct sales tax on exempt goods and services.
- ⁶ The National GST Model used to generate these estimates is based on the 2003 national input-output tables from Statistics Canada and the latest release of the National Income and Expenditure Accounts.
- ⁷ Certain importations are tax-free including, for example, duty-free personal importations by Canadian travellers.
- ⁸ The Visitor Rebate Program has been replaced by the Foreign Convention and Tour Incentive Program effective April 1, 2007 (see the "What's New in the 2007 Report" section for details). It does not include amounts credited by suppliers at the point of sale.
- ⁹ Vendors of zero-rated products are entitled to claim input tax credits to recover the GST/HST paid on inputs to exempt products. Final consumers and businesses pay no tax on zero-rated goods and services.
- ¹⁰ Estimates are based on personal income tax data. The GST rate reductions do not affect the credit.
- ¹¹ The rebate rate for municipalities increased from 57.14 per cent to 100 per cent effective February 1, 2004.
- ¹² This item includes the apprentice vehicle mechanics' tools deduction.
- ¹³ Based on estimated expense claims reported for the personal and corporate income tax systems. Projections include the increased deductibility of meal expenses for long-haul truck drivers.

PART 2
RESEARCH REPORT



CORPORATE INCOME TAXES
AND INVESTMENT:
EVIDENCE FROM THE
2001–2004 RATE REDUCTIONS





Introduction

Business investment in plant and equipment is a key driver of Canada's prosperity. It promotes innovation and growth, which generate more and better jobs at higher wages for Canadian workers. The decision to invest is sensitive to the rate of return, which is in turn affected by the taxes imposed on business investment. Business tax reductions therefore contribute to improved living standards of Canadians.

Despite the strong theoretical link between taxation and investment, and a substantial body of empirical studies supporting this link, some skepticism has been expressed about the effectiveness of corporate income tax rate reductions in stimulating business investment.¹ At the theoretical level, tax rate reductions have been criticized for not being cost-effective, since they provide financial benefits to all profitable businesses, not just those that invest. Furthermore, a cursory examination of trends in investment and taxation does not lead to a clear-cut conclusion, since there have been times when rate reductions were followed by increased investment, as well as times when investment did not increase.

This study provides a non-technical summary of empirical analysis undertaken in the Department of Finance that examined the impact of the corporate income tax rate reductions announced in the 2000 budget and implemented over the 2001 to 2004 period.² The results are consistent with other studies,³ providing strong evidence that lower corporate income tax rates result in additional business investment.

The next section describes the tax reductions, providing more detail on their timing and the industries affected. This description is followed by a qualitative discussion of the determinants of investment, an explanation of the methodology used in this study and a review of the empirical results.

The 2001–2004 Corporate Income Tax Rate Reductions

The February 28, 2000 budget announced that the federal corporate income tax rate would be cut from 28 to 27 per cent effective January 1, 2001. It also promised further reductions over the next four years to reduce the rate to 21 per cent by 2004, but did not provide a timetable.

The October 18, 2000 *Economic Statement and Budget Update* spelled out the timing of the subsequent rate reductions as:

- 27 to 25 per cent effective January 1, 2002.
- 25 to 23 per cent effective January 1, 2003.
- 23 to 21 per cent effective January 1, 2004.

¹ For example, see Stanford (2005).

² See "Assessing the Impact of the 2001–2004 Tax Reductions on Business Investment," Department of Finance Working Paper, forthcoming.

³ See Annex 2 for a summary of these studies.



The reductions were to the “general” corporate income tax rate and did not apply to business income already eligible for special treatment.⁴ Most notably, the reductions did not affect:

- Manufacturing and processing income, which already benefited from the equivalent of a 21-per-cent tax rate.
- The resource sector, which benefited from a number of special tax preferences that served to reduce its effective tax rate.
- Small businesses, which already paid a low tax rate on the first \$200,000 of taxable income. However, the full 7-percentage-point reduction was applied to taxable income between \$200,000 and \$300,000 for small businesses.

A review of resource taxation did, however, result in the sector benefiting from the tax rate reductions beginning in 2003 and receiving the full benefit by 2007.

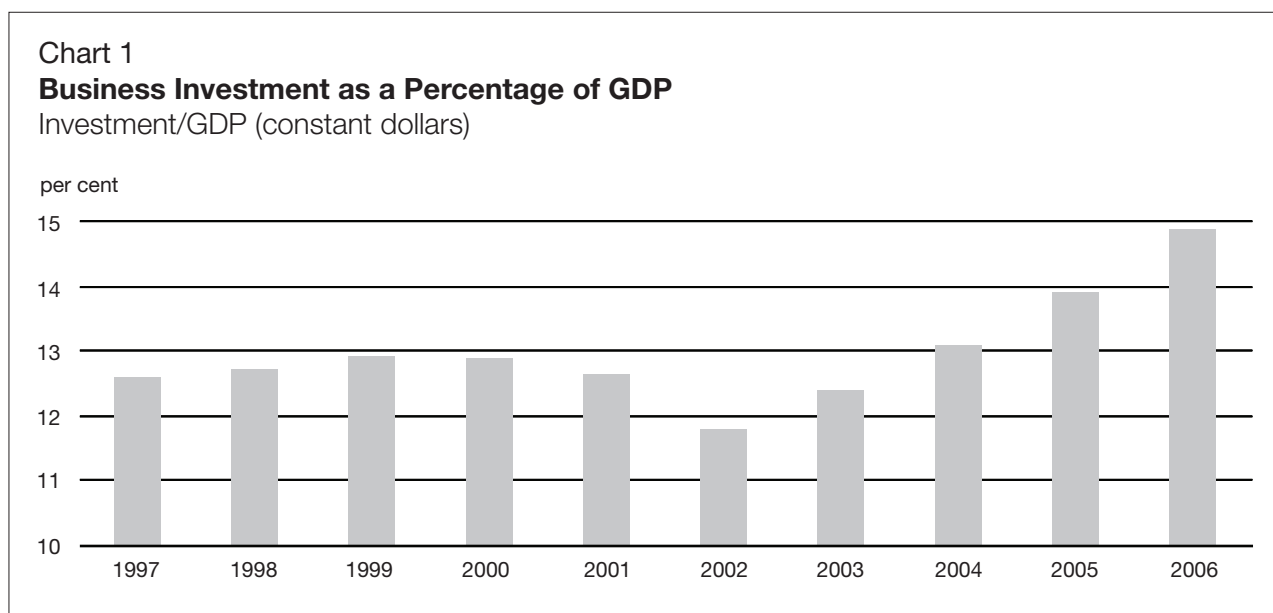
The fact that the 2001–2004 corporate income tax rate reductions were selective, applying to some industries but not to others, has important implications in terms of the statistical analysis undertaken in this study. The selective nature of the reductions provides “control” (i.e. unaffected by the tax reduction) and “treatment” (i.e. affected) groups, thereby making it easier to identify more precisely the impact of lower tax rates on business investment.

Did the Corporate Income Tax Rate Reductions Affect Business Investment?

Business investment in plant and equipment edged down relative to gross domestic product (GDP) in 2000 and continued to decline until 2002, despite the corporate income tax rate reductions. Investment turned around subsequently and by 2006 substantially exceeded the level attained before the program of tax reductions began (Chart 1). One way of interpreting these developments is that the tax reductions succeeded in increasing investment. Investment was much higher as a per cent of GDP in 2006, with lower tax rates, than in 2000, with higher ones. An alternative view is that the tax reductions were ineffective since they coincided with a period of investment decline. Despite the tax reductions, investment stayed below its 2000 level in 2001, 2002 and 2003 and barely surpassed it in 2004. The pickup in investment in 2005 and 2006 could have been a delayed reaction to the tax reductions but could equally have been the result of other factors.

It is therefore clear that the important question, “do reductions in corporate income tax rates stimulate business investment?” cannot be answered by a simple procedure, such as examining the aggregate data portrayed in Chart 1. The process by which businesses choose how much to invest is complex. Many influences other than taxes affect investment decisions, and these must be taken into account in order to isolate the impact of tax changes, as is discussed in the next section.

⁴ Note also that the corporate income surtax adds 1.12 percentage points to the general corporate income tax rate.



Impact of Corporate Income Tax Rate Reductions on Investment: Theory

According to standard economic theory, firms make decisions by comparing the additional revenues anticipated from a contemplated action, such as an investment, to the expected additional costs. If firms foresee a positive gap between the extra revenue and the additional costs, they will take that action. If they are comparing a number of options, they will choose the one that promises the greatest positive margin between incremental revenue and costs, i.e. the action that maximizes the contribution to the firm's profit.

A firm's decision to invest in new structures, engineering projects or machinery and equipment is an example of a situation in which this profit-seeking behaviour is assumed to apply. Key factors affecting the prospective profitability of investment are the expected demand for the firm's output and the relative cost of investment goods. If firms expect sustained higher demand for their product, it will be profitable to undertake capacity-expanding investment in plant and equipment. On the cost side, the more affordable an investment is, the more profitable a business will find it to invest. Assessing the affordability of a particular investment involves comparing the cost of acquiring and using the capital good to the price of the products it will be used to produce. If the cost of the capital good falls relative to the price of a firm's output, increasing the capital intensity of existing production will enhance profits. In addition, projects previously judged unprofitable will become viable.

Economists have developed the user cost of capital (UCC) concept to determine the ongoing cost of using capital goods. Two key elements of this ongoing cost are:

- The cost of depreciation—Capital goods lose value as they wear out with usage or as they become relatively less productive in comparison with newer, better equipment that becomes available.
- The cost of financing the investment—Depending on the method chosen, financing costs can involve interest payments on borrowing, dilution of equity if new shares are issued, and the opportunity cost of using internal funds to purchase capital goods rather than distributing them to shareholders or investing them to earn a financial return.



Taxes are another important factor in determining the UCC since in most situations they play a major role in projections of a firm's profits.

- Corporate income taxes directly reduce the expected after-tax return from investments, diminishing the payoff for businesses making the capital expenditure. The higher the corporate income tax rate, the more it impinges on profitability.
- Less obviously, investments trigger various corporate income tax provisions, such as interest expense deductions, capital cost allowances (CCA) and investment tax credits, all of which permit businesses to reduce the amount of their profits that are subject to tax and so increase their return from investment.
- Corporate income taxes aren't the only levies that potential investors take into account. They also factor in the effect of federal and provincial capital taxes and of the provincial sales taxes that apply to investment goods.

These tax and non-tax elements influence the UCC directly and indirectly through interaction effects. For example, the difference between CCA and actual depreciation rates affects the UCC: if CCA is more than adequate to compensate for the actual depreciation of capital, the excess deduction puts downward pressure on the UCC. A corporate income tax rate reduction will reduce the value of this excess deduction. Since the gap between CCA and actual depreciation rates varies by industry, a change in the common statutory tax rate has different effects by industry. As a result, while affected industries experienced identical 2001–2004 tax rate reductions, these reductions translated into different UCC impacts by industry, which would be expected to have led to different investment responses.

The User Cost of Capital and Marginal Effective Tax Rates

Marginal effective tax rates (METRs) provide a summary indicator of the tax burden on new investment. They measure the extra return on an investment required to pay all corporate-level taxes, expressed as a percentage of the total pre-tax return to shareholders. A firm's user cost of capital is the sum of the total pre-tax return to shareholders plus economic depreciation. A lower statutory corporate income tax rate reduces the METR, causing the required pre-tax return to decline, which then puts downward pressure on the user cost of capital.

Impact of Corporate Income Tax Rate Reductions on Investment: Methodology and Evidence

Natural scientists often conduct controlled experiments to test their theories. Such methods apply a treatment to one part of a sample but not to the remainder, taking care that influences other than the treatment affect all sample members in a uniform fashion. Divergent outcomes for "treatment" and "control" groups are interpreted as demonstrating that the treatment made a difference.

Economists are not able to carry out such controlled experiments. They cannot, as a rule, arrange to have a policy apply to some members of the population but not to others, simply in the interests of research. With the 2001–2004 corporate income tax reductions, however, a natural version of a controlled experiment took place. Firms in some industries were subject to the "treatment" of tax reductions, while those in others were not. Note, however, that a crucial element of a controlled experiment is missing: it cannot safely be assumed that factors other than the tax reductions affected both groups in the same way.



This study uses two methodologies to take advantage of this “natural experiment.” Both approaches make use of regression analysis to test the linkage between the tax reductions and investment.⁵ The first approach captures the impact of tax reductions by examining year-to-year changes in investment by industry, while the second compares investment by industry in two periods, before and after the “treatment” of lower taxes. In both cases, additional variables are included in the regression equations to capture the impact of other influences on investment by the treatment and control groups.

Standard Regression Using Annual Data

This approach analyzes annual investment in 43 industries over the seven-year period 1998 to 2004.⁶ The period examined starts well before the corporate income tax rate reductions were announced, thereby permitting the regression model to assign values to the coefficients that reflect the underlying investment process both with and without tax reductions.

The explanatory variable of primary interest is changes in the UCC. In order to identify the contribution of taxes more precisely, the industry-specific UCCs were decomposed into tax and non-tax components. Both components are expressed relative to the price of industry output. The UCCs were computed at the Department of Finance as described in Annex 1.

As indicated earlier, firms react more to the expected than the current value of the UCC. Since it cannot be observed, determining the expected value of the tax component of the UCC requires some judgement. In this study, it is assumed that firms viewed the 1-percentage-point rate reduction announced in Budget 2000 as credible but remained skeptical about the remaining 6-percentage-point reduction until the schedule was set out in legislation in the October 2000 *Economic Statement and Budget Update*. The expected value of the tax component was calculated by factoring in the present value of announced tax reductions. As a result, the biggest change to the tax component occurs in late 2000. A change in the expected value of the tax component should, in principle, affect investment in both current and subsequent periods, in part because projects take time to get underway and to complete.

The expected level of output is another key explanatory variable that is difficult to specify accurately in a regression equation. For example, when assessing the need for additional capacity, a firm making steel for the auto industry will need to form a view on the demand for autos, on the steel content of autos and on its market share. Fortunately, when working with industry-level data as in this study, it is possible to simplify matters considerably by using statistical techniques⁷ to capture:

- The factors that affect all industries’ expectations of output in a given year, such as the episodes of economic weakness that occurred in 2001 and 2003.
- The persisting factors that affect each industry’s expectations of output year after year, such as a higher trend growth rate.

⁵ For a non-technical description of regression analysis, see Sykes, Alan O., “An Introduction to Regression Analysis,” University of Chicago Law School Working Paper in Law and Economics (www.law.uchicago.edu/Lawecon/WkngPprs_01-25/20.Sykes.Reggression.pdf).

⁶ Resource industries are excluded from the analysis because they benefited from the tax reductions over a different time horizon than other industries and because investment in resource industries is affected by different factors than in other industries.

⁷ This involves including dichotomous, or “dummy,” variables for each year and for each industry.



While the techniques in question reduce the need to identify explicitly the factors at work, they do not capture events that affect expected output in a specific industry in a given year, such as a labour strike. Current-year industry output is included in the regression equation to play this role.

The results from the regression model indicate that the corporate income tax rate reductions, operating through the UCC, had a significant stimulative effect on investment (see Annex 1 for detailed results.) Specifically, a 10-per-cent reduction in the UCC coming from its tax component is associated with a 3.1-per-cent increase in the real capital stock. Statistical testing confirmed that a high degree of confidence in this result was warranted, i.e. that it was very unlikely to have occurred by chance. The disadvantage of this approach is that the tax component of the UCC is assumed to affect investment only in the year it changes—there is no effect on investment in subsequent periods. Given that expectations may not have been formed as assumed and that firms may take several years to respond to the tax reductions, the regression equation may not be capturing the full effect of the changes in taxes. This issue is addressed in the second modelling approach, which examines the investment response over the entire tax reduction period.

The non-tax component of the UCC, which captures the effect of factors such as interest rates, economic depreciation and the price of investment goods, is also shown to be a statistically significant determinant of investment. In contrast, output is not statistically significant—its potential role is perhaps disguised by the industry- and year-specific variables included in the regression.

Difference-in-Differences

The second approach takes advantage of the selective nature of the policy by comparing industries that were affected by the corporate income tax rate reductions (the “treatment group”) with industries that did not benefit from the reductions (the “control group”). When used in economic analysis, this methodology is often described as the difference-in-differences (DD) approach. In this study it involves comparing two differences in investment performance.

- Between the treatment group and the control group before the tax reductions.
- Between the treatment group and the control group after the tax reductions.

In its simplest application, the calculated DD would be used to draw conclusions about the impact of the tax reduction on investment by the treatment group of industries. That is, if the gap in investment changed to the relative advantage of the treatment group after the tax reductions, this would be taken as evidence that the tax reductions worked as expected. In more sophisticated use, regression analysis is applied to quantify the impact of the various factors that had a divergent influence on the investment undertaken by members of the two groups. In this manner, the DD can be decomposed into portions attributable to tax and non-tax factors.

The DD analysis carried out in this study compares changes in the real capital stock in the treatment group of industries to changes in the control group.⁸ The treatment group consists of 22 sectors strongly affected by the tax cut, while the control group is comprised of 21 sectors not affected by the tax cut. Each industry’s investment is considered in the without-treatment and the with-treatment periods, delineated by the announcement of the tax reduction. The pre-announcement period includes 1997–1999 and the post-announcement period covers 2000–2004. The post-announcement period includes the year 2000 even though the first tax cut did not come into effect until January 2001, because it is assumed that firms reacted to the announcements in 2000.

⁸ Using the capital stock, which is accumulated investment, as the dependent variable allows for a phased investment response even though there are only two DD time periods—before and after the tax reduction announcement.



In regression terminology, the DD analysis aims to explain inter-industry and inter-period differences in a dependent variable (capital stock) by variations in an independent or explanatory variable (the tax component of the UCC), while controlling for some other influences (non-tax changes in the UCC, output growth, relative prices of investment goods and industry-specific effects) that may be affecting the target capital stock.

Investment is found to be strongly influenced by the tax reductions. The estimated coefficient on the tax component of the UCC is large and highly significant by the usual statistical standards (see Annex 1). It implies that a 10-per-cent reduction in the tax component of the UCC would raise the real capital stock by approximately 7 per cent over a five-year period. This estimate is well within the range found in other studies of taxation and investment in Canada and the United States (Table 1 and Annex 2).

Comparison of the Two Approaches

As noted above, a weakness of the regression using annual data is the stylized modelling of the response over time of investment to changes in the tax component of the UCC. A more complete model would include adjustment costs and allow investment to respond over several years to a tax change. Given the relatively small number of annual observations available, it was not feasible to include these features in this study. As a result, the annual approach likely understates the true impact of tax changes on investment. In contrast, the DD approach circumvents the need to model the adjustment process by estimating the investment response over the entire 2000–2004 period, and therefore likely provides a better estimate of the impact of corporate income tax rate reductions on investment.

Table 1

The Sensitivity of Investment to Tax Changes—Summary of Empirical Results

Study	Change in Investment From a 10-Per-Cent Reduction in the Tax Component of the User Cost of Capital
This study	
Annual regressions	3-per-cent increase
Difference-in-differences	7-per-cent increase
Range from other studies ¹	3-per-cent to 11-per-cent increase

¹ See Annex 2 for detailed results of other studies.

Conclusion

The belief that lower corporate income tax rates should lead to more investment is intuitively appealing. It is one of the reasons that tax reductions are considered an important step towards improving Canadian competitiveness. Proving the existence of a relationship between taxes and investment with real-world data is, however, a challenge. Investment is influenced by numerous factors, many of which are also in flux as tax rates change. Identifying and untangling the contributions of the tax and non-tax influences is a demanding process.

A characteristic of the 2001–2004 tax reductions—the fact that some sectors were affected by the reductions and others were not—created an opportunity to conduct an empirical examination of the effects of the rate reductions on investment. The work described in this study took advantage of that opportunity to test the proposition that lower tax rates boost investment.



Using real-world data from Canadian industrial sectors, the study applied two different statistical tools to investigate the investment–tax rate link. Both provided clear evidence that investment was strongly and positively influenced by the 2001–2004 corporate income tax rate reductions. A 10-per-cent reduction in the tax component of the user cost of capital is associated with an increase in the capital stock in the 3-per-cent to 7-per-cent range, with the latter being the preferred estimate since it is obtained using a more robust methodology.

The results summarized in this study are consistent with empirical work undertaken by other researchers. As shown in Annex 2, studies undertaken since the early 1990s find a strong link between the user cost of capital, which is directly affected by taxes, and business investment in plant and equipment.



Annex 1 Description of Regression Models and Results

Standard Regression Using Annual Data

The regression model used to estimate the impact of the 2001–2004 corporate income tax rate reductions on investment is specified as follows:

$$\frac{I_{i,t}}{K_{i,t-1}} = \alpha_0 + \alpha_1 \frac{\Delta UCC^{nt}_{i,t}}{UCC^{nt}_{i,t-1}} + \alpha_2 \frac{\Delta TW_{i,t}}{TW_{i,t-1}} + \alpha_3 \frac{\Delta Y_{i,t}}{Y_{i,t-1}} + \alpha_4 f_i + \alpha_5 T_t + \varepsilon_{i,t} \quad (1)$$

Where:

$I_{i,t}$ = investment by the i^{th} industry during year t in millions of 1997 dollars

$K_{i,t}$ = capital stock of the i^{th} industry at the end of year t in millions of 1997 dollars (estimated based on straight line depreciation)

$UCC^{nt}_{i,t}$ = the non-tax component of the user cost of capital for the i^{th} industry in year t (per cent reduction in return from investment)

$TW_{i,t}$ = the tax component of the user cost of capital for the i^{th} industry in year t , or the “tax wedge” (per cent reduction in return from investment)

$Y_{i,t}$ = gross domestic product of the i^{th} industry in year t in millions of 1997 dollars

f_i = industry dummy variable for the i^{th} industry

T_t = time dummy variable for year t

$\varepsilon_{i,t}$ = error term for the i^{th} industry, year t

Data for investment (I), capital stock (K) and output (Y) are from Statistics Canada.

The user cost variables, UCC^{nt} and TW , were constructed at the Department of Finance. A substantial amount of data was required to calculate these variables—for example, output and investment goods prices, interest rates, depreciation rates, capital cost allowance rates, investment tax credit rates, corporate income tax rates, capital tax rates and sales tax rates. Some of these tax and economic variables are asset and time specific. For example, depreciation rates differ by types of assets, investment tax credits are available in some parts of the country but not in others and tax rates changed over time. Thus these inputs to the UCC and TW variables had to be assembled on an industry-by-industry and year-by-year basis using information on the provincial location and asset mix of each industry.

The investment behaviour of firms is more likely to be affected by the expected than the current value of the UCC and its tax component, or the tax wedge. In most cases, user cost parameters, such as inflation or interest rates, are uncertain so it is assumed that firms form their expectations based on current values. But in the case of tax changes, firms are more likely to react to announced tax changes, provided they are credible. Further, given the long lead times associated with many investments, firms will react to announced tax reductions well before they occur.



In this study, the tax wedge is calculated by including the present value of the corporate income tax rate reductions in each year. For example, in the February 2000 federal budget, a 1-percentage-point reduction in the corporate income tax rate, effective January 1, 2001, was announced. The user cost was therefore updated starting March 2000 to reflect the present value of the coming tax reduction. The same approach was applied for October 2000 to reflect the impact of additional corporate income tax reductions to be phased in from January 1, 2002 to January 1, 2004. As a result, although the major reductions became effective between 2002 and 2004, the largest impact on the tax wedge occurs in late 2000, when the announcement took place. Since the announcement was made late in the year, only a small portion of these discounted reductions are captured in the annual user cost for 2000, with much of the adjustment coming in 2001.

The estimation results are reported in Table A1.1. Results are reported for four different, progressively more elaborate, versions of the model as described in the table notes.

“Dummy” variables are included in versions 3 and 4 to capture the impact of industry-specific influences on the average level of investment of each industry. Certain industries may persistently have higher investment growth than others, due to differing depreciation rates for example, regardless of output and the user cost.

Time “dummies” are included in version 4 to acknowledge that certain common, contemporaneous influences may have affected all industries in particular years, such as the cyclical state of the economy. Their estimated coefficients are not reported here in the interest of conserving space. Statistical tests confirm that inclusion of both industry and time dummy variables in the regression is appropriate.⁹

⁹ A Breusch–Pagan test strongly rejects the hypothesis of random effects and an F-test confirms the joint significance of the industry dummies.



Table A1.1
Regression Results—Annual Data

Explanatory Variables	Regression Models			
	Version 1	Version 2	Version 3	Version 4
	Coefficients			
Intercept	0.215 (0.015)	0.188 ¹ (0.012)	0.197 (0.066)	0.119 ¹ (0.037)
Non-tax component of the user cost of capital (per cent change)	-0.072 (0.075)	-0.118 (0.074)	-0.012 (0.066)	-0.327 ¹ (0.112)
Tax component of the user cost of capital (per cent change)	-0.135 (0.104)	-0.164 (0.107)	-0.157 ² (0.094)	-0.313 ³ (0.151)
Output growth		0.569 ¹ (0.168)	0.459 ¹ (0.146)	0.104 (0.135)
Proportion of variance explained (R ²)	0.06	0.11	0.12	0.28

Notes:

Version 1—UCC (tax and non-tax components) only explanatory variables.

Version 2—UCC (tax and non-tax components) + output growth.

Version 3—UCC (tax and non-tax components) + output growth + fixed industry effects.

Version 4—UCC (tax and non-tax components) + output growth + fixed industry effects + time dummies.

Number of observations = 301.

Robust standard errors in parentheses.

Dependent variable is real investment as a ratio of end-of-period capital stock.

¹ Significant at 1-per-cent level.

² Significant at 10-per-cent level.

³ Significant at 5-per-cent level.

An advantage of using panel data is that it is possible to control for unobservable industry- and time-specific effects on investment, such as a higher trend rate of investment and general cyclical conditions. However, there is still a possibility that variables that may help explain time-series variation in investment have been omitted, which could result in biased estimates of the coefficients on the included variables.¹⁰ For example, if the regression equation leaves out an important determinant of investment and this variable is correlated with the tax wedge, the coefficient on the tax wedge will be biased since it indirectly captures the effect of the omitted variable. An omitted variable is by definition part of the error term, so in this example a potential problem could be identified by checking if the tax wedge is correlated with the error term. Statistical tests reject the hypothesis that the tax wedge is correlated with the error term.¹¹

It is also important that the statistical significance of the coefficient estimates, as indicated by their standard errors, be measured without bias, in order to avoid drawing erroneous conclusions about the relationship between the explanatory variables and investment. Two conditions are required to obtain unbiased standard errors: that the residuals have constant variance and that they be uncorrelated with each other. Statistical tests reject the hypothesis of constant variance and no serial correlation in the errors at the 5-per-cent level of significance. The reported standard errors are adjusted to correct for these problems.

¹⁰ Other factors that could cause biased coefficients include simultaneity bias—in this case the possibility that causality between investment and the user cost may run in both directions—and mismeasurement of explanatory variables. Neither of these factors is likely to affect the tax wedge, which is the variable of primary interest.

¹¹ Hausman tests were performed, which examine the F-statistic on the predicted change in a variable when it is added to the regression.



Since the industries in the data set vary substantially by size, it is possible that the estimated coefficient on the tax wedge is not accurately capturing the impact on aggregate investment. For example, it is possible that only the small industries in the data set responded favourably to the tax reduction, with the result that the impact on aggregate investment is much smaller than implied by the estimated coefficient. This possibility was tested by including small and large industry interaction variables on the tax wedge in the regression equation. The estimated coefficients were not statistically different for large and small industries.

The results confirm the strong and statistically significant influence of taxes on investment. The coefficient estimate on the tax wedge indicates that a 10-per-cent reduction in the tax wedge is associated with an approximately 3-per-cent increase in the real capital stock.¹² There is only a 1-per-cent probability that the true value of the coefficient on the tax wedge is zero and a 5-per-cent probability that the true value of the UCC coefficient is zero. As discussed below, however, it was not possible to model adequately the response of investment over time to a change in the tax wedge, which likely causes the annual model to understate the impact of tax reductions on investment.

Difference-in-Differences

The difference-in-differences (DD) approach directly exploits the natural experiment nature of the corporate income tax rate reductions: some industries (i.e. services) were affected by the tax changes while others (i.e. manufacturing) were not. The study uses regression analysis to examine whether the difference in investment performance between affected and unaffected industries changed as a result of the tax reductions.

The previous regression approach considered each of the years in the sample interval as giving rise to a separate observation; the DD regression analysis used here looks at two periods only—before the tax reductions were announced (1997–1999) and after (2000–2004). Industry-by-industry differences in the growth rate of the capital stock before and after the tax reductions were regressed on the corresponding percentage changes in the tax wedge along with additional control variables to capture other factors that may have caused growth in the capital stock in the affected industries to vary relative to the unaffected industries. These control variables include the relative price of capital, output growth, industry fixed effects as well as a “catch-all” post-tax reduction dummy variable.

The tax component of the UCC has a large, statistically significant impact on the capital stock, implying that the tax reductions provided a strong stimulus for investment (Table A1.2). A 10-per-cent reduction in the tax wedge is associated with an approximately 7-per-cent increase in the capital stock.

¹² See Chirinko, Fazzari and Meyer (1999) for a discussion of how to interpret the coefficient on the tax wedge in equation 1.



Table A1.2
Difference-in-Differences Regression Results

Explanatory Variables	Regression Models	
	One	Two
	Coefficients	
Tax component of the user cost of capital (per cent change)	-0.727 ¹ (0.218)	-0.708 ² (0.266)
Post-tax cut period dummy	0.024 ² (0.013)	0.016 (0.025)
Output growth		-0.099 (0.391)
Relative price of capital (per cent change)		-0.027 (0.232)
Proportion of variance explained (R ²)	0.577	0.584

Notes:

Fixed effect estimates are not reported.

Number of observations = 86.

Robust standard errors are in parentheses.

¹ Significant at 1-per-cent level.

² Significant at 5-per-cent level.

Comparison of the Two Approaches

Investment is a dynamic process, with firms taking several years to reach their new optimal capital stock. The potential benefit of specifying an annual investment model is the ability to capture the short-term dynamics of investment decisions. In practice, however, specifying the dynamic structure is difficult in general and not feasible in our case given the short time period of our sample.¹³

The annual model should include adjustment costs and allow investment to respond over several years to a tax change. Given the relatively small number of annual observations available, these features were excluded from the stylized model used in this study. As a result, the annual approach likely understates the true impact of tax changes on investment.

The DD approach, although based on fewer observations, circumvents this problem by considering the full post-tax reform period in which firms are expected to respond. The DD estimate, therefore, captures most, if not all, of the adjustment that firms make to their capital stock in response to the tax changes announced in Budget 2000. As a result, while our tax wedge elasticity estimates range from about -0.3 under the annual approach to about -0.7 under the DD approach, a higher weight should be attached to the DD estimate.

¹³ See Chirinko, Fazzari and Meyer (2002) for the problems associated with estimating time series investment equations.



Annex 2

Studies of the Influence of the User Cost of Capital on Investment

There have been two waves of empirical work testing the linkage between the user cost of capital and investment. The first occurred from the 1960s to the early 1990s and failed to find a statistically significant relationship between the UCC and investment. The second, which makes use of more sophisticated statistical techniques and of firm-level data to take advantage of higher variance than in economy-wide data, has generally found a statistically significant relationship between the UCC and business investment.

An ongoing challenge in the empirical literature has been measuring the expected user cost—the key decision variable for a forward-looking firm. To reduce the likelihood of measurement error and therefore potential bias in the user cost elasticity estimates, some economists have studied investment during periods of tax reform. The key advantage of tax reform periods is that they represent discernible changes in tax rates, allowing the researcher to minimize the error associated with measuring expected tax effects on user costs.

The most widely studied tax reforms have been those of 1991 in Sweden and 1986 in the U.S. The Swedish reform, labelled by Agell, Englund and Södersten (1996) as the most “far-reaching reform in any industrialized country in the post-war period” (p. 643), saw a major broadening of the value-added sales tax, combined with significant reductions in the corporate and personal tax rates for middle- to high-income individuals. Auerbach, Hassett and Södersten (1995) examine whether these tax changes had any effect on investment and conclude that the impact was likely minor.

The U.S. tax reform of 1986 also introduced sweeping changes to the tax code. On the corporate side, the corporate income tax rate was reduced from 46 per cent in 1985 to 34 per cent in 1988, depreciation lives were lengthened and the investment tax credit was repealed. Cummins and Hassett (1992) find a strong relationship between the tax changes and investment as a result of the U.S. tax reform. They estimate user cost elasticity of -1.1 for equipment and -1.2 for structures (Table A2.1). The authors argue that their exploitation of the tax reform period, as well as their use of firm-level data, allow them to overcome measurement errors common in earlier macro-level studies. Cummins, Hassett and Hubbard (1996) apply this approach to tax reforms in 14 countries in the Organisation for Economic Co-operation and Development. They find evidence of significant investment responses to taxes in 12 of the 14 countries studied, including in Canada during the 1987 tax reform, but do not provide a direct estimate of the response of investment to a change in the user cost of capital.

Based on these more recent studies, it would appear that tax rate changes have a significant impact on investment, although the range of estimates varies widely. Table A2.1 shows that the elasticity of investment (and in the long run, the capital stock) with respect to the UCC ranges from -.25 to -1.2 in studies based on U.S. and Canadian data.

**Table A2.1***The Sensitivity of Investment to the User Cost of Capital*

Study	Dependent Variable¹	User Cost Elasticity²	Data
Cummins and Hassett (1992)	Investment divided by the capital stock	-1.1 (machinery and equipment—M&E) -1.2 (structures)	U.S. 1986 tax reform. Firm-level data, 1987
Caballero, Engel and Haltiwanger (1995)	Investment	-0.72	U.S. manufacturing plant-level data, 1972–1988
Cummins, Hassett and Hubbard (1994)	Investment divided by the capital stock	-0.66	Years of major tax reforms in U.S. firm-level data, 1963–1988
Chirinko, Fazzari and Meyer (1999)	Investment divided by the capital stock	-0.25	U.S. firm-level panel data, 1981–1991
Chirinko, Fazzari and Meyer (2002)	Capital stock	-0.4	U.S. firm-level panel data, 1974–1992
ab Iorwerth and Danforth (2004)	Investment	-0.97 (M&E)	Canadian aggregate data, 1984–2002
Schaller (2007) ³	Capital stock	-0.9 (M&E)	Canadian aggregate data, 1962–1999
This study ³	Change in the capital stock	-0.73	Canadian industry-level data, 1997–2004

¹ Investment and capital stock are measured in real terms. The capital stock is measured at the end of the previous period relative to investment in the current period.

² “Elasticity” is defined as the percentage change in investment, or the capital stock, arising from a 1-per-cent change in the user cost of capital. A negative elasticity indicates that a decrease in the UCC causes an increase in investment. Since a permanent increase in investment will, over time, raise the capital stock by the same percentage, the reported elasticities are comparable whether they refer to investment or the capital stock.

³ The elasticity of the capital stock is calculated using the coefficient on the tax component of the user cost of capital. This can still be interpreted as a user cost elasticity since a given percentage change in the tax wedge changes the overall user cost of capital by the same percentage.



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