FINANCES OF THE NATION

TAX EXPENDITURES IN CANADA—HISTORICAL ESTIMATES AND ANALYSIS

John Lester*

The “Finances of the Nation” feature presents annual surveys of provincial and territorial budgets and data-driven analyses of taxation and public expenditures in Canada. This series is a successor to the annual monograph titled Finances of the Nation (and, previously, The National Finances), published from 1954 to 2013 by the Canadian Tax Foundation.

The key data sets prepared for the Finances of the Nation project are available for download at https://financesofthenation.ca.

In this article, John Lester describes the federal tax expenditures database developed as part of the Finances of the Nation data portal. He also uses the database to analyze trends in federal tax expenditures over a 21-year period ending in 2019 and to identify the beneficiaries and the activities supported by these measures.

KEYWORDS: TAX EXPENDITURES ■ SUBSIDIES ■ TAX INCENTIVES ■ ECONOMIC DEVELOPMENT ■ SOCIAL POLICY ■ PUBLIC FINANCE

CONTENTS

Introduction 755
The Finance Canada Estimates 757
Definition of the Benchmark 757
Categories of Tax Expenditures 758
Estimation Methodology 759
The Finances of the Nation Database 762
Flags for Certain Tax-Based Spending Measures 764
Summing the Estimates 765
Trends in Tax-Based Spending 767
Concluding Remarks 772

INTRODUCTION

This article describes the federal tax expenditures database developed by Alexander Hemel and John Lester as part of the Finances of the Nation data portal, sponsored by the Canadian Tax Foundation. The article also illustrates how the database can be used to explore trends in federal tax expenditures and to examine who benefits and what activities are supported.

* Of the School of Public Policy, University of Calgary (e-mail: john.lester@ucalgary.ca).
Although Finance Canada has been preparing estimates of the revenue forgone from tax expenditures since 1980, comprehensive estimates for income taxes and sales taxes begin in 1989. Since 2016, Finance Canada has provided rolling eight-year estimates of tax expenditures in an Excel spreadsheet. Finance Canada will also supply a digital compendium of tax expenditure estimates published in documents up to 2014. The Finances of the Nation database (hereinafter referred to as “the FOTN database”) has been developed by concatenating the Finance Canada data, ensuring that the final estimates for each measure are retained and that name changes are captured. The database described in this article includes data from 1999 to 2019; the next version will extend the data back to 1988. The database will be updated annually to incorporate the information in Finance Canada’s most recent report on federal tax expenditures.

Finance Canada distinguishes between structural and non-structural tax measures. Structural measures are implemented to improve the fairness and simplicity of the tax system; they address such issues as avoiding double taxation, promoting horizontal or vertical equity, and recognizing costs incurred to earn taxable income. Non-structural measures are implemented to achieve economic development and social policy goals, such as promoting investment and providing income support. Non-structural measures are similar to spending programs. Distinguishing between structural and non-structural measures is useful, and the distinction is maintained in the FOTN database, although we use the term “tax-based spending” instead of “non-structural.” Finance Canada does not include refundable tax credits in its non-structural component, noting that these measures are now included in program spending and revenues. However, the tax expenditure accounts are the only place where cost estimates for refundable credits other than the Canada child benefit can be found. As a result, the default option in the FOTN database is to include all refundable credits except the Canada child benefit and its predecessor program, the child tax benefit, in tax-based spending. Users can easily define tax-based spending to exclude the refundable credits.

Within the tax-based spending category, we identify measures that raise tax design issues or for which the appropriate benchmark tax system is difficult to determine. These measures relate to the taxation of income from capital, of housing, and of income earned in Canada by non-residents, and the tax treatment of public service bodies, such as universities and hospitals. In 2019, the total cost of tax-based spending measures, including selected refundable credits, was $125 billion. The revenue cost of the measures singled out for special consideration was $82 billion, leaving about $42 billion in adjusted tax-based spending in 2019. We think that the measures identified for special consideration are more likely to be reviewed in the context of tax reform than in a deficit-reduction or expenditure-control exercise. As a result,

\[1\] The most recent data are from the Finance Canada tax expenditure report published on April 16, 2018: Canada, Department of Finance, Report on Federal Tax Expenditures—Concepts, Estimates and Evaluations (Ottawa: Department of Finance, 2018) (herein referred to as “the 2018 tax expenditure report”).

Electronic copy available at: https://ssrn.com/abstract=3461838
our analysis of tax expenditures focuses on adjusted tax-based spending. Other analysts may prefer to work with the complete set of tax-based spending data, which is the default option in the database.

The main findings of our analysis are the following:

1. Adjusted tax-based spending fluctuated around a 16 percent share of aggregate tax revenue from 1999 to 2019. Expressed as a share of gross domestic product (GDP), tax-based spending trended down from 1999 to 2013 but has been relatively stable since then.

2. The dollar value of measures with an economic development objective grew little from 1999 to 2017; enrichment of the small business deduction in 2018 and 2019 accounts for almost all the net growth since 2017. In contrast, the cost of measures with a social policy goal has grown at a brisk pace since 1999.

3. The small business deduction accounts for about half of the cost of economic development measures in 2019. Measures favouring research and development (R & D) and entrepreneurship raise the small business share to almost 70 percent of the total cost of economic development initiatives.

4. Measures providing income support account for about a third of the cost of social policy initiatives. Seniors are the largest beneficiary of this income support, accounting for about 70 percent of the total. Support for food purchases and support for health each account for about a sixth of the cost of social policy measures.

This article is organized as follows. The second section describes the Finance Canada estimates. It includes a discussion of the benchmark used to identify tax expenditures, a review of Finance Canada’s classification scheme, and a discussion of measures without cost estimates. The third section describes the FOTN database. It explains the rationale for identifying certain measures for special consideration and discusses the issues raised by aggregating the tax expenditure estimates. The fourth section reviews trends in tax-based spending and discusses how benefits are distributed, by beneficiary and activity. Brief concluding remarks are provided in the last section.

THE FINANCE CANADA ESTIMATES

Definition of the Benchmark

Finance Canada’s income tax expenditures are defined relative to a benchmark described as a variant of the Haig-Simons comprehensive income base.\(^2\) Notable

---

\(^2\) The Haig-Simons comprehensive income base includes worldwide income from all sources: labour income, capital income (including imputed income from owner-occupied housing and consumer durables), the imputed value of household services, and transfers between taxpayers, such as gifts and inheritances.
exclusions from the base are non-market transfers of income and property; implicit income from non-market activities such as household services and imputed rent on owner-occupied dwellings; and income received as compensation for a personal loss. The benchmark recognizes that governments and their Crown agents have constitutional immunity from taxation.

The benchmark income tax base for businesses and individuals resident in Canada is defined as worldwide market income plus government transfers to individuals. Income is taxed as earned, on accrual. The benchmark includes recognition of expenses incurred to earn business or property income but not expenses incurred to earn employment income. Business expenses are deductible as incurred; reserves for contingent liabilities are not deductible. The cost of a capital asset is deducted over its useful life; this cost is assumed to be accurately captured by the capital cost allowance rates prescribed in the Income Tax Act, unless the asset is identified as being depreciable at an accelerated rate. Business and capital losses not deducted in the year in which they are incurred can be carried over to subsequent periods. The unit of taxation is an individual person or a corporation that exists as a separate legal entity. Payments to non-residents are assumed to be taxable in Canada.

The income tax benchmark includes most measures implemented to avoid double taxation. Indexation of tax brackets for inflation is considered part of the benchmark. On the other hand, the benchmark excludes most measures implemented to improve tax fairness and to reduce administration and compliance costs. Notable exceptions are related to the use of a holding company to defer taxes on passive investments.

The goods and services tax (GST) benchmark base consists of all goods and services consumed in Canada. The GST is applied at all stages of the production process, using a system of input tax credits to ensure that only value added is taxed at each stage. Certain entities, such as governments and non-profit organizations, cannot claim input tax credits; this exclusion is considered to be part of the benchmark. Although governments and their agents enjoy constitutional immunity from taxation, in the interest of simplicity immunity is frequently waived. The existing treatment of governments and their agents is generally considered to be part of the benchmark. In contrast, for public service bodies (municipalities, universities, colleges, schools, and hospitals—collectively referred to as “the MUSH sector”), the benchmark assumption is that they should be subject to GST.

Categories of Tax Expenditures

In response to recommendations from the auditor general, Finance Canada revamped its tax expenditure publication in 2016. Prior to 2016, measures were grouped into tax expenditures and memorandum items, which were part of the benchmark. The publication now uses three groups: tax expenditures, tax measures other than tax expenditures (the former memorandum items), and refundable tax

---

3 RSC 1985, c. 1 (5th Supp.), as amended (herein referred to as “the Act”).
credits. Refundable tax credits are in a separate group in recognition of their classification as direct spending in 2012. The measures selected for inclusion in the “other” category are thought to be of “particular interest from a tax policy perspective.” The group includes measures that promote tax fairness and measures that implement intergovernmental tax arrangements, as well as social security “taxes” and the basic personal amount. As noted in the introduction, tax expenditures are identified as structural or non-structural measures. The structural category consists of measures “whose main objective is internal to the tax system,” such as promoting tax fairness or simplicity. The non-structural category consists of measures implemented to achieve economic development and social policy objectives. They are often described as tax preferences or concessions.

Finance Canada’s decision to include structural and selected benchmark measures in its tax expenditure report recognizes that the benchmark tax system is arbitrary, so some ambiguity in defining tax expenditures is unavoidable. For example, the basic personal amount and the non-taxation of guaranteed income supplement and allowance benefits both provide support to low-income individuals, but only the latter is considered a tax expenditure. Providing estimates of the tax revenue forgone from the basic personal amount and other benchmark items allows analysts some flexibility in defining tax expenditures. As a result, the selected benchmark measures included in the Finance Canada tax expenditure report are also part of the FOTN database.

**Estimation Methodology**

The cost of a tax expenditure represents the amount of tax revenue forgone as a result of the measure, calculated on a cash flow basis. The cost of most income tax measures is estimated using “microsimulation” models of personal and corporate income tax—that is, it is based on individual taxpayer data. The models calculate the impact of eliminating a measure assuming that the taxpayer makes use of all deductions and credits in the counterfactual scenario. Finance Canada maintains an input-output model to calculate the amount of GST payable on detailed expenditure categories. This model is used to calculate the cost of exemptions and zero-rating, while the cost of rebates is determined from administrative data.

Finance Canada estimates the amount of tax revenue forgone for each measure assuming that all other measures remain in effect. It is also assumed that taxpayers do not change their behaviour in order to minimize the tax consequences of eliminating a specific measure. For example, the cost of the partial inclusion of capital gains is developed assuming that removal would have no impact on the observed

---

4 2018 tax expenditure report, supra note 1, at 6.
5 Tax measures other than tax expenditures are considered structural measures.
6 2018 tax expenditure report, supra note 1, at 29.
7 A useful addition to the benchmark category would be the amount of revenue gained by imposing a progressive rate structure.
value of realized capital gains. However, an increase in the effective tax rate on capital gains is likely to cause taxpayers to realize a smaller amount of capital gains. As a result, the estimated tax revenue forgone is likely to be substantially higher than the amount that the government would realize by changing the inclusion rate. In other words, the cost estimates are purely mechanical and should not be treated as a forecast of how eliminating a specific measure would affect government revenues.

In 2019, there are 146 non-structural measures in effect. However, 23 of these measures apply to both personal and corporate income tax liabilities, so there are 133 unique measures in effect. Cost estimates are not published for 41 of these measures. Timing preferences account for about 40 percent of the measures with no cost estimate. These measures cover accelerated capital cost allowances for capital assets, immediate deductibility of R & D expenditures9 and training costs, and various income deferrals, particularly for capital gains.

By definition, timing preferences affect when tax revenue is received, not the amount. For example, for the purchase of a given asset, accelerated capital cost allowances reduce tax revenues initially, but result in additional revenue when the value of the deduction falls below what would have been available under the standard rate. As discussed in Finance Canada’s 2012 tax expenditure report,10 if rising amounts of assets are purchased each year, the net cash flow cost can be positive for many years, since the negative impact from purchases in prior years takes time to build up. Finance Canada presents illustrative cash flow costs for vessels, mining assets, and clean energy assets.11 The analysis shows the cost of current-year and prior-year purchases separately, noting that elimination of the measure would affect costs associated with current-year purchases only. For example, in 2009, the revenue forgone as a result of current-year purchases of mining assets was $151 million, while prior-year purchases raised revenue by $144 million. An alternative approach is to take the difference in the present values of the standard and accelerated allowances. The present value or current-year cost of accelerated depreciation of machinery and equipment used in manufacturing was approximately $160 million in 2017.12

---

8 When counting the number of non-structural measures in effect in 2019, measures that have not been costed are counted once, even if they apply to both personal and corporate income tax. This reduces the overall count by 12 measures. In addition, the four withholding tax measures apply to both personal and corporate income tax, but estimates are provided for the total only.

9 R & D is considered a capital asset, although it is not identified as such in the Act.

10 Canada, Department of Finance, *Tax Expenditures and Evaluations 2012* (Ottawa: Department of Finance, 2013), at 49-60.

11 Ibid. See the 2018 tax expenditure report, supra note 1, at 24-27, for a more general discussion of how to estimate the cost of timing preferences.

12 Expenditures on machinery and equipment used in manufacturing and processing are eligible for a 50 percent straightline tax depreciation rate. The present value of this accelerated depreciation allowance for a $1 expenditure is 91 cents. The present value of the standard
Income exclusions account for about a quarter of the missing estimates. These measures cover the non-taxation of active business income earned by foreign affiliates and the deductibility of expenses incurred to invest in these foreign affiliates; the non-taxation of income earned and expenditures made by status Indians and Indian bands on reserves; and a number of other measures affecting smaller amounts of income. In a prior study, Lester\textsuperscript{13} presented illustrative calculations suggesting that the cost of allowing interest expenses incurred to support investment in foreign affiliates to be deducted from taxable income in Canada was about $2.3 billion in 2016. If the active business income of foreign affiliates were taxed in Canada, firms would get a credit, or possibly a deduction, for taxes paid in the host country. The tax revenue forgone by exemption would have been small from about 2005 to 2018, since Canada’s corporate income tax rate at that time was low relative to rates in host countries, particularly the United States. The large US corporate income tax reduction in 2018\textsuperscript{14} raised the cost of this policy substantially.

The revenue cost of non-taxation of income earned by status Indians on reserve is likely to be several hundred million dollars. In 2015, there were approximately 134,000 status Indians living on reserve with market income totalling $3.3 billion. The distribution of income was such that an average federal tax rate of 6 to 10 percent would be plausible, implying federal taxes ranging from $185 to $310 million.\textsuperscript{15}

The remaining measures without cost estimates, representing about 30 percent of the total number without estimates, cover a wide range of circumstances, including non-taxation of registered charities, non-deductibility of advertising expenses in foreign media, and the tax treatment of farm savings accounts. The amount of revenue forgone through these measures is likely to be small.

\textsuperscript{13} John Lester, “Business Tax Incentives for Economic Development: Do They Work?” in Bev Dahlby, ed., \textit{Reforming the Corporate Tax in a Changing World} (Toronto: Canadian Tax Foundation, 2018), 117-54, at 139-40.

\textsuperscript{14} The US corporate tax reduction was one of the reforms implemented by the \textit{Tax Cuts and Jobs Act}, Pub. L. no. 115-97, enacted on December 22, 2017.

\textsuperscript{15} The source for the data in this paragraph is Statistics Canada, \textit{Aboriginal Population Profile, 2016 Census}, Statistics Canada catalogue no. 98-510-X2016001 (Ottawa: Statistics Canada, 2018). The illustrative average tax rate was calculated using the simulated personal income tax rates available on the Finances of the Nation data portal.
THE FINANCES OF THE NATION DATABASE

Finance Canada’s report on federal tax expenditures presents data for rolling eight-year intervals. Estimates for the current year and one year in the future are provided. Estimates for the first four years are based on final tax data; for the next two years, on preliminary tax data; and for the last two years, on forecasts of the tax data. Finance Canada also provides the data in an Excel spreadsheet, with all measures tagged by category, group, subject, and tax. The weakness of the digital presentation is that the historical data are never extended beyond six years. The main value added of the FOTN database is to extend the data back to 1989.

Finance Canada will supply, upon request, an Excel spreadsheet containing the data presented in each of the tax expenditure publications prior to 2014. Estimates were prepared in 1980, 1985, 1992-1995, and 1997-2014. A complete set of estimates is available starting in 1989. Note, however, that the data are presented as published; preparing a consistent time series involves accounting for changes to the names of measures, grouping estimates for each measure by year, and retaining only the final estimates for each year.

When setting up the FOTN database, our goal was to use all the data prepared by Finance Canada and keep the essential features of its current classification scheme. Measures in the FOTN database can be allocated to the four Finance Canada categories, although we have used different category names (as shown in table 1). We have retained the term “structural” to cover measures that are internal to the tax system. We considered two labels for the “non-structural” category. Our preferred choice was the term “tax expenditures” because it brings to mind measures that are close substitutes for direct spending. While this narrower definition of tax expenditures is used in some jurisdictions, notably the United States and British Columbia, deviating from current federal practice may cause some confusion. Consequently, we adopted our second choice, the expression “tax-based spending,” to replace “non-structural.”16 We use the term “benchmark measures” instead of the cumbersome “tax measures other than tax expenditures.”

Structural measures are classified by type of tax and objective—for example, to achieve horizontal or vertical equity, cost recognition, or simplicity. Non-structural measures are classified by general objective—social policy or economic development—and are identified by type of tax, the first-round beneficiary of the tax measure, and the type of activity supported. The classification into economic development and social policy categories is based on the stated objectives of the measure. The Finance Canada publication offers much the same information, but in the digital version measures are classified only by category, type of tax, and subject (which is similar to the activity classification in the FOTN database).

16 The term “tax-based spending” as a substitute for “non-structural” was introduced in John Lester, “Managing Tax Expenditures and Government Program Spending: Proposals for Reform” (2012) 5:35 SPP Research Papers [University of Calgary School of Public Policy] 1-38 (http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2321923).
| Category                              | Finance Canada | FOTN      | Objective                                           | Beneficiary                                                                 | Activity                                                                 | Tagged measures\(^a\)                                                                 |
|--------------------------------------|----------------|-----------|-----------------------------------------------------|-----------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Tax measures other than tax...       | Benchmark      | Structural| Equity, simplicity, cost recognition, intergovernmental relations | All individuals, employees, renters, low-income individuals, other targeted individuals, industry | Income support; charitable and voluntary, food purchase, health, housing, education, culture | Capital income, housing, non-resident income earned in Canada, MUSH, refundable tax credits |
| Structural                           | Structural      |           |                                                     |                                                                             |                                                                           |                                                                                         |
| Non-structural                       | Tax-based spending, including most refundable tax credits\(^b\) | Social policy | All individuals, employees, renters, low-income individuals, other targeted individuals, industry | Investment, innovation, entrepreneurship, financing, regional development, exports |                                                                           |                                                                                         |
|                                     |                |           | Economic development                                 | Small business; all industry; farming and fishing; oil, gas, and mining; other targeted industry; employees |                                                                           |                                                                                         |

MUSH = municipalities, universities, schools, and hospitals.

\(^a\) Measures in these groups have been tagged to allow flexibility in their classification, as discussed in the text.

\(^b\) Excludes refundable child benefits, which are included in the public accounts and the main estimates as a major transfer.
Flags for Certain Tax-Based Spending Measures

In principle, the tax-based spending category should consist of measures that are reasonably close substitutes for program spending. In practice, however, it includes a substantial number of measures that raise tax design issues or for which equally plausible interpretations of the benchmark would result in reclassification as structural measures. As noted in the introduction, these measures address the taxation of capital income, of housing, and of income earned in Canada by non-residents, and the tax treatment of the MUSH sector. Changes to measures in these categories are more likely to be discussed in the context of tax reform intended to improve the efficiency of the tax system than in the context of a deficit-reduction or expenditure-control exercise. Measures in these categories are tagged so that they can easily be given special treatment by users of the FOTN database. The default option is to include these measures in the tax-based spending category.

A cogent case can be made that most forms of capital income are subject to a form of double taxation; as a result, exemption of capital income could be considered part of a benchmark defined in terms of comprehensive income. Consider a business that introduces an innovation that increases profits and dividends, which are taxed. The shares of the company increase in value, reflecting the present value of the increased profit stream. If the shares are sold, the capital gain is taxed, causing the increased income arising from the innovation to be taxed as it accrues and again when it is received. In addition, personal income is taxed once when it is earned and again when it is saved and generates investment income, which could be considered double taxation. The Finance Canada benchmark treats housing as a current expense, but not in a consistent fashion. As a current expense, purchases of housing would be subject to GST, so the rebates provided are correctly considered a preference. In contrast, if purchasing a house represents a current expense, it is hard to justify the inclusion of taxation of the capital gain in the benchmark. An alternative benchmark that would be more consistent with a comprehensive income approach would be to treat housing as an investment; this would involve allowing a deduction for the purchase price of the house, taxiing the net imputed income from the asset, imposing GST on the imputed rent, and taxing the capital gain when the house is sold.

Deviations of withholding taxes on income earned in Canada by non-residents from the statutory 25 percent rate are in the tax-based spending category. However, adopting residence-based taxation of income is an equally plausible benchmark, particularly given that Canadian residents are taxed on their worldwide income. Further, the actual rates imposed are the result of bilateral negotiations that consider,

---

17 Also see Lester, supra note 16.
18 See Jack Mintz and Stephen R. Richardson, “The Lifetime Capital Gains Exemption: An Evaluation” (1995) 21, supplement Canadian Public Policy S1–S26, for a more detailed discussion.

Electronic copy available at: https://ssrn.com/abstract=3461838
among other factors, the tax treatment of income earned by Canadians in the treaty partner country.

It is useful to flag the tax treatment of the MUSH sector because views may differ on the definition of the government sector.

We treat refundable tax credits differently than Finance Canada, which presents these measures for information only and does not include them in its definition of broadly defined tax expenditures. Following the adoption of a Public Sector Accounting Board standard in 2012, the cost of refundable credits is added to program spending and budgetary revenues. However, the tax expenditure report appears to be the only place where the cost of each measure is presented. The main estimates (part 1) show child benefits, which is the sum of the Canada child benefit and the child disability benefit, both of which are refundable credits. The public accounts (volume 2, table 2a) show the refundable tax credits broken down into children’s benefits and other.

In the FOTN database, we include all refundable tax credits in tax-based spending except the Canada child benefit and its refundable predecessor, the child tax credit. The rationale for this approach is that since only child benefits are explicitly identified in the main estimates and the public accounts, other refundable credits would not necessarily be included in either a review of program spending or a review of tax expenditures. Excluding the Canada child benefit, there were six refundable credits in effect in 2019, costing approximately $3.6 billion (table 2).

The total amount of tax revenue forgone from tax-based spending measures is projected to be about $125 billion in 2019 (table 3). When the measures flagged for special consideration are excluded, the projected total cost falls to $42 billion. Measures related to the taxation of capital income, such as tax preferences for retirement savings and the partial inclusion of capital gains on non-residential property, account for more than half of the total tax revenue forgone.

**Summing the Estimates**

Summing the costs of individual measures to obtain the total amount of tax revenue forgone raises two issues. First, the sum of the costs of individual measures, which are calculated assuming that all other measures remain unchanged, does not accurately capture the cost of eliminating all measures at once. The direction of bias is difficult to determine a priori, since the sum understates the true cost of measures in some circumstances but overstates it in others. For example, if a taxpayer has more deductions than necessary to reduce taxable income to zero, considering the measures separately understates their true cost if elimination of any single measure results in positive taxable income. In addition, assessing the impact of measures

---

19 With total income of $1,000 and deductions of $800 and $500, taxable income would increase from zero to $200 and $500, respectively, if the deductions were eliminated sequentially, and to $1,000 if they were eliminated simultaneously.
that reduce taxable income separately will understate their combined impact because income-induced increases in marginal tax rates will not be captured.

On the other hand, summing the individual costs of tax credits will overstate the cost of simultaneous elimination since some low-income taxpayers will not be able make use of all credits available to them. The interaction effects between income exclusions and tax credits are ambiguous. Higher taxable income allows low-income taxpayers to use more credits, but other taxpayers will experience tax credit reductions as their taxable income rises.

Finally, summing the individual tax expenditures relating to the GST overstates the cost of maintaining all the measures. Some entities supplying goods and services in a non-commercial context benefit from both an exemption from GST on their

### TABLE 2  Refundable Credits Included in the Finances of the Nation Tax Expenditures Database

| Enhanced scientific research and experimental development investment credit | 1,290 | 1,260 | 1,360 | 1,395 | 1,455 |
| Canada workers’ tax benefit | 1,160 | 1,180 | 1,180 | 1,180 | 1,430 |
| Canadian film or video production tax credit | 260 | 270 | 295 | 310 | 320 |
| Refundable medical expense supplement | 150 | 155 | 160 | 165 | 170 |
| Film or video production services tax credit | 150 | 145 | 155 | 160 | 165 |
| Atlantic investment tax credit—refundable portion | 20 | 20 | 20 | 20 | 25 |
| Children’s fitness tax credit—refundable | 210 | 140 |
| **Total** | **3,240** | **3,170** | **3,170** | **3,230** | **3,565** |

### TABLE 3  Decomposition of Tax-Based Spending, 2019

|                      | $ billions |
|----------------------|------------|
| Tax-based spending   | 123.4      |
| Less measures related to: |          |
| Capital income taxation | 64.9      |
| Tax treatment of housing | 6.6       |
| Non-resident withholding taxes | 6.5       |
| Taxation of the MUSH sector | 3.9       |
| **Equals**           |            |
| Adjusted tax-based spending | 41.6      |

MUSH = municipalities, universities, schools, and hospitals.
sales and a rebate of GST paid on their purchases. The cost estimates for exemptions and rebates calculated by Finance Canada are not independent: the rebate has no cost in the absence of the exemption since without the exemption the entity would be able to claim a refund for the GST paid on its purchases. As a result, adding the two cost estimates overstates the cost of maintaining both by the amount of the rebate. The second issue raised by presenting the aggregate value of tax expenditures is that the total will be understated because, as discussed earlier, cost estimates are not available for all measures. On average, from 1999 to 2019 about 30 percent of the measures in effect have not been costed. While the amount of tax revenue forgone is substantial for some of these measures, the missing elements are likely to be a small share of the total value of tax-based spending measures. Missing values will represent a higher share of adjusted tax-based spending: the largest measure, cross-border interest deductibility, could account for almost 6 percent of adjusted spending in 2019.

**TRENDS IN TAX-BASED SPENDING**

A decomposition of tax-based spending from 1999 to 2019 is shown in figure 1. The estimates are expressed as a percentage of GDP. Measures related to the taxation of capital income are highly variable over the period, fluctuating around approximately 2 percent of GDP. Most of the variability arises from registered pension plans and registered retirement savings plans. The revenue forgone from these plans is the net effect of a deduction for contributions, non-taxation of investment income earned in the plans, and taxation of withdrawals. The first and last elements are reasonably stable, but changes in interest rates and equity values cause large year-to-year swings in the value of investment income earned in the plans. The revenue loss associated with tax-free savings accounts has risen relative to GDP since the measure was introduced, reaching 0.1 percent of GDP in 2019. Its share should continue to rise over time. Measures related to the tax treatment of housing also exhibit some variability, largely owing to movements in house prices, which affect the cost of not taxing capital gains on the sale of principal residences.

Excluding the volatile capital income taxation component, tax-based spending has been a relatively stable share of GDP since 2009. In 2019, the measures flagged for special consideration reduce tax-based spending from 5.4 percent to 1.8 percent of GDP.

Figure 2 shows the evolution from 1999 to 2019 of tax-based spending, excluding measures related to the taxation of capital income, of housing, and of income earned by non-residents in Canada, and the MUSH sector. Relative to program spending, adjusted tax-based spending was on a downward trend from 1999 to 2009 but has been relatively stable since then. A key reason for this pattern is a sharp
FIGURE 1  Decomposition of Tax-Based Spending as a Percentage of GDP

GDP = gross domestic product.

FIGURE 2  Adjusted Tax-Based Spending Relative to GDP, Program Spending, and Tax Revenue

GDP = gross domestic product.
deceleration in the growth in program spending from an annual average rate of almost 8 percent up to 2009 to about 2.5 percent starting in 2010. Measured relative to GDP, tax-based spending was on a downward trend until 2013 but has been relatively stable since then. The downward trend was interrupted from 2006 to 2010 owing to enrichment of the small business deduction, elimination of the high income tax rate for resource industries, and the introduction of new measures, including the temporary home renovation tax credit in 2009. The number of unique measures in effect (with estimates of tax revenue forgone) rose from 66 in 2005 to 73 in 2010. Tax-based spending fluctuated around a 16 percent share of tax revenues over the 1999-2019 period.

The rest of this section provides a historical perspective on the objectives, beneficiaries, and activities supported by adjusted tax-based spending. With respect to objectives, we distinguish between measures with economic development goals and measures with social policy goals. Measures with an economic development goal are, at least in principle, implemented with the expectation that they will result in improved economic performance. Measures with a social policy goal involve income transfers and support for activities deemed socially desirable. Some of the activities supported, such as health outcomes, have an indirect positive effect on economic performance.

The overall cost of measures with an economic development objective was little changed in nominal terms from 1999 to 2017 (figure 3). Elimination of the special low rate for manufacturing (achieved through a reduction in the general income tax rate) reduced the cost of economic development measures by almost $2 billion from 1999 to 2004. On the other hand, elimination of the special high rate on resource income put upward pressure on costs in 2006 and 2007. No major new economic development initiatives were announced over the period. Much of the variability in the overall cost is due to tightening or enrichment of the small business deduction, which accounted for just over 37 percent of the total cost of economic development initiatives on average from 1999 to 2017. A substantial rise in the total cost of economic development initiatives is projected for 2018 and 2019, largely owing to enrichment of the small business deduction.

In contrast, the cost of social policy measures grew at an average annual rate of 4.5 percent over the period. Two major measures were implemented in 2007: the working income tax benefit (with a cost of $0.5 billion in 2007, rising to $1.4 billion in 2019) and pension income splitting (with a cost of $0.9 billion in 2007, rising to $1.4 billion in 2019). In addition, estimates of the tax revenue forgone became available for the GST exemption for purchases by charities ($0.8 billion in 2005) and for the exemption for scholarship, fellowship, and bursary income in 2013 ($0.2 billion in 2005). Three further changes caused the aggregate value of social policy measures to fluctuate from 2008 to 2015:
1. The methodology for calculating the cost of not taxing benefits from private health and dental plans was revised to recognize that if these benefits were taxable, they would be eligible for the medical expense tax credit. This change was implemented in 2013; it reduced the cost estimates going back to 2008 by approximately $1 billion each year.

2. The home renovation credit, in effect for 2009 only, cost $2.3 billion.

3. The short-lived family tax cut cost $1.6 billion in 2014 and 2015.

There were 41 unique measures with an economic development goal in effect in 2019. Official cost estimates are available for only 20 of these measures. Further, the top 10 of these measures account for 98.3 percent of the aggregate value of economic development measures in 2019 (table 4). Small business is the main beneficiary of economic development measures, accounting for almost 70 percent of the total in 2019. Industrial targeting (farming and fishing; oil, gas, and mining; and other) accounts for about 8.5 percent of tax revenue forgone in 2019. Investment, via the small business deduction, is the main activity supported by economic development measures, accounting for half the total value. Innovation (the scientific research and experimental development tax credits) accounts for about a quarter of the aggregate cost of economic development measures. Entrepreneurship (20 percent of the total) is supported by the capital gains exemptions, the employee stock option deduction, the labour-sponsored venture capital corporations credit, and the deduction of allowable business investment losses.

There were 67 unique measures with a social policy goal in effect in 2019. Official cost estimates are available for 52 of these measures. Social policy measures are less concentrated than economic development measures, but the top four measures account for about half of the cost of social policy initiatives in 2019 (table 5). The
## TABLE 4 Economic Development Measures, 2005-2019  
**2019 Ranking, Millions of Dollars**

| Measure                                                                 | 2005  | 2015  | $     | Share (%) |
|-------------------------------------------------------------------------|-------|-------|-------|-----------|
| Preferential tax rate for small businesses                               | 3,300 | 3,255 | 6,325 | 50.1      |
| SR & ED investment tax credit                                            |       |       |       |           |
| Non-refundable                                                          | 1,496 | 1,350 | 1,580 | 12.5      |
| Refundable                                                              | 1,224 | 1,290 | 1,455 | 11.5      |
| Lifetime capital gains exemption                                        |       |       |       |           |
| Small business shares                                                   | 430   | 760   | 855   | 6.8       |
| Farming and fishing                                                     | 255   | 615   | 760   | 6.0       |
| Employee stock option deduction                                         | 945   | 685   | 740   | 5.9       |
| Atlantic investment tax credit                                          | 401   | 290   | 235   | 1.9       |
| Film or video production services tax credit                            | 105   | 150   | 165   | 1.3       |
| Labour-sponsored venture capital                                        | 125   | 90    | 165   | 1.3       |
| Flowthrough share deductions (mining, oil, gas, and renewable energy)   | 440   | 85    | 130   | 1.0       |
| Apprenticeship job creation tax credit                                  | 97    | 102   | 102   | 0.8       |
| Deduction of allowable business investment losses                       | 41    | 50    | 40    | 0.3       |
| Logging tax credit                                                      | 26    | 26    | 26    | 0.2       |
| Foreign convention and tour incentive program                            |       |       | 15    | 0.1       |
| Corporate mineral exploration and development tax credit                 |       |       | 10    | 0.1       |
| Rollovers of investments in small businesses                            |       |       | 10    | 0.1       |
| Top 10 total                                                            | 12,410| 8,762 | 12,613| 99.9      |
| Top 16 total                                                            |       |       | 102   | 0.1       |
| Economic development total                                              | 8,417 | 8,884 | 12,620| 100.0     |

SR & ED = scientific research and experimental development.  

*Includes negative measures totalling $793 million.*

The largest single measure, zero-rating of basic groceries, accounts for 17 percent of the total cost of social policy initiatives. The age credit accounts for 13 percent, while the charitable donations credit and the non-taxation of benefits from private health and dental plans each account for about 10 percent of revenue forgone. The top 15 measures account for 90 percent of tax revenue forgone.

Income support is a key activity supported by social policy initiatives, accounting for about a third of the 2019 cost. Charitable and voluntary activities make up almost 20 percent, and measures supporting food purchases and health both account for about a sixth. About a third of the value of social policy measures is not targeted—that is, measures are available to all individuals, to all employees (for example, non-taxation of benefits from private health and dental plans, and non-taxation of

Electronic copy available at: https://ssrn.com/abstract=3461838
TABLE 5  Top 15 Social Policy Measures, 2005-2019
(2019 Ranking, Millions of Dollars)

| Measure                                                                 | 2005   | 2015   | $     | Share (%) |
|------------------------------------------------------------------------|--------|--------|-------|-----------|
| Zero-rating of basic groceries                                         | 3,905  | 4,230  | 4,930 | 17.0      |
| Age credit                                                             | 1,395  | 3,170  | 3,830 | 13.2      |
| Charitable donations tax credit—total                                 | 2,258  | 2,650  | 2,885 | 10.0      |
| Exemption from GST for certain residential rent (long-term)            | 1,445  | 2,345  | 2,845 | 9.8       |
| Non-taxation of benefits from private health and dental plans          | 2,170  | 2,580  | 2,840 | 9.8       |
| Working income tax benefit                                             | 0      | 1,160  | 1,430 | 4.9       |
| Pension income splitting                                               | 0      | 1,165  | 1,415 | 4.9       |
| Pension income credit                                                  | 420    | 1,170  | 1,310 | 4.5       |
| Exemption from GST for certain supplies made by charities and non-profit organizations | 810    | 1,085  | 1,250 | 4.3       |
| Zero-rating of prescription drugs                                      | 725    | 800    | 935   | 3.2       |
| Non-taxation of workers’ compensation benefits                         | 620    | 630    | 665   | 2.3       |
| Deductibility of charitable donations—other                           | 430    | 430    | 470   | 1.6       |
| Zero-rating of medical and assistive devices                           | 180    | 350    | 390   | 1.3       |
| Exemption of scholarship, fellowship, and bursary income               | 0      | 250    | 370   | 1.3       |
| Rebate for registered charities                                       | 295    | 320    | 335   | 1.2       |
| Top 4 total                                                            | 9,003  | 12,395 | 14,490| 50.1      |
| Top 15 total                                                           | 14,653 | 22,335 | 25,900| 89.5      |
| Social policy total                                                    | 16,579 | 26,856 | 28,937| 100.0     |

GST = goods and services tax.

workers’ compensation benefits), or to all industry (for example, the deductibility of charitable donations). Seniors receive about a quarter of all benefits and 70 percent of income support (figure 4). Key programs are the age credit, pension income splitting, and the pension income credit. Renters account for about 10 percent of the benefits from social programs in 2019. Low-income individuals receive about 6 percent of the value of social policy measures. The largest program is the Canada workers’ credit (formerly the working income tax benefit). With the exclusion of major transfers to children from the FOTN database, families benefit from less than 2 percent of tax-based spending with a social policy objective.

CONCLUDING REMARKS

This article has provided an overview of the FOTN tax expenditure database and illustrated how it can be used to assess trends in tax-based spending and to identify the beneficiaries and activities supported. While the analysis uses a subset of tax-based spending, database users can easily choose which measures to include in their
analytical work. The database also includes structural and benchmark tax measures, which are likely to be of interest to some researchers. This version of the database covers the period 1999 to 2019; a subsequent version will extend the database back to 1989. The database will be updated annually to incorporate the information in the latest report on federal tax expenditures.
