Finances of the Nation

DATA ON GOVERNMENT REVENUE IN CANADA: SOURCES AND TRENDS

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For almost 60 years, the Canadian Tax Foundation published an annual monograph, Finances of the Nation*, and its predecessor,* The National Finances. *In a change of format, the 2014* Canadian Tax Journal *introduced a new "Finances of the Nation" feature, which presents annual surveys of provincial and territorial budgets, and topical articles on taxation and public expenditures in Canada.*

In this issue, Kevin Milligan examines sources of government revenue data in Canada, identifying differences in the methods used to compile the statistical record. He then analyzes the evolution of government revenues, as reflected in these data, over time, by type of revenue, and by level of government.

The underlying data for the Finances of the Nation *monographs and the articles in this journal will be published online in the near future.*

KEYWORDS: GOVERNMENT ■ REVENUE ■ DATABASES ■ TRENDS

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INTRODUCTION

In the Canadian federation, substantial tax revenues are raised by both the national and subnational levels of government; however, the composition of those revenues has changed significantly over time. In this article, I examine government revenue data from two perspectives. First, I explore the principal sources of such data available in Canada, document where these data can be found, and identify the chief differences in the methods used to create them. Second, I analyze these data over time, by type of revenue, and by level of government. I look at both what is taxed and which level of government imposes specific kinds of taxes.

This article borrows from and builds on the careful scholarship and statistical work previously published. Chief among these are Richard Bird's chapter on public finance in the *Historical Statistics of Canada*, and the manuals and documents describing the various Statistics Canada systems.[1] A complete history of the legal and fiscal issues arising in the Canadian federation is beyond the scope of this article, but several Canadian Tax Foundation monographs provide detailed accounts for the interested reader.[2] Other work has examined issues in local government and provincial government finance in similar depth and detail.[3] The present article is intended more as a user's guide to, and "test drive" of, the data than a definitive and comprehensive treatment of Canadian government revenue.

In the next section of the article, I discuss five different data sources and how they relate to each other. Following that, I present a graphic analysis of the data, showing how the different sources compare and providing a long-term view of revenue patterns over time, by type of taxation, and by level of government.

DATA SOURCES

There are numerous series for data on the level and trend of government revenues in Canada. All the data series ultimately have the same source—the public accounts published by each government annually. Some of the data series use the unadjusted

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1 Richard M. Bird, "Section H: Government Finance," in F.H. Leacy, ed., *Historical Statistics of Canada* (Ottawa: Statistics Canada, 1983). The other manuals and documents are cited as they come up throughout this article.

2 A. Milton Moore, J. Harvey Perry, and Donald I. Beach, *The Financing of Canadian Federation: The First Hundred Years*, Canadian Tax Paper no. 43 (Toronto: Canadian Tax Foundation, 1966); David B. Perry, *Financing the Canadian Federation, 1867-1995: Setting the Stage for Change*, Canadian Tax Paper no. 102 (Toronto: Canadian Tax Foundation, 1997); and G.V. La Forest, *The Allocation of Taxing Power Under the Canadian Constitution*, 2d ed., Canadian Tax Paper no. 65 (Toronto: Canadian Tax Foundation, 1981).

3 Harry M. Kitchen, *Municipal Revenue and Expenditure Issues in Canada*, Canadian Tax Paper no. 107 (Toronto: Canadian Tax Foundation, 2003); and Ronald Kneebone and Margarita Wilkins, "Canadian Provincial Government Budget Data, 1980/81 to 2013/14" (2016) 42:1 *Canadian Public Policy* 1-19. Note that throughout this article, references to "provincial" revenue, government, etc., are understood to include territorial revenue, government, etc., depending on the context.

public accounts data directly, while others push the data through complex adjustments and calculations. These adjustments carry the benefit of making the data comparable—across time, place, and level of government. On the other hand, with greater manipulation, the meaning of the data can become opaque and possibly dependent on estimation and modelling assumptions. Whether it is better to use more "raw" or more "processed" data depends on the purpose to which one plans to put the data and the questions one is asking.

Below I review five different data series, starting with the fiscal reference tables, which offer raw unadjusted public accounts data, and finishing with the most highly adjusted series, the current government finance statistics (GFS) standard. With each, I note how the data are created and how they relate to the other series, making reference to the source documentation. Because the fiscal year-ends of governments in Canada are not coterminous with the calendar year, I use the year of the last day in the fiscal year as a convention for labelling the years in the data (thus, for example, fiscal 1983-84 is referred to as 1984).

Fiscal Reference Tables

The federal Department of Finance publishes an annual set of fiscal reference tables.[4] These tables provide a summary of raw data from the public accounts for both the federal and the provincial governments. Included with these raw data are several series repeated from Statistics Canada's CANSIM database. Accounting differences in different jurisdictions may make comparison of raw public accounts data difficult across governments. There can be differences, for example, in the use of accrual versus cash accounting, the treatment of assets, and accounting for transfers to other levels of government.[5] The data in the fiscal reference tables are disaggregated into 12 categories of revenue for the federal government but just provide the total revenue for the provincial governments.

The government of Canada moved to full accrual accounting in 2003.[6] Consequently, the Department of Finance produced revised fiscal reference tables back to the 1984 fiscal year to put them on an accrual accounting basis. The years before 1984 were not revised but kept on the previous cash basis. These changes mean that data in the revised tables from 1984 to 2004 reflect the same accounting treatment as the data from 2004 onward, while the data before fiscal 1984 reflect a different accounting treatment. The federal data are available back to 1967, and the provincial

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4 These annual fiscal reference tables are available on the Department of Finance website at www.fin.gc.ca/pub/frt-trf/index-eng.asp. The archive currently includes versions back to 1996.

5 An annual report by the C.D. Howe Institute describes the differences among provincial accounting systems. The most recent publication is Colin Busby and William B.P. Robson, *Numbers You Can Trust? The Fiscal Accountability of Canada's Senior Governments, 2017*, C.D. Howe Institute Commentary no. 476 (Toronto: C.D. Howe Institute, April 2017).

6 See "Implementation of Full Accrual Accounting in the Federal Government's Financial Statements," in Canada, Department of Finance, 2003 Budget, Budget Plan, February 18, 2003, at annex 6.

data are offered back to 1991.[7] There are no original data at the local government level in the fiscal reference tables.

Historical Statistics of Canada

The *Historical Statistics of Canada* provides the historical background on which the modern sources build.[8] It reports detailed federal government revenue data back to the 1868 fiscal year, provincial and local government data back to 1934, and data for all three levels of government up to 1976. The data are disaggregated into 18 categories, including, for example, personal income tax, customs duties, and revenue generated by Crown corporations.

The original source used for these data is the annual public accounts published by the federal and provincial governments. These governments have different accounting standards and practices; accordingly, the aggregates provided in the data may be aggregating categories that are not identical across governments. The notes to the *Historical Statistics of Canada* provide detail on adjustments made to the original public accounts data in an attempt to make the data more comparable both across provinces and over time. These adjustments will be important in comparing the historical data with more recent sources.

Of note, the *Historical Statistics of Canada* exclude from total government revenue any contributions to social insurance plans such as unemployment insurance, workers' compensation, and the Canada and Quebec pension plans. If these plans are self-financed entities, it may be reasonable to exclude them from measures of "government revenue" since they could be viewed as government-run insurance plans featuring premiums rather than taxes. The evolution of unemployment/ employment insurance away from this "off-the-books" standard and toward consolidation with other sources of government revenue likely explains why it is included in more recent data. On the other hand, with separate accounting and financing for the Canada and Quebec pension plans, it makes sense to account for them separately from other sources of government revenue.

Financial Management System

The history of the financial management system (FMS) for Canadian government statistics can be traced back to a 1918 memo from the Dominion Bureau of Statistics suggesting a uniform system for the reporting of municipal accounts data.[9] The goal of the FMS was to provide data that are comparable both across jurisdictions and over time. Starting with the public accounts, revenues were placed into

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7 The 1996 version of the fiscal reference tables offers a deeper history with federal data back to 1947. However, these are prepared on a cash rather than an accrual basis.

8 See Bird, supra note 1.

9 See the history of the FMS in Statistics Canada, *The System of Government Financial Management Statistics: Supplement*, Statistics Canada catalogue no. CS68-507S/1986E-PDF (Ottawa: Statistics Canada, 1986).

fixed and consistent categories. Special care was taken for intergovernmental and interagency transfers so that numbers could be consolidated without double-counting. The other feature of the system was to provide careful definition of the scope of government, in particular for government-operated enterprises or related entities.[10] Some "on-budget" social insurance programs such as workers' compensation and unemployment/employment insurance are included in the scope of the FMS, while other, "off-budget" items such as the Canada and Quebec pension plans are excluded.

Since governments have historically used different accounting systems, the intention of the FMS was to transform the raw public accounts data into data reported on a common "modified cash" basis. This involved reversing accrual accounting transactions, as well as adjusting for the timing of some items. The FMS used a "gross" convention for some items, meaning that some tax credits were not netted against revenue but instead were added to both the revenue and the expenditure sides. In addition, some budgetary items were adjusted to conform with the need to avoid double-counting. Taken together, these adjustments could move the raw numbers from the public accounts noticeably, by 10 percent or more.[11]

The FMS evolved periodically. In the last major revision in 2002, several aspects were changed, in part to make it easier to reconcile the FMS with the system of national accounts (SNA) (discussed below). A revised and consistent data series was released back to 1989.[12] This proved to be the last major revision; the FMS was retired as the primary system for government revenue statistics after 2009. It was replaced by the current GFS system (also discussed below).

Researchers have extended the FMS for provincial data both back and forward in time. By applying the same procedures to the public accounts data, a consistent series from 1981 to 2014 has been published, with subsequent updates.[13]

A different consistent FMS series was published in 1992, with data reported from 1966 to 1992.[14] This older series arranges the revenue data into a smaller number of categories and has a different notion of the scope of government. The accounting

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10 See Statistics Canada, *Financial Management System (FMS), 2002*, Statistics Canada catalogue no. 68F0023XIB (Ottawa: Statistics Canada, 2002).

11 For example, see Statistics Canada, *Public Sector Statistics: Financial Management System, 2007/2008*, Statistics Canada catalogue no. 68-213-X (Ottawa: Statistics Canada, 2008). Table 9-4 in that document, ibid., at 109, shows a reconciliation of the 2008 revenue of the government of New Brunswick. The revenue total moves from $6,919 million in the budgetary documents to $7,899 million on an FMS basis, a change of 14 percent.

12 These data can be found in Statistics Canada, CANSIM table 385-0002, "Federal, Provincial and Territorial General Government Revenue and Expenditures, for Fiscal Year Ending March 31," for federal and provincial/territorial data, and CANSIM table 385-0003, "Local Government Revenue and Expenditures for Fiscal Year Ending Closest to December 31," for local governments.

13 See Kneebone and Wilkins, supra note 3.

14 See Statistics Canada, *Public Finance Historical Data 1965/66-1991/92*, Statistics Canada catalogue no. 68-512 (Ottawa: Statistics Canada, 1992).

adjustments from the public accounts were made mainly to put things on a "gross" basis and to account for intergovernmental transactions. The overlap of these two different FMS series is fairly tight for 1989 and 1990 for most revenue items I examined.[15] So, in this article, I place together the "old" FMS data from 1966 to 1988 and the "new" series starting in 1989.[16]

SYSTEM OF NATIONAL ACCOUNTS

The purpose of the national accounts is to measure the productive capacity of the economy and trace flows through the various sectors of the economy, as well as flows between Canada and foreign jurisdictions. Government financial information has always been a core component of national income accounting. However, in the context of national income accounting, government finance plays a different role than the budgetary measures of public finance discussed above. Here, government is a sector of the economy that performs three important functions: (1) it acts as a conduit, flowing funds to other sectors; (2) it receives funds from other sectors; and (3) it acts as the end consumer for some share of national output within the system.

In the government finance chapter of the *Historical Statistics of Canada*, Bird argues that since the data in the national accounts are constructed for a different purpose than the data in the public accounts, they are less useful for an examination of public finance. The first difference he notes is the accrual accounting used in compiling national income data, but not (at that time) in preparing the public accounts. Of course, with the passage of time, this difference has faded in importance since governments in Canada now adhere to the international standard and report their public accounts on an accrual basis. The other major difference noted by Bird is the treatment of capital transactions; these are not relevant for the national accounts if they relate to existing assets, since the national accounts are concerned with reporting new production.

The data for the SNA are prepared as follows.[17] The starting place is the accounting system for the federal government, along with surveys of provincial public accounts data.[18] These public accounts data are fit into the FMS framework, meaning that all revenues are categorized and other adjustments are made as required (such as accounting for intergovernmental transactions, gross/net adjustments, and accrual accounting). The data are then fed into the national accounts process, which involves further adjustments based on definitions of what falls within the public

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15 For example, total revenue for the federal government in 1989 was $109.4 billion on the old basis and $109.5 billion on the new basis. Provincial and local government numbers were also very similar on the old and new bases.

16 In this respect, see infra note 26 and the related text.

17 See Statistics Canada, "Moving from the Financial Management System to Government Finance Statistics," May 5, 2010 (www.statcan.gc.ca/pub/13-605-x/2010001/article/11155-eng .htm).

18 For the federal government, the accounting system from which the data are drawn is the central financial management reporting system.

sector, capital transactions, and the overall need to balance the flows across and within the national income accounting system.

An advantage of the SNA is that it provides quick access to information. Because the national accounts are produced quarterly within a few weeks of the end of each quarter, estimates of government finance data are available much earlier than they were under the previous FMS. However, the SNA estimates are based on interim accounting data rather than the final public accounts revenue receipts. In the three years following the initial release, the data are revised as the final numbers from the public accounts come in.[19] Consequently, the initial SNA data may be subject to subsequent, potentially substantial, revisions as the final public accounts data are reported by the federal and provincial governments. It is quite important for users of the data to realize that the initially published estimates may be revised in the future. For users familiar with SNA data such as the regular gross domestic product (GDP) releases, this pattern of fast release followed by substantial subsequent revision is normal.

In this article, I make use of the most recent 2012 update to the SNA.[20] With that update, data for the fiscal years back to 1982 have been provided on a consistent basis. I transform the quarterly data to a fiscal-year basis, summing from the second quarter of one year to the first quarter of the next. Data from the fiscal year ending March 31, 2017 are already available, so I use data up to 2017. I supplement these data by using the previous 1997 version of the SNA, which includes published data back to 1962.[21] Both of these versions of the SNA provide very detailed breakdowns of the categories of government revenues: 29 categories for the 1997 system and more than 50 categories for the 2012 system. In addition, although I do not make use of it here, the 1968 SNA offers a more limited set of revenue categories, but data are available all the way back to 1926 and extend forward to 1986.[22]

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19 The documentation makes clear the distinction between data for year t (the most current year), which are estimates, and data for years $t − 1$ through $t − 3$, which are updated to reflect actual public accounts data as they come in. The year t estimates are "based primarily on monthly information from the Government of Canada's banking and accounting system for the federal government; from budget forecasts and quarterly input from provinces and territories; from data estimated from previous years for education and health institutions; and from survey estimates from local governments." See Statistics Canada, "Government Finance Statistics," record no. 5174, June 22, 2017 (www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey& SDDS=5174).

20 Data for all three levels of government for the 2012 SNA are found in Statistics Canada CANSIM table 380-0080, "Revenue, Expenditure and Budgetary Balance—General Governments."

21 The data for the 1997 SNA are found in three Statistics Canada CANSIM tables: 380-0033, "Income and Expenditure Sub-Sector Accounts, Provincial Governments, Education, Health and Social Services"; 380-0034, "Income and Expenditure Sub-Sector Accounts, Federal Government"; and 380-0035, "Income and Expenditure Sub-Sector Accounts, Local Governments."

22 The 1968 SNA data are found in Statistics Canada CANSIM table 380-0542, "Government Sector Revenue and Expenditure, 1968 System of National Accounts (SNA)."

Government Finance Statistics

The current framework used for government revenue data in Canada is the GFS, which replaced the FMS in 2009. The GFS is based on standards set out by the International Monetary Fund (IMF) in 2001.[23] Three factors led to the adoption of this system.[24] First, with the federal government's change to accrual accounting in 2003, it made sense to adopt a revenue reporting system that also used accrual accounting—unlike the FMS, which used modified cash accounting. Second, there was a growing desire to have a system that fit comfortably with the SNA, rather than having different standards for government finance information and national income accounting. The GFS does so because it is integrated completely within the current international protocols followed by Canada for national accounts. Third, switching to the new system put Canada's reporting of government financial data on an internationally comparable basis. This helps when submitting Canadian data to international institutions like the Organisation for Economic Co-operation and Development.

The GFS data are derived from the SNA data described above. The original source remains the public accounts, but these public accounts data are first pushed through the national income accounting framework and then unpacked again into the GFS data set. This processing sequence, and the related adjustments, are made clear in the documentation provided by Statistics Canada.[25] The adjustments are mostly in the sphere of accounting for income from public sector pensions, intergovernmental transactions, and the treatment of balance sheet items (such as mark-to-market valuation).

For the purposes of this article, I convert the quarterly GFS data into fiscal years coinciding with the usual March 31 year-end. I have data for fiscal years 2009 through 2016. In order to make the data consistent with the older FMS data, I make a small adjustment, shifting taxes on specific services and permits (permission to use goods or perform activities) from the "other consumption" category in the taxonomy that I use over to the "non-tax revenue" category. This has no effect on the total government revenue data, but matters when I break down the data into categories, as discussed below.

Summary of Comparability

The discussion above outlines the major differences between the five data sources and provides references for readers wanting deeper documentation of practices and

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23 See International Monetary Fund, *Government Finance Statistics Manual, 2001* (Washington, DC: IMF, 2001). A new standard was released in 2014: International Monetary Fund, *Government Finance Statistics Manual, 2014* (Washington, DC: IMF, 2014). However, the most recent update to the Canadian methodology (Statistics Canada, supra note 19) only references the 2001 IMF manual.

24 See Statistics Canada, supra note 17.

25 For details, see Statistics Canada, supra note 19.

methods. If one is interested in analyzing government revenues over the longer term, it is clearly necessary to compare data from different sources. One approach to resolving the problem of differences in data compilation is to avoid making any long-run comparisons.[26] I think this "solution" is extreme and overcautious. It would render useless a large quantity of data that are for many purposes virtually identical. An alternative approach is to present the different data series along with the necessary caveats and references to any differences across the series. This approach trusts the reader to note the possible influence of differing data definitions on different time periods in the data.

Making long-run fiscal comparisons is of great value for understanding the Canadian federation. For this reason, I embrace the second approach and present the time series together, even when they are not completely identical. I include, where necessary, the appropriate caveats and discuss when data definition differences may influence the shape of the data over time.

THE EVOLUTION OF GOVERNMENT REVENUES IN CANADA

The structure of government revenues in Canada has changed remarkably over time, with respect to both the overall mix of what is taxed and the level of government that collects the revenue. I analyzed the growth of the government sector in an article published in this feature in 2015.[27] Here, instead of normalizing by GDP or by population, the analysis presents government revenues adjusted only for prices across time. This allows a purer focus on the measurement of the level, growth, and trends in government revenues.

I begin the analysis by examining the concordance of the different measures of government revenue using the sources described in the previous section. I then proceed to a long-run comparison of revenues at the federal, provincial/territorial, and local government levels. Finally, I turn to the long-run trends in the tax mix (what is taxed) and tax allocation (who taxes what).

In this analysis, I follow two conventions. First, as noted earlier, the data are organized into fiscal years, and I tag each fiscal year using the calendar year corresponding to the last day of the fiscal year. Second, to make comparisons of the nominal dollar values over time, I update the dollar values to 2016 using a price index.[28]

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26 In correspondence with Statistics Canada on some details of the older FMS data, I was advised that it is "not recommended to link" the older data with the more recent FMS data.

27 Kevin Milligan, "The Growth of Government in Canada: A 21st-Century Perspective," Finances of the Nation feature (2015) 63:3 *Canadian Tax Journal* 739-50.

28 I use Statistics Canada CANSIM table 326-0021, "Consumer Price Index," back to 1914. For extending the price series back to 1871, I use R. Marvin McInnis, "Historical Canadian Macroeconomic Dataset 1871-1994," 2001 (http://library.queensu.ca/data/HistoricalMacroEconomicData).

CONCORDANCE OF THE DATA SOURCES

The level of federal government revenue between 1967 and 2017 across the five data sources is displayed in figure 1. The intent of this graph is to explore the nature of the differences across the different data sources.

The data from the fiscal reference tables come straight from the public accounts and span the entire time frame shown here. As discussed earlier, the data back to 1984 have been restated on an accrual accounting basis, but the earlier years remain as cash accounting. The data show federal revenues increasing by a factor of slightly more than two over the 40-year period, with fluctuations corresponding to the business cycle over the years.

The data from the *Historical Statistics of Canada* also go back to the beginning of the time period. These data look quite similar to the data from the fiscal reference tables but show slightly lower revenues. This gap is almost completely explained by the exclusion of social insurance premiums (largely unemployment insurance at the federal level) from the *Historical Statistics of Canada* definition of the scope of government.

Next in figure 1 are the FMS data. As noted above, these data are based on the public accounts, but adjustments were made to recast the data on a modified cash basis, including adjustments for gross/net accounting, intergovernmental transactions, and any accrual accounting. The data up to 1988 come from the old FMS series, while the data after 1989 are from the new series described earlier. For the years up to 1983, the FMS data are very close to the fiscal reference tables data. This is because the fiscal reference tables use data prepared on a cash basis before 1984, but switch to accrual in that year, while the FMS maintains its modified cash basis throughout. The differences between these two series diminish over time. As noted above, the FMS series ends in 2009.

The fourth series of federal government revenue in figure 1 comes from the SNA. As described above, these data are on an accrual basis throughout, and they treat revenues from government-related entities (such as income from pension funds), as well as many balance sheet items and capital gains, differently than the FMS. That said, the overall level and trend of the SNA series lines up fairly closely with the other series, being neither systematically above nor below. From 2015 to 2017, the SNA data diverge quite strongly from the fiscal reference tables data. This is likely explained by the interim estimation procedures used in the SNA, as described above. Over a period of four years, these estimations are replaced with the actual data from government public accounts. So it should be expected that the gaps seen here for 2015 onward will shrink as the SNA data are revised and updated in the future.

The final series in figure 1 is the GFS data. This series begins in 2009 and starts very close to the FMS that it replaced. The primary difference between these two series is the use of accrual accounting in the GFS system. Examination of the reconciliation of these data sources with the public accounts reveals that for federal revenues the accrual adjustments were not systematically large, a finding that helps

FIGURE 1   Data Sources for Federal Revenues
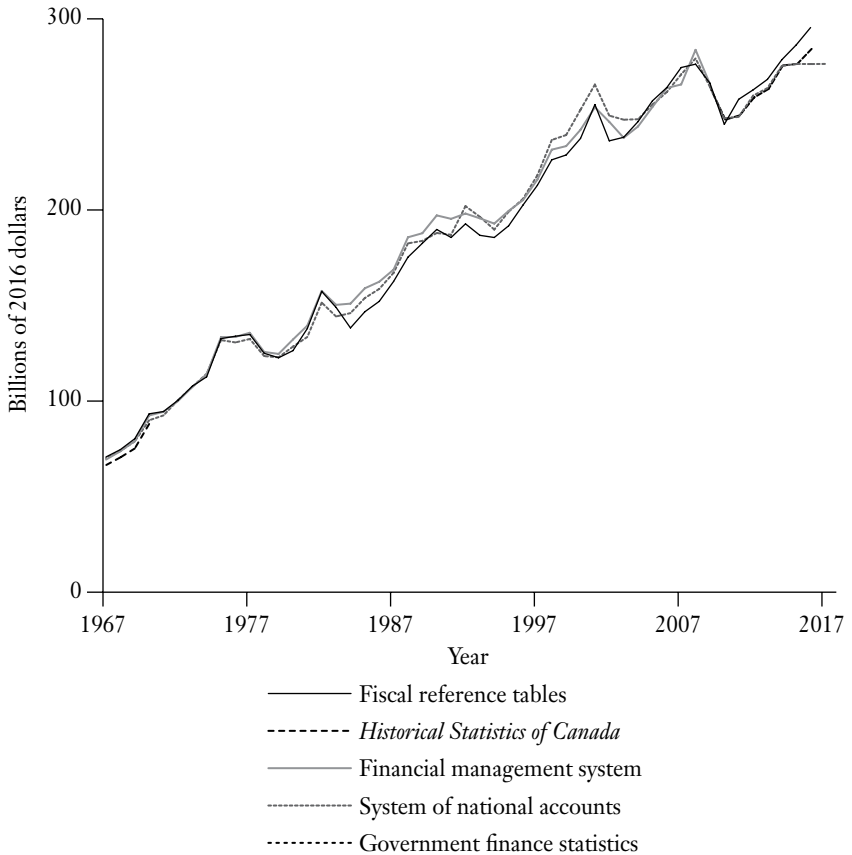
Note: This chart links together several series that are not completely identical through time. In particular, the fiscal reference tables change in 1984, the system of national accounts changes in 1982, and the financial management system data change in 1989. The changes are described in the main text.

to explain why there is not a large difference between the GFS and the FMS.[29] As discussed above, the GFS data are derived from the SNA, and these two series are almost identical between 2009 and 2015. They diverge in 2016, but it is likely that

29 See Statistics Canada CANSIM table 385-0023, "Reconciliation of Estimated Federal Government Revenue and Expenditures from Budgetary Documents to the Financial Management System (FMS), for Fiscal Year Ending March 31," for the raw reconciliation data between public accounts and the FMS accounting system.

this gap will be closed as the regular revisions to the SNA estimates replace these data with actual public accounts data.

Total Revenue by Level of Government

With a more complete understanding of how the five data series relate to each other, I now proceed to unify the series in order to facilitate long-term analysis. I form my unified time series by starting with the *Historical Statistics of Canada*, which are drawn from public accounts but exclude social insurance premiums. In 1966, I switch to the FMS. Finally, from 2009 onward, I make use of the new GFS series.

These data are shown graphically in figure 2, using a log-scaled vertical axis in order to accommodate the data back to the 1868 fiscal year. Provincial/territorial and local government data are available only from 1934. The federal government's revenue leapt forward during the Second World War and continued to grow in the post-war era, in order to fund expanded social spending like unemployment insurance and old age security. Until 1947, provincial and territorial governments raised less revenue than either the federal or local government levels. Sixty years later, in 2007, for the first time provincial and territorial revenue exceeded total federal revenue. The biggest driver of this change has been the need to fund health spending. For local government, from 1950 onward, the growth rate in revenue has been approximately the same as that of the federal government, as seen by the relatively constant gap between them.

The Evolution of the Tax Mix

Having looked at the total revenue levels, I now begin an examination of what is being taxed. To do this, I draw on the unified time series described above. I take categories of revenue that can be compared fairly consistently over time and convert each category to a share of overall revenue. I add the revenue across the three levels of government to form a consolidated series. In order to keep the total revenue consistent across the data sources, I exclude the social insurance contributions from all years when calculating total revenue.

I consider 10 categories of government revenue. First is personal income tax, which also includes non-resident income tax. Next is corporate income tax, which includes special mining and logging taxes in certain years. All sales taxes (including the goods and services tax, provincial retail sales taxes, and the former federal manufacturers' sales tax) are included as "sales." Excise taxes are divided into taxes on gasoline and motor fuels, shown as "gas/motor," and taxes on alcohol and tobacco products ("alcohol/tobacco"). Taxes on imports are displayed as "duties." All other taxes on consumption are listed as "other consumption." One adjustment was made here for the GFS data series from 2009 onward: as described above, I move the taxes on services and permits out of the "other consumption" category in order to keep it consistent across years. Property taxes and related levies are shown as "property," and all other taxes not otherwise mentioned are put into the "other tax" category. The final category is "non-tax revenue," which includes diverse items
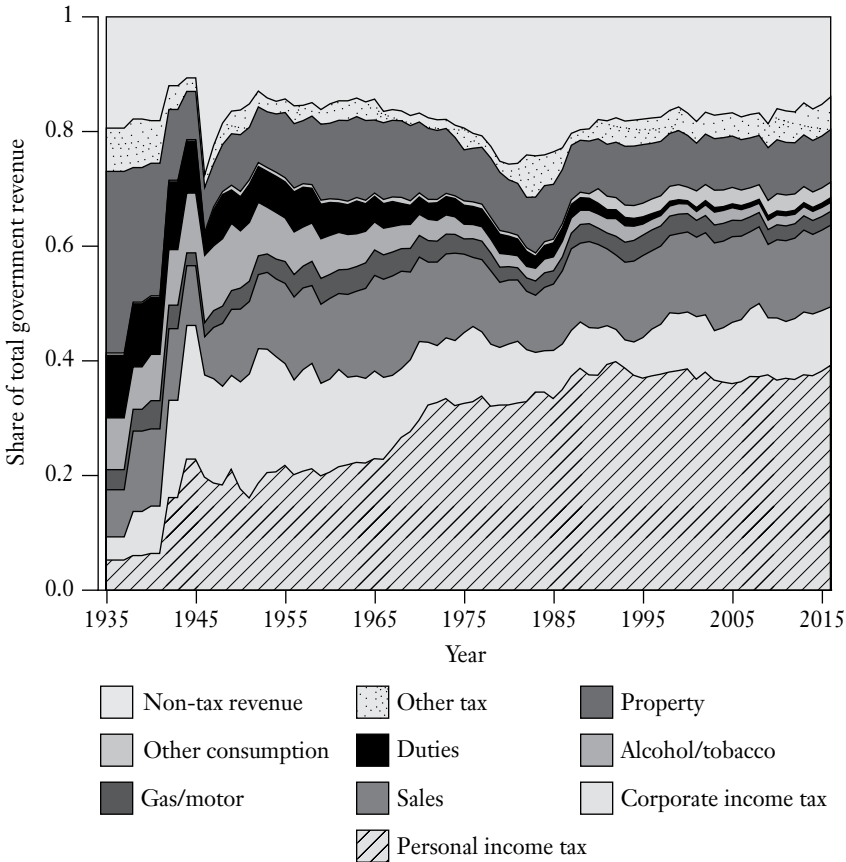
FIGURE 2   Revenues by Level of Government
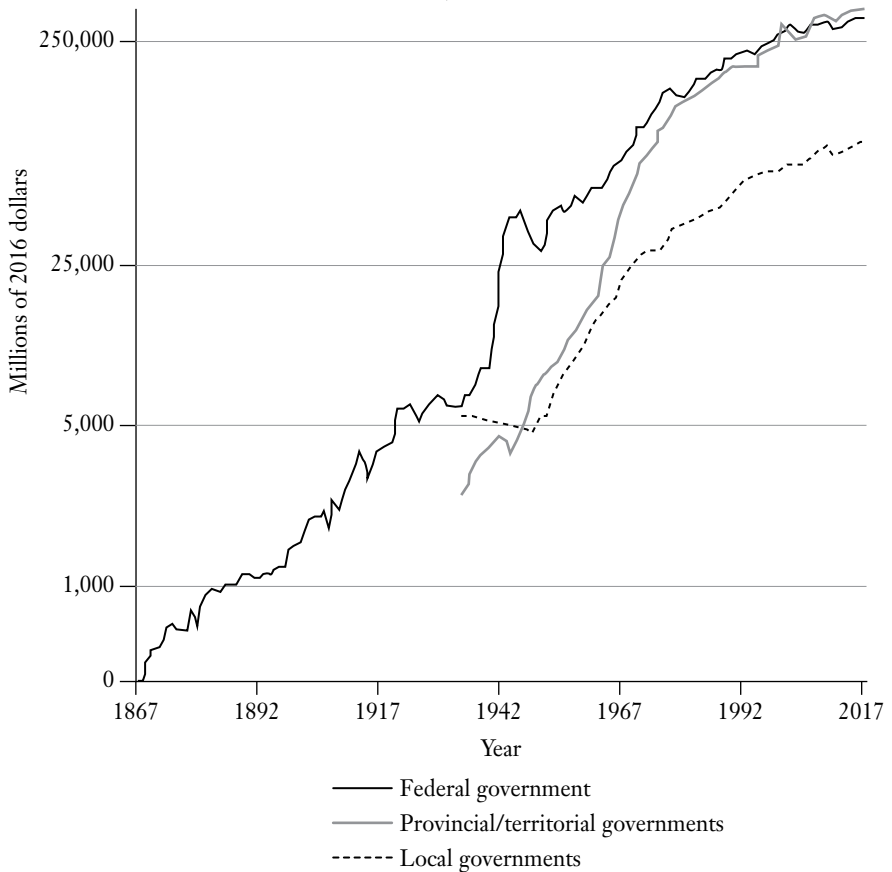
Note: The data for this chart come from the unified series described in the main text. There are some differences over time that may need to be considered when making comparisons. See the main text for details.

such as royalties on natural resources, remittances from Crown corporations, and revenue from the sales of goods, services, and permits. The items in this category are more accounting-sensitive since they deal with active business operations, and for this reason may vary more strongly across the different data sources.

The results, shown as a share of total revenue across all government levels, are presented in figure 3. In 1934, personal and corporate income taxes together accounted for only 9.3 percent of total government revenue. This share increased by a factor of five over the next 10 years as a result of the onset of the Second World War. Incomes taxes did not exceed this level consistently again until after 1997—and they even surpassed 50 percent for one year, in 2008. Much was written in the 1980s and 1990s about the anticipated shift away from income taxation toward

FIGURE 3   Tax Mix for Consolidated Government Revenue

Note: This chart shows the shares of government revenue across different revenue sources over time, for all three levels of government combined. The data for this chart come from the unified series described in the main text. There are some differences over time that may need to be considered when making comparisons. See the main text for details.

consumption taxation, some in praise and some in regret. It didn't happen. Consumption taxes[30] contributed a 21 percent share in 1986 and a 22 percent share in 2016. Even for the general sales tax category, there has been little growth. It sat at 13 percent in 1986 and 14 percent 30 years later, in 2016.

The role of duties shrank dramatically over the time period in figure 3. From 11 percent in 1934, duties revenue fell to under 1 percent in 1997. While not shown here, duties on imports represented between 50 percent and 60 percent of federal government revenue from Confederation until the 1920s, when the income tax

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30 This consumption tax share is the aggregate of the sales, gas/motor, alcohol/tobacco, duties, and other consumption categories.

started to bring in large revenues. Duties now constitute an insignificant share of government revenue.

Property taxes were almost a third of total government revenue in 1934, but dipped to less than 10 percent during the Second World War as other revenue sources expanded dramatically. For the last 40 years, property taxes have remained consistently around 9-10 percent of total revenue.

The final major category to consider is non-tax revenue. Because royalties from natural resources are in this category, trends in the commodity cycle come to bear here. Specifically, after hovering around a 15 percent share from the 1950s through the mid-1970s, non-tax revenue jumped to a 25 percent share in 1979 and stayed there until the mid-1980s. The 2000s commodities boom had a much smaller effect though, since royalties as a share of total government revenue have become less important. Provincial/territorial royalties from natural resources fell by more than $10 billion between 2012 and 2016, but since total government revenue exceeded $750 billion, this did not lead to a large change in the revenue share on its own.

ALLOCATION OF REVENUES AMONG LEVELS OF GOVERNMENT

The final analysis compares the share of revenues collected by the three levels of government over time. The analysis begins with total revenue shares, then examines each revenue category. In addition to the categories shown in figure 3, I include social insurance revenues ("social security") for the years available. The allocation of revenues by level of government is shown in figure 4.

The first panel of figure 4 (panel A) shows the evolution of total revenue. In 1934, the first year of the analysis, the federal share is 50.3 percent, the provincial/territorial share is 17.9 percent, and the local share is 39.6 percent. The Second World War led to a special fiscal arrangement known as the Tax Rental Agreements, under which the federal government took over the fields of personal and corporate taxation, starting in 1941, as a wartime expediency measure.[31] There were also changes to gas and motor fuel taxes and alcohol and tobacco taxes at the time. The result is obvious in panel A, with the federal government jumping to over two-thirds of total government revenue by 1946 and the provinces/territories slipping below 10 percent. The impact of the fiscal arrangement can also be seen in the data on personal and corporate income tax revenues, shown in panels B and C.

The consumption tax categories show starkly different patterns, depending on the category. Sales tax revenue, in panel D, started off as mostly federal in 1934 but has now grown to more than 50 percent provincial/territorial.[32] Gas and motor fuel taxes, in panel E, were entirely provincial/territorial (except during the Second World War) until 1975, when the federal excise tax was introduced. Alcohol and tobacco, in panel F, reflects an increasing provincial/territorial share over time,

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31 See Perry, supra note 2, at chapter 2.

32 The local government sales tax share is a municipal retail sales tax in Quebec in place until 1965, according to Bird, supra note 1.

FIGURE 4   Revenue Shares Across Levels of Government
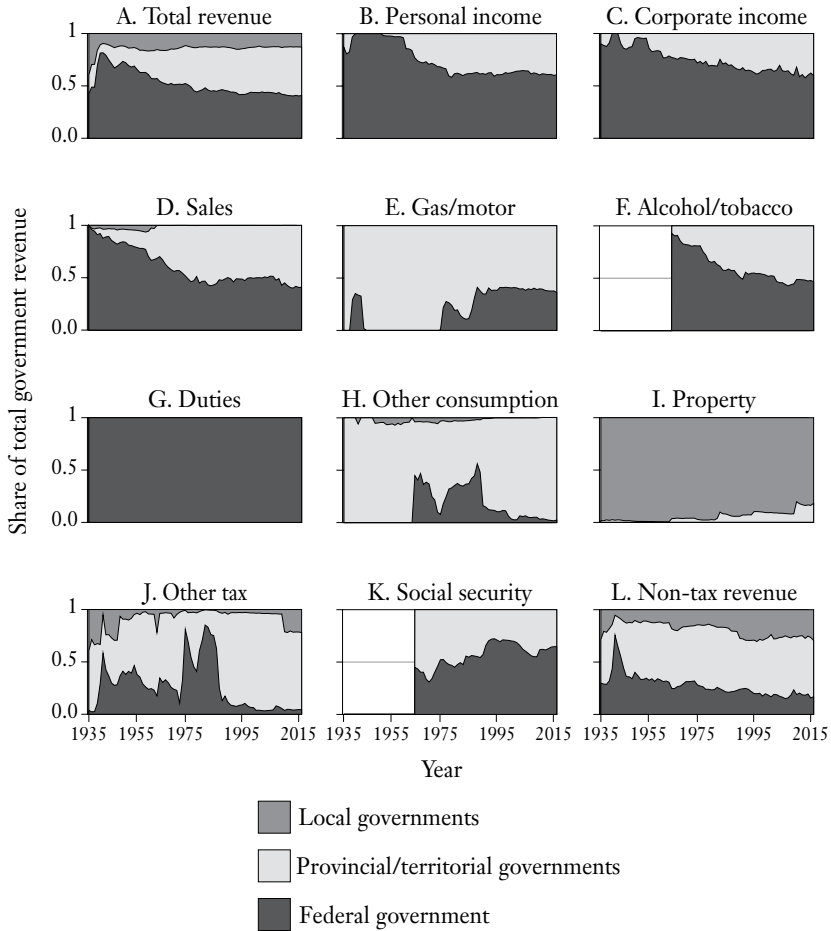
Note: This chart shows the shares of government revenue at each of the three levels of government. Each panel shows a different revenue source over time. The data for this chart come from the unified series described in the main text. There are some differences over time that may need to be considered when making comparisons. See the main text for details.

growing from less than 10 percent in 1966 to 53 percent by 2016.[33] Duties, in panel G, by their nature, have always been the exclusive domain of the federal government, and property taxes, in panel I, are almost exclusively local.

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33 I suppress the years before 1965 because the *Historical Statistics of Canada* do not break out provincial and territorial alcohol and tobacco taxes from other taxes.

Other tax, in panel J, is a catchall residual category, which is small in total and has been split between federal and provincial governments over this time period. Social security revenue, in panel K, is mostly federal unemployment/employment insurance and provincial workers' compensation contributions. Since unemployment insurance is not available in the *Historical Statistics of Canada* series, that segment is missing from this panel. The movement toward a higher federal share in this category is driven by the growth of unemployment/employment insurance payroll contributions over this period.

Non-tax revenue in panel L shows an increasing share for local government, with a shrinking federal presence. This relates to income from fees, sales, and government-related enterprises. The variation over time also reflects the impact of ebbs and flows in the commodity cycle on royalties accruing to provincial and territorial governments.

CONCLUSION

This article has examined the data sources reporting government revenues in Canada and has presented an analysis of the data, both by revenue type and by level of government.

The discussion reveals that the main data sources are fairly comparable at aggregate and broad levels. However, there are important differences in accounting practices, definitions of the scope of government, and construction, which must be taken into consideration when making comparisons across different data sources. In particular, the current GFS data, which are issued quarterly, should be used with the understanding that they are subject to regular revision, for up to four years after the original date of release. This means that data users must be vigilant in obtaining the most up-to-date revision.

In the analysis of the government revenue data over time, by type, and by government level, there are three findings of particular interest:

1. There is a pattern of continued growth of government revenue at the provincial/territorial level compared to the federal and local government levels. Before the Second World War, local governments raised more than provincial and territorial governments. Today, provincial and territorial governments raise more than the federal government.
2. Revenue from income taxation has increased over time, while consumption tax revenue has remained steady. Despite constant discussion for more than 30 years about a shift toward consumption taxation, this is "the dog that hasn't yet barked" of Canadian public finance. The income tax is—apparently—here to stay.
3. There is a steady and strong shift of consumption taxation from the federal level to the provincial/territorial level. With the advent of new carbon taxes administered by the provinces, this trend will surely continue into the future.