



Budget Spending Blackbox: Building a Bottom-Up Federal Expense Forecast

Institute of Fiscal Studies and Democracy
at the University of Ottawa



Randall Bartlett, Chief Economist, and Alex Reeves, Research Assistant

This report was prepared under the supervision of Kevin Page, President & CEO of the Institute of Fiscal Studies and Democracy (IFSD).

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115 Séraphin-Marion Room 107
Ottawa ON K1N 6N5
613-562-5800 x 5628
ifsd.ca | info@ifsd.ca



EXECUTIVE SUMMARY

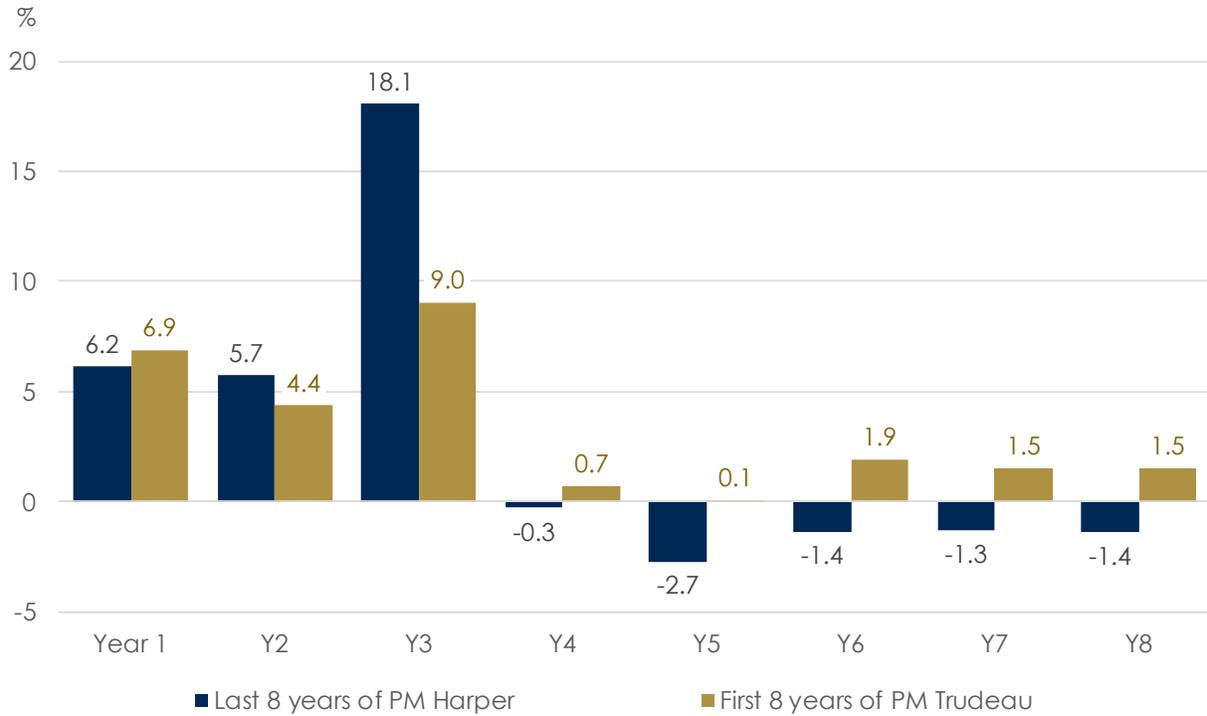
Much like the moment when the wizard is discovered in the classic movie *The Wizard of Oz*, the Government of Canada is asking Canadians and parliamentarians to ignore what's going on behind the curtain of its spending forecast. Specifically, Direct Program Expenses (DPE)—the discretionary part of federal government spending—is an impenetrable black box when presented in budget documents. Indeed, the budget forecasts are so high-level that elected representatives don't know with certainty what the government plans to spend on personnel, how many employees it expects to have in a couple of years' time, and what it plans to invest in capital, among many other unknowns.

The problem is multi-fold. First, numbers around federal government spending are broken down in different ways such as by department, program activity, and/or standard object (e.g., personnel, repair and maintenance, utilities, etc.) depending on which document you're looking at. And these differences often make reconciling various forecasts and estimates difficult. Second, the multitude of federal documents around discretionary spending are determined on different accounting bases (cash versus accrual), again making it challenging to translate one set of estimates and forecasts to another. Third, some of the forward-looking information parliamentarians vote on is based on budgets, while actual future spending numbers that Parliament approves (appropriations) provide only a partial picture of the expenditures that lay ahead. Finally, when the Institute of Fiscal Studies and Democracy (IFSD) reached out to central agencies as well as to the Receiver General and Parliamentary Budget Officer (PBO) for non-confidential, non-public information that would help to shed light on some of this spending, we were either ignored or told that the requested information would not be provided. This only changed when we chose to include media on the request, at which time the Receiver General provided the requested historical information (in this case related to spending on personnel). For these reasons related to a lack of transparency in fiscal reporting, among others, it is extremely difficult for independent experts to assess how realistic the Government of Canada's fiscal forecast is. And, according to former Deputy Minister of Finance Scott Clark, "without transparency there can be no accountability" (Clark, 2011). This alone should make the federal government's fiscal forecast of questionable credibility. And this question of credibility becomes that much more acute when comparing the DPE forecasts of the first eight years of the current federal government (assuming it wins the 2019 election and discretionary spending comes in line with its latest forecast) and the last eight years of the prior regime. This is because they look uncannily similar, despite these being administrations with entirely different messages and fiscal targets (Chart A).

Despite the dearth of information made available by the Government of Canada to allow independent experts to evaluate the outlook for discretionary spending, the IFSD has produced a bottom-up DPE forecast. To do so, the IFSD has employed two approaches.

The first approach is based on the federal government's monthly financial statement, the Fiscal Monitor, which provides fiscal information up to and including November 2017 (Department of Finance, 2018). This is then married to information from the Main and Supplementary Estimates—the spending approved by Parliament for the current fiscal year. Together, this results in a DPE forecast of \$133.7 billion in the 2017-18 fiscal year. This is well below the DPE forecast of \$139.1 billion published in the *Fall Economic Statement 2017 (FES 2017)* for the current fiscal year, the difference being a function of both lower operating expenses and transfer payments (Chart B). And since the IFSD used the federal government's DPE forecast from the *FES 2017* for the 2017-18 fiscal year in its January 2018 federal fiscal forecast, the starting point for the IFSD's DPE forecast was also much higher than that suggested by the Fiscal-Monitor-derived DPE forecast.

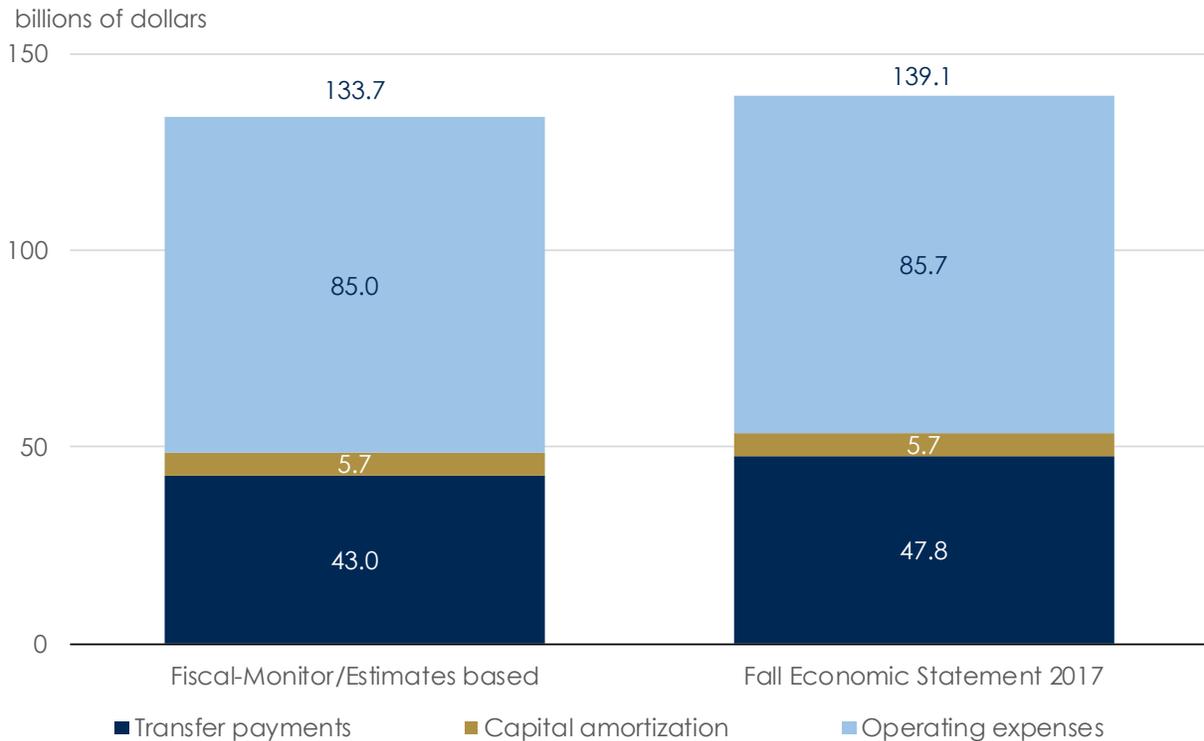
Chart A: Growth in Direct Program Expenses



Source: Government of Canada.

Notes: The 2015-16 fiscal year is attributed to Prime Minister Trudeau as 'Year 1', while Y3 through Y8 are forecasts from the *Fall Economic Statement 2017*. The 2007-08 fiscal year is 'Year 1' for Prime Minister Harper.

Chart B: Alternative 2017-18 Fiscal Year DPE Forecasts

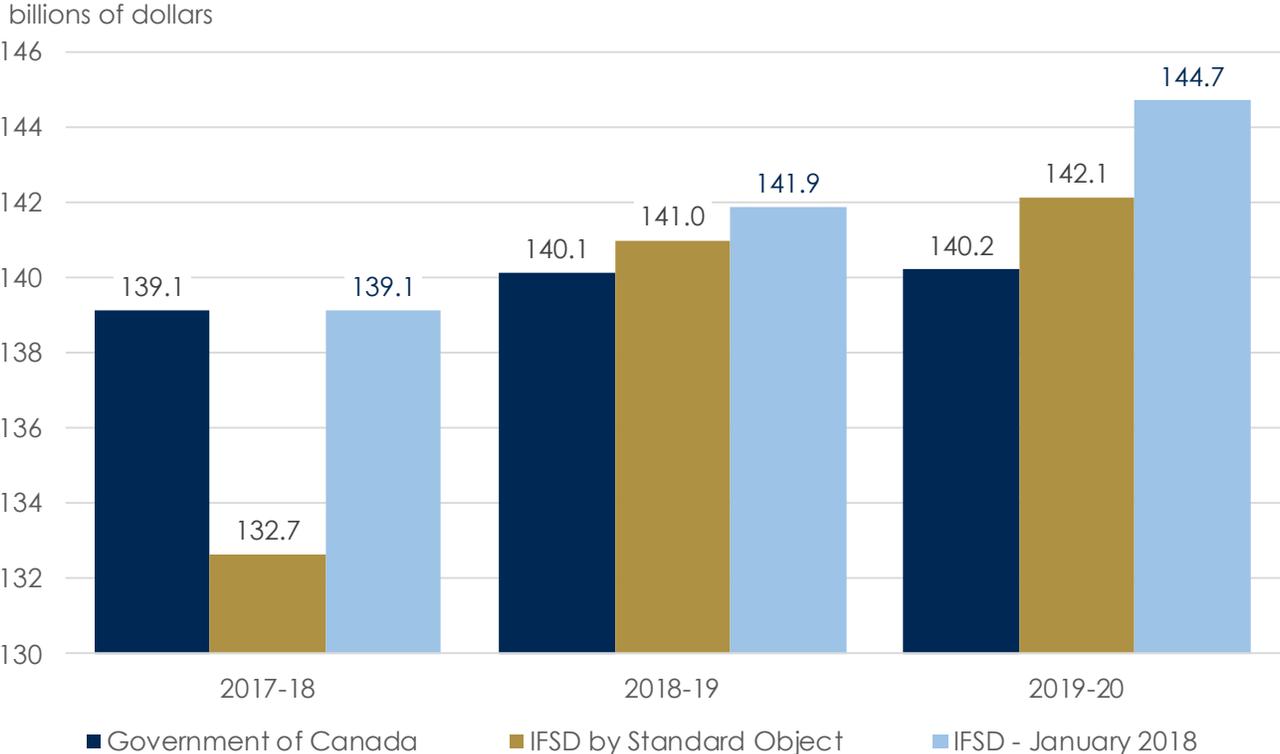


Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

Note: The Fiscal-Monitor-/Estimates-based DPE forecast was calculated by the IFSD.

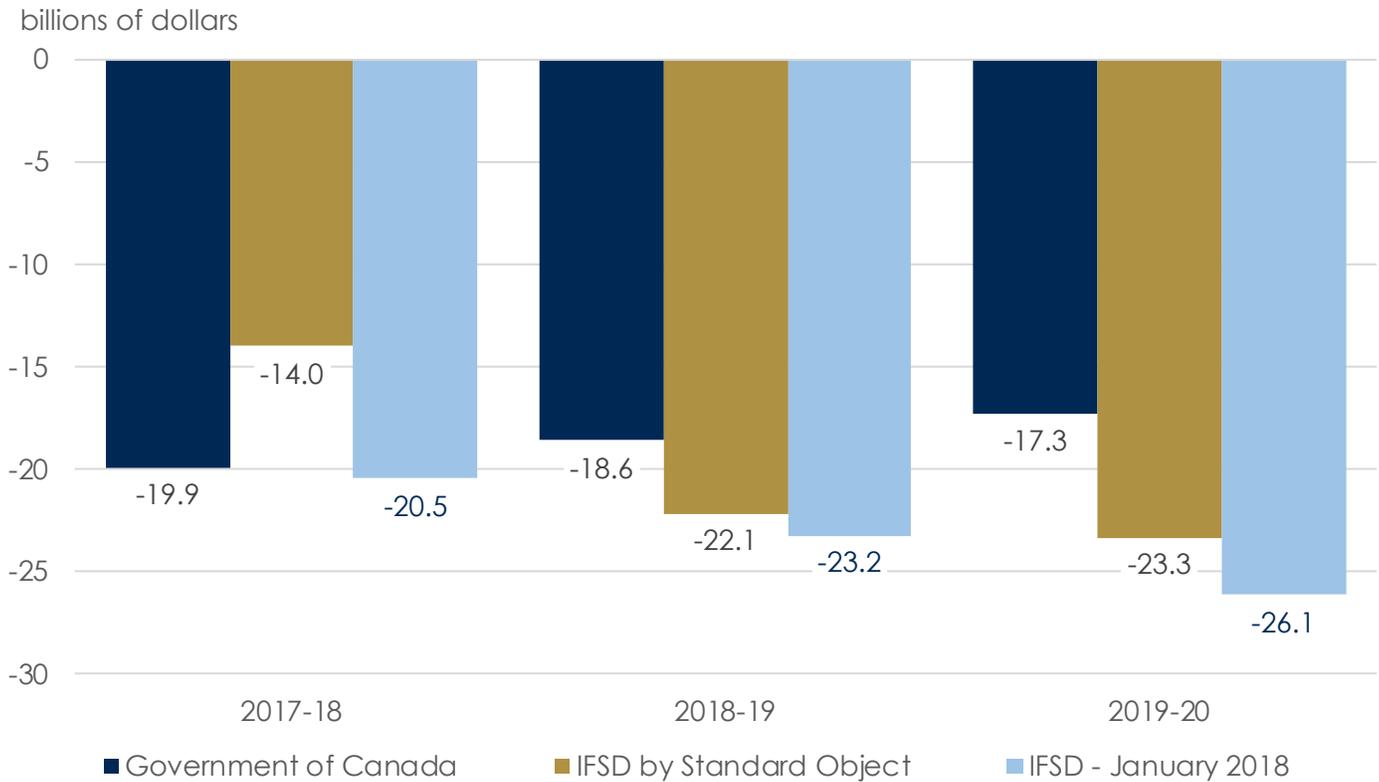
But like so many other things in life, there is more than one way to do a fiscal forecast. The second bottom-up DPE forecast undertaken by the IFSD is based on standard objects, which include personnel, non-personnel operating expenses, and capital spending. The forecast for personnel begins with the federal government’s outlook for full-time equivalent employees (FTEs) and reasonable assumptions for future growth in total compensation linked to detailed information received from the Receiver General. When combined with forecasts of capital spending and other non-personnel operating expenses, the result is an operating expense forecast. This operating expense forecast is then combined with forecasts of transfer payments and capital amortization from the IFSD and other federal fiscal documents. For the 2017-18 fiscal year, this leads to an outlook for DPE which is similar to that derived from the November 2017 Fiscal Monitor and Main and Supplementary Estimates at \$132.7 billion (Chart C). Due to this lower DPE forecast alone, the budget deficit for the 2017-18 fiscal year is likely to come in well below that forecasted by the federal government in the *FES 2017* and the IFSD in January 2018 (Chart D). But, going forward, DPE is expected to increase considerably, as operating expenses continue to rise and lapsed infrastructure spending finally gets out the door. This supports an outlook for ever increasing budget deficits through the 2019-20 fiscal year that are larger than those forecasted by the federal government in the *FES 2017* but lower than in the IFSD’s January 2018 forecast.

Chart C: Alternative Direct Program Expense Forecasts



Sources: Government of Canada, Institute of Fiscal Studies and Democracy.
 Note: The Government of Canada Direct Program Expense forecast is taken from the *Fall Economic Statement 2017*.

Chart D: Alternative Federal Deficit Forecasts



Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

Notes: The Government of Canada Direct Program Expense forecast is taken from the *Fall Economic Statement 2017*. The IFSD's forecast for program expenses has been revised from January 2018 to include spending on mental health and home care.

This piecemeal approach to understanding the federal government's future spending plans should leave parliamentarians with a handful of fundamental questions: Why does the Government of Canada not produce spending forecasts that can be easily scrutinized by parliamentarians and independent experts? Why does the federal government prevent independent experts from having access to non-confidential, non-public information, so as to evaluate where projected spending restraint will come from? Why does Parliament vote on two sets of spending plans that are determined on different accounting bases (cash versus accrual)? If the federal government is planning to cut FTEs in the near future (as is the case in the latest spending numbers sent to Parliament), has it had those discussions with public-sector unions so as to ensure they will happen?

At the IFSD, we don't know the answers to these questions. We just ask them. Instead, it is up to parliamentarians to demand the answers.

INTRODUCTION

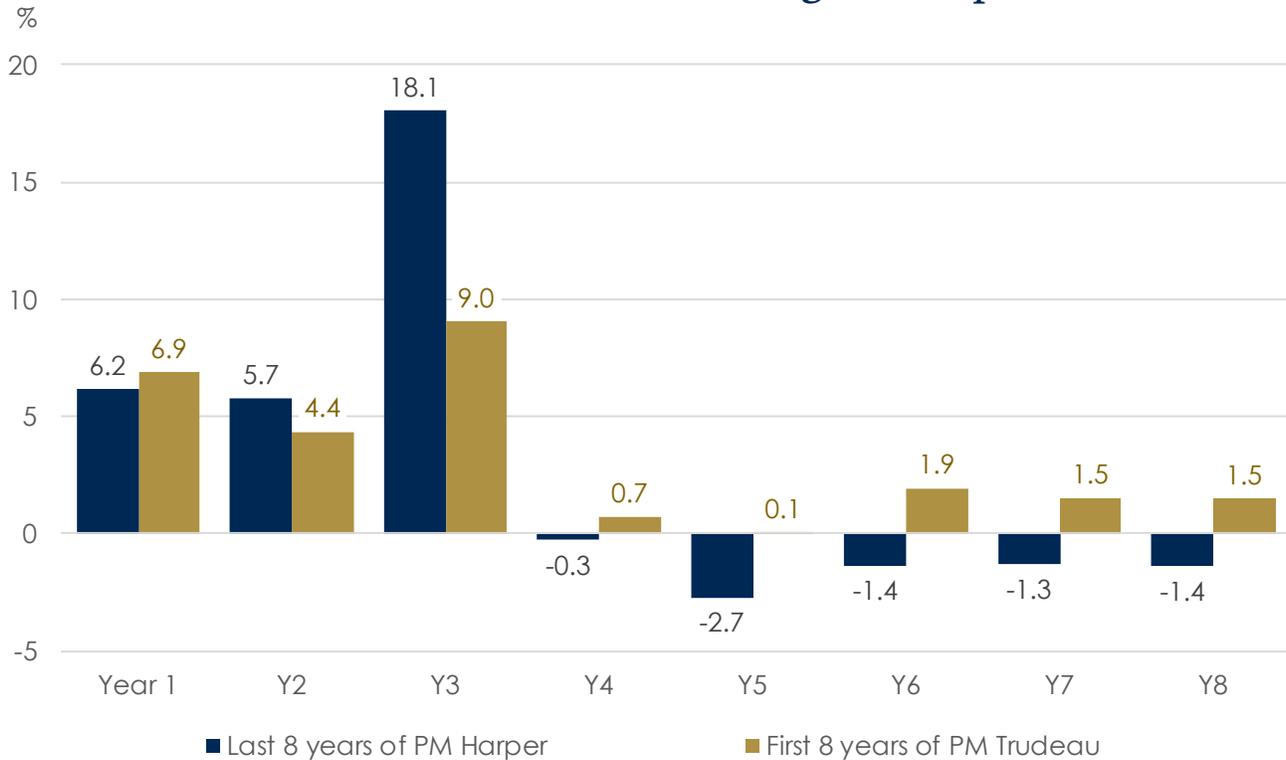
In early January 2018, the Institute of Fiscal Studies and Democracy (IFSD) released its latest 5-year fiscal forecast for the federal government (Bartlett, 2018). While only a modest update to its past forecasts to reflect changes in the economic outlook, it drew some attention from the media and other commentators as a result of its marked difference from the fiscal outlooks of the Department of Finance Canada (2017a) and the Office of the Parliamentary Budget Officer (PBO) (2017a). Both the Government of Canada and the PBO were projecting budget deficits to gradually shrink over the next five years, and the debt-to-GDP ratio to decline along with it. In contrast, the IFSD was projecting federal budget deficits to rise over the medium term, and to such an extent that the debt-to-GDP ratio will gradually rise as well.

The main differences between the IFSD's forecast and that of other forecasters were in the projections for Personal Income Tax (PIT) revenue and Direct Program Expenses (DPE). In the former case, the IFSD's economic models suggested that personal income had risen at a pace beyond its trend and the current stage of the business cycle. As such, while the effective PIT rate is expected to continue to very gradually increase over the outlook, PIT revenues are forecast to grow broadly in line with nominal GDP over the coming five years as the level of personal income reverts to its underlying trend.

But more interesting than the outlook for PIT revenues is the discussion around DPE. Of the main spending categories of the federal government, which also includes 'Major transfers to persons' and 'Major transfers to other levels of government', DPE is the spending category which is subject to the greatest discretion. And given it is not directly linked to forecasted economic variables which the federal government publishes in its budget documents, such as CPI inflation or nominal GDP growth, it is the most difficult expenditure category to forecast.

Specifically, in the federal government's budget documents, the DPE forecast is comprised of three subcategories: transfer payments (otherwise known as grants and contributions), capital amortization, and operating expenses. And it is operating expenses that the PBO flagged for parliamentarians as being questionable in its review of the *FES 2017* (PBO, 2017b). At the IFSD, we went a step further in our January 2018 federal fiscal forecast, stating that "we don't believe that the federal government's DPE forecast is realistic" (Bartlett, 2018). This reflected the fact that the federal government's outlook for DPE growth, as presented in the *FES 2017*, looks strangely similar for the first eight years of the current administration (assuming it wins the 2019 election and discretionary spending comes in line with its latest forecast) and the last eight years of the prior regime (Chart 1). This despite these being administrations with entirely different messages and fiscal targets.

Chart 1: Growth in Direct Program Expenses



Source: Government of Canada.

Notes: The 2015-16 fiscal year is attributed to Prime Minister Trudeau as ‘Year 1’, while Y3 through Y8 are forecasts from the *Fall Economic Statement 2017*. The 2007-08 fiscal year is ‘Year 1’ for Prime Minister Harper.

THE INFORMATION AVAILABLE TO PARLIAMENTARIANS

In order to support parliamentarians in their decision-making around voting on taxing and spending, the Government of Canada provides a multitude of supporting documents. However, for various reasons, much of this documentation is not especially useful in shining a light on the underlying discretionary spending contained in the budget.

For instance, the budget documents provide forecasts of government spending on an accrual accounting basis, so that revenues and expenses are booked at the time they are incurred as opposed to when cash actually changes hands. The Public Accounts of Canada are also prepared on an accrual basis, meaning the budget numbers should map to the Public Accounts (Government of Canada, 2013 to 2017). The Public Accounts provide detailed historical estimates of Government of Canada spending by department and program activity, as well as by standard object (such as personnel, repair and maintenance, utilities, etc.). Unfortunately, the federal government’s budget forecasts do not provide sufficient detail at the departmental, program-activity, or standard-object level in a manner similar to the Public Accounts. As such, the fiscal forecasts published in the budget are of limited usefulness when trying to go beneath top-line operating expenses and transfer payments.

But the Public Accounts aren’t the only accrual-based estimates of revenues and expenses available to parliamentarians. The monthly Fiscal Monitor, released by the Department of Finance Canada, is also published on an accrual basis, and is can be very useful when used in the current fiscal year. This is, in part, because it provides estimates of discretionary spending and transfers by some of the largest departments while budgets documents do not. The Fiscal Monitor therefore allows for in-year

estimates and forecasts to be mapped to a limited number of departments in the Public Accounts that make up a substantive share of spending. The information in the Fiscal Monitor can be further augmented by the appropriations voted on by parliamentarians in the Main and Supplementary Estimates (the Estimates) for the current fiscal year, thereby helping to round out and benchmark the information contained in the Fiscal Monitor. However, the Fiscal Monitor and Estimates are again of limited usefulness as they only provide information in-year. As such, they can shed light on the starting point for a forecast but nothing beyond.

That said, the federal government does provide a detailed 3-year spending outlook by department and program, known as the Departmental Plans (DPs) (Government of Canada, 2017a). But, so as to not make things too easy, the DPs are published on a cash basis, meaning what matters is the timing that cash is exchanged as opposed to when an activity was undertaken. This stands in contrast to the accrual accounting method used in the Public Accounts and budget documents, and makes using the DPs to predict future expenditures published in the budget more difficult. This is particularly true for departments with large capital outlays such as the Department of National Defence and Public Services and Procurement Canada. The DPs also suffer because some programs with expiring funding authorities that are intended to be renewed have not yet had appropriations sent to Parliament for a vote, even if budget documents make clear that these programs will be maintained going forward. For these reasons, an accurate mapping of the DPs to the Public Accounts is difficult at best, so that a meaningful bottom-up DPE forecast can't be readily produced. This also means that parliamentarians are looking at markedly different figures when scrutinizing the federal budget and its fiscal plan versus the DPs representing the spending authority Parliament provides to the government. Further, the two approaches are difficult to reconcile in a manner that is sufficiently timely to serve as decision-support for Parliament.

Despite these impediments, the IFSD develops two bottom-up forecasts of DPE in the following analysis. The first forecast is determined through a combination of the federal Fiscal Monitor and the Main and Supplementary Estimates. Subsequently, the second forecast is developed by standard object using full-time equivalent employee (FTE) estimates from the DPs, historical estimates of personnel costs provided by the Receiver General, and other historical standard-object estimates from the Public Accounts.

IFSD'S FISCAL-MONITOR- AND ESTIMATES-BASED OPERATING EXPENSE FORECAST

The IFSD's first approach to creating a bottom-up forecast of DPE uses data from two sources: the federal Fiscal Monitor and the Main and Supplementary Estimates.

The first data source, the Department of Finance Canada's monthly Fiscal Monitor, was most recently released for November 2017, eight months into the current 2017-18 fiscal year (Department of Finance Canada, 2018). As was previously mentioned, the Fiscal Monitor is published on an accrual basis and includes information for several of the largest federal departments, making it very useful for developing in-year forecasts of federal discretionary spending (in addition to other spending and revenues). Specific monthly spending data is available from April 2003 through November 2017, and is divided into 'Transfer payments' and 'Other direct program expenses'. It should be noted that the transfer payments referred to here are not 'Major transfers to persons' or 'Major transfers to other levels of government,' but are instead program specific transfer payments made by federal departments.

Transfer payments in the Fiscal Monitor are divided into those attributed to major departments, including Agriculture and Agri-Food Canada, Employment and Social Development Canada, Global Affairs Canada, Health Canada, Indigenous and Northern Affairs Canada, and Innovation, Science and Economic Development Canada, as well as an ‘Other’ category for the rest of the transfer payments. Using regression models which take into account historical seasonal patterns to forecast the transfer payments for the remaining months of the 2017-18 fiscal year, the IFSD has projected that the Fiscal-Monitor-based departmental transfer payments will be \$41.9 billion in the current fiscal year.

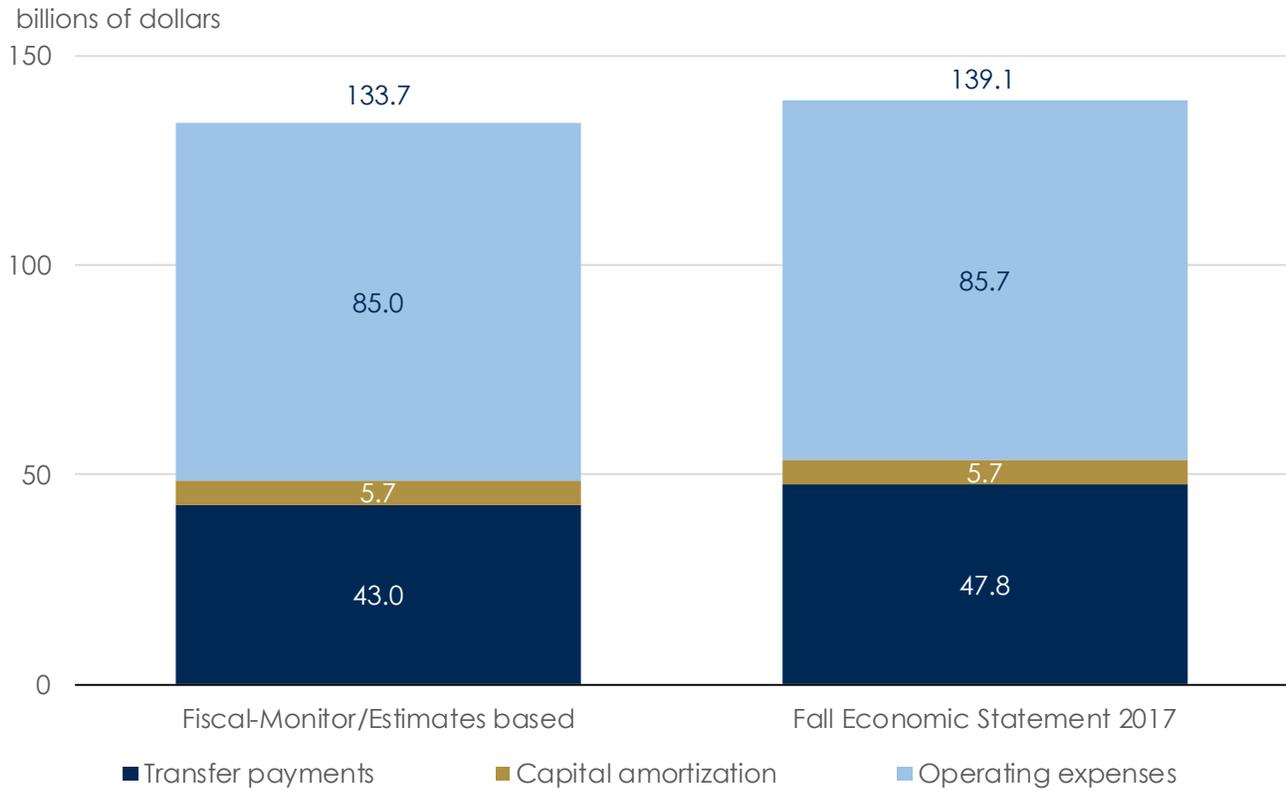
The IFSD then compared this value to the transfer payments that have been voted on by Parliament, as contained in the Estimates—the IFSD’s second source of in-year fiscal numbers. While the Estimates are presented on a cash basis, meaning there can be discrepancies for some spending categories (most notably capital spending), transfer payments are less susceptible to these swings. Separating transfer payments from the operating expenses, capital expenses, and other items in the Estimates results in a forecast of federal transfer payments in the 2017-18 fiscal year of \$44.1 billion, \$2.2 billion higher than the Fiscal Monitor forecast.

In order to ensure that information from the Fiscal Monitor and the Estimates is captured in the IFSD’s in-year forecast of total transfer payments, the IFSD used the simple average of these respective forecasts and estimates. This results in a forecast of federal transfer payments for the 2017-18 fiscal year of \$43.0 billion, which is \$4.8 billion lower than was forecasted in the *FES 2017*. Notably, using data from the Open Government Portal, the IFSD is expecting about 60% of this amount to be related to lapsed infrastructure spending (Infrastructure Canada, 2018).

With transfer payments out of the way, we turn our attention to operating expenses, which are broken down similarly in the Fiscal Monitor and the published data contained in the Fiscal Reference Tables (Department of Finance Canada, 2017b). Each of these data sources includes estimates of spending by Consolidated Crown corporations and the Department of National Defence, with the remaining spending being grouped into ‘All other departments and agencies’. Using a regression approach similar to that used to forecast transfer payments by department, the IFSD used data from the Fiscal Monitor to forecast spending by these groups. It then mapped these forecasts to the Public Accounts of Canada based on the historical relationship between the Public Accounts and the year-end Fiscal Monitor estimates. This resulted in an increase in non-transfer-payment DPE of 4.3% over the 2016-17 fiscal year, to \$90.7 billion. Subtracting the ‘Capital amortization’ forecast from the *FES 2017* for fiscal 2017-18 from this amount (for lack of a better forecast) leads to a forecast of operating expenses of \$85.0 billion for the current fiscal year.

Taking these estimates together results in a DPE forecast for the 2017-18 fiscal year of \$133.7 billion (Chart 2). This is well below the forecast of \$139.1 billion published in the *FES 2017*—a forecast which also formed the starting point for the IFSD’s January 2018 DPE projection. This \$5.4 billion difference can largely be chalked up to a forecast of transfer payments which is \$4.8 billion lower than in the *FES 2017*, the bulk of which is tied to lapsed infrastructure spending (Infrastructure Canada, 2018).

Chart 2: Alternative 2017-18 Fiscal Year DPE Forecasts



Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

Note: The Fiscal-Monitor/Estimates-based DPE forecast was calculated by the IFSD.

IFSD'S DEPARTMENTAL-PLAN- AND STANDARD-OBJECT-BASED OPERATING EXPENSE FORECAST

In contrast to the approach to forecasting DPE just discussed, the IFSD's second approach starts with the DPs, which provide an outlook of FTEs by department from the 2017-18 through 2019-20 fiscal years. These FTE numbers, adjusted for programs that are planned to continue, are then used to undertake a forecast by standard object out to fiscal 2019-20. This provides some additional colour around the federal government's spending forecast up to and beyond the 2019 federal election.

In undertaking the IFSD's bottom-up operating expense forecast, standard objects are grouped into three broad categories: personnel, non-personnel operating expenses, and capital expenses.

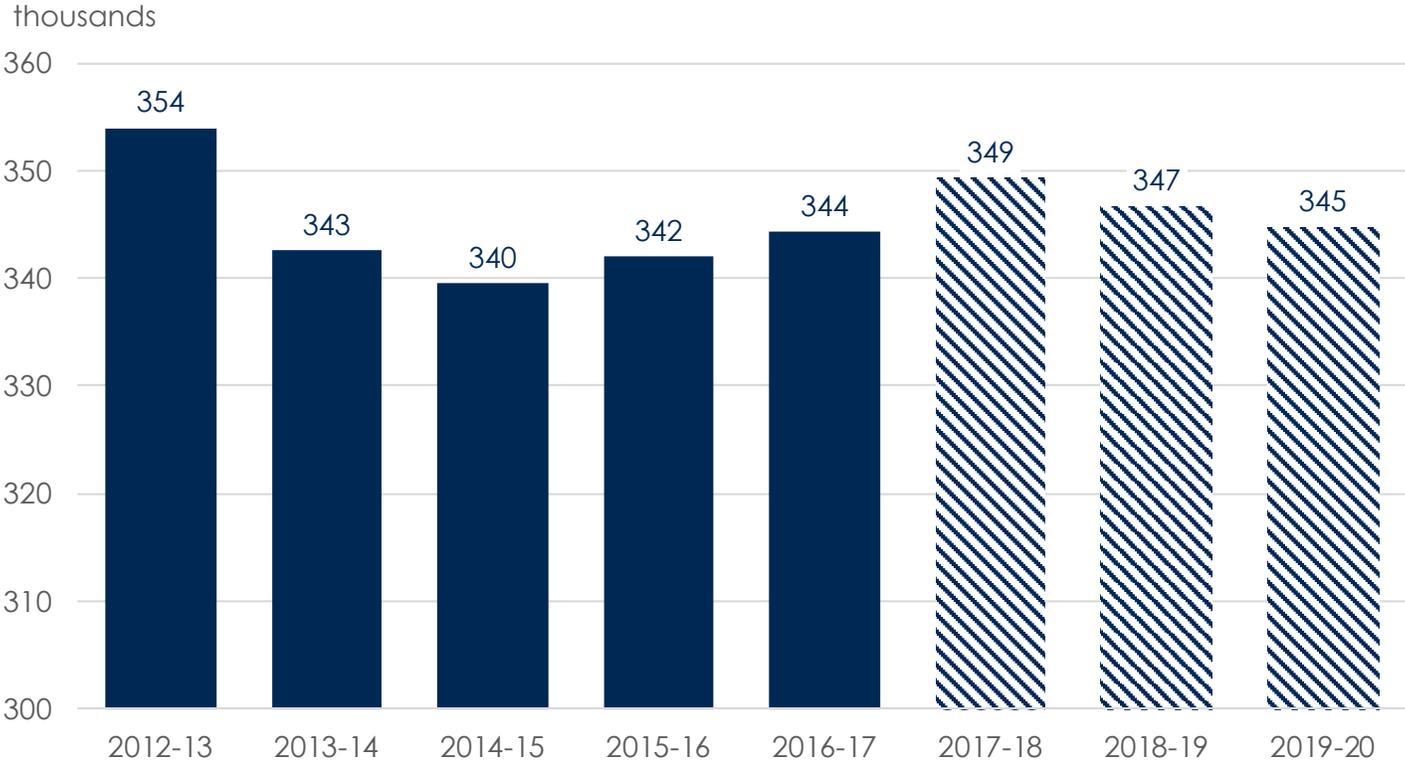
Forecasting the Cost of Federal Government Personnel

Of the standard objects to be forecasted, 'Personnel' is the category that has received the most analysis at the federal level, particularly by the PBO (2012a; 2013). This comes as no surprise, as spending on personnel alone makes up nearly half of operating expenses. And, for this analysis, the cost of personnel is divided into two parts: the number of FTEs and the average level of compensation per FTE.

Fortunately, one needs look no further than the DPs for the federal government's 3-year forecast of the number of its FTEs, which are not subject to the same cash versus accrual accounting considerations as total revenues and expenses. And while not a perfect forecast, as programs that are intended to

continue to be funded but haven't yet received approval from Parliament are not included, sufficient information is available in the DPs to add these into the mix. Chart 3 provides the outlook for the aggregate FTE numbers. As can be observed, after reaching a recent trough of 340,000 employees in the 2014-15 fiscal year, the number of federal employees is expected to gradually climb to 349,000 in fiscal 2017-18 and to fall slightly thereafter. The decline in federal government FTEs toward the end of the forecast is largely the result of a few programs cutting staff, including the Employment Insurance (EI) program—a decline which is supported by the projected change in administrative costs published in the 2018 Actuarial Report on the Employment Insurance Premium Rate (Office of the Chief Actuary, 2017). This decline is partially offset by the projected increase in FTEs to be hired by the Office of the Chief Electoral Officer to meet the demands of the upcoming 2019 federal election, which were added by the IFSD as they were not included by the federal government in the DPs.

Chart 3: Federal Government Full-Time Equivalents



Sources: Government of Canada, Institute of Fiscal Studies and Democracy.
 Notes: The 2012-13 through 2016-17 fiscal year values are taken from the Public Accounts of Canada. The 2017-18 through 2019-20 fiscal year values are taken from Departmental Plans, modified by the IFSD to reflect ongoing programs that have not yet received Parliamentary approval.

Next, one needs to determine the average total compensation cost per FTE. To do this, the IFSD looked to the methodologies employed in PBO (2012a) and PBO (2013). More specifically, total personnel costs are based on its four subcomponents: wages & salaries, pensions, benefits, and other employer contributions (which includes Employment Insurance, overtime, etc.).

Unfortunately, this breakdown is not publicly available. As such, the IFSD requested the data from the Receiver General of Canada based on a past information request made by the PBO (2012b). Initially, the IFSD was told that these data would not be made available by the Receiver General, as they were for the PBO, and that the IFSD would instead need to request this information from each individual

department of the federal government. This came as a surprise given the non-confidential nature of this information. However, once members of the media were made aware of this issue in a subsequent request, the requested data were provided (from the 2002-03 through 2016-17 fiscal years).

As a result of having been given the breakdown of personnel cost by its subcomponents, the IFSD has been able to get a detailed understanding of the contributions different personnel costs make to total compensation.

Starting with wages and salaries, the dataset received from the Receiver General allowed for spending to be broken out by civilian regular time and non-civilian (military and Royal Canadian Mounted Police (RCMP)) regular time. When divided by the FTEs for each of these groups, the result is average wages and salaries per FTE (excluding overtime). Notably, military and RCMP FTEs earned about 9% more, on average, than civilian FTEs over the past five fiscal years. This, in part, reflects a historically higher growth rate in wages & salaries paid to the former group relative to the latter.

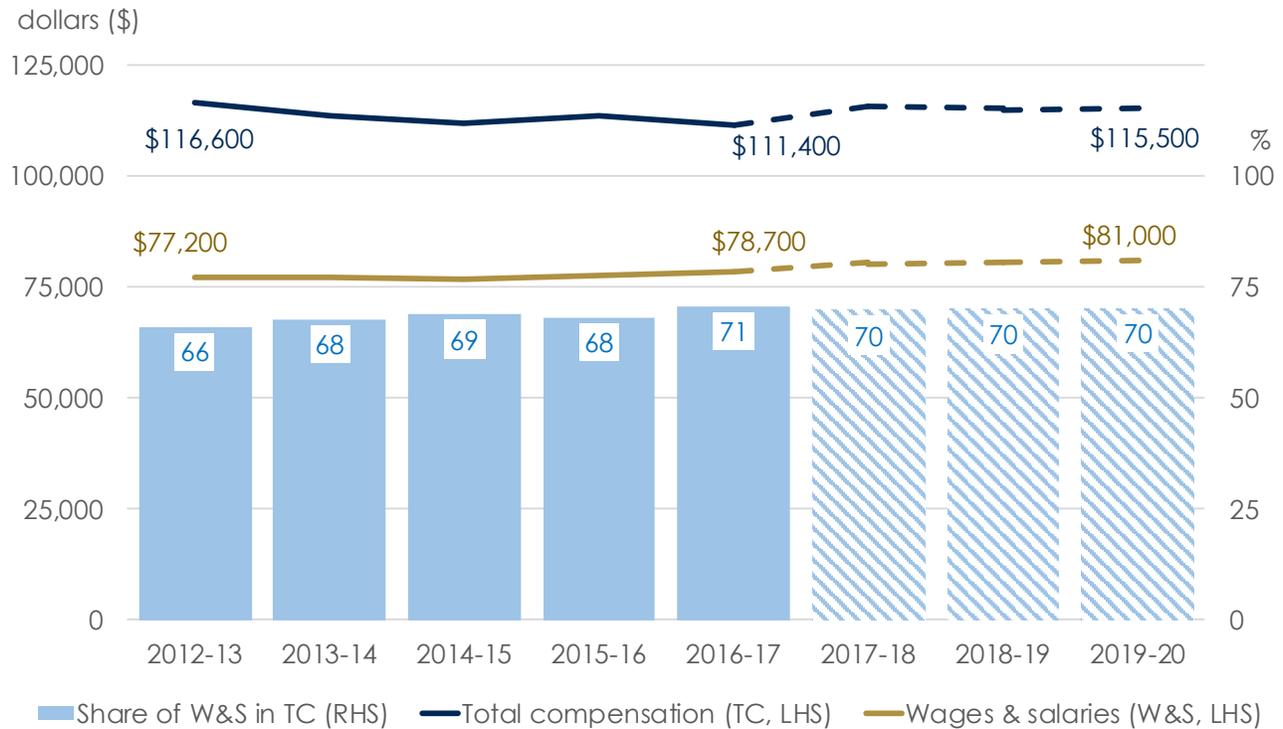
But this pattern has changed in the last couple of years. For instance, average wages and salaries of civilian FTEs has fallen from 2.5% annually from the 2011-12 through 2014-15 fiscal years to 1.2% in each of the past two fiscal years. Meanwhile, average per FTE wages and salaries of military personnel and RCMP declined during each of the three fiscal years following fiscal 2012-13, but then remained broadly flat in the 2016-17 fiscal year.

Looking ahead, according to the Treasury Board of Canada Secretariat (2016a), the four largest knowledge-intensive groups in the core public administration in the 2015-16 fiscal year (the most recent fiscal year for which data were available) were Administrative Services (AS), Program Administration (PM), Computer Systems (CS), and Economics and Social Science Services (EC). Together, these four groups made up 39% of core public administration, following steady gains from a 21.5% share in 1990. As such, there is no reason to assume that this share will decline in the 2016-17 fiscal year and in the fiscal years thereafter—rather, they will instead continue to increase. Then, looking to the collective agreements of these four occupational groups, many of which end in 2018, one can observe that wages and salaries will be subject to planned increases of 1.25% in the final year of the agreement.

It is therefore reasonable to assume that 1.25% is the rate at which wages and salaries will increase for the civilian public service over the fiscal forecast, particularly given that this is roughly the rate of growth in per FTE wages & salaries in the 2015-16 and 2016-17 fiscal years. We then assume that wages and salaries per FTE in the military and RCMP advance at the pace of the most recent fiscal year, which is to say not much at all. As a result, the annual growth in average wages and salaries per FTE in the federal government as the whole ranges between 0.9% to 1.0%, depending on the fiscal year.¹

As a result of applying a 1.25% growth rate to civilian wages and salaries and a barely positive advance in non-civilian wages and salaries, average wages and salaries per FTE increase from an estimated \$78,700 per employee in the 2016-17 fiscal year to \$81,000 in fiscal 2019-20 (Chart 4). Meanwhile, the share of wages and salaries in total compensation is projected to remain stable, falling from 71% in the 2016-17 fiscal year to 70% in fiscal 2017-18 and remaining essentially unchanged thereafter. When the wages & salaries per FTE are multiplied by the number of FTEs, the total wage bill rises steadily, albeit modestly, from \$27.5 billion in the 2016-17 fiscal year to a forecasted \$28.3 billion in fiscal 2019-20.

Chart 4: Federal Government Wages & Salaries



Sources: Government of Canada, Parliamentary Budget Officer, Statistics Canada, Institute of Fiscal Studies and Democracy. Notes: The 2012-13 through 2016-17 fiscal year values are from the Public Accounts of Canada. The 2017-18 through 2019-20 forecasted values are from the IFSD.

Beyond wages and salaries, the remainder of the federal government’s personnel cost is comprised of pensions, benefits, and other employer contributions. Thanks to the Receiver General having provided this information over history, one can glean important insights into the evolution of these personnel spending subcategories. For instance, we know from PBO (2012a) that “between the 2000-01 and 2011-12 fiscal years, the allocation within the four categories of total compensation remained relatively stable,” with wages & salaries averaging 72% over this period. This changed in fiscal 2011-12 due to budget cuts, when the share of wages & salaries in total compensation fell to around 69% and other employer contributions rose to 12% of total compensation (largely due to the paying of severances). But, now that fiscal restraint has come to an end, there is no reason to think that we haven’t returned to more normal relative expenditures. As such, the IFSD has assumed that benefits and other employer contributions will converge toward their historic shares relative to wages & salaries through the 2019-20 fiscal year.

The IFSD took a slightly different approach to determining employer pension contributions than it took to the other personnel spending categories, augmenting the estimates of employer pension contributions that would result from returning to historic shares relative to wages & salaries. This different approach to determining pension benefits relative to other compensation subcategories reflected the fact that there are two important factors that impact employer pension contributions that don’t impact the other subcategories of expenditure on personnel. One factor is the gradually increasing employee contributions to the Public Service Pension Plan, from 40% in January 2013 to 50% in January 2018. The other factor affecting the federal government’s contributions to employee pensions is the impact that changing economic projections has on the calculation of the federal government’s accrued benefits obligations (ABOs).

Specifically, as inflation rises (falls), ABOs are estimated to rise (fall) as they are indexed to inflation. In contrast, as a result of their present-value approach to determining ABOs, as interest rates rise (fall), ABOs fall (rise). And, as ABOs are measured against pension assets, which are determined on a mark-to-market basis, rising ABOs relative to assets mean the federal government may incur additional expenses. In contrast, falling ABOs relative to assets mean the federal government needs to set less aside to meet its future liabilities. And this latter situation is broadly the one we find ourselves in today.

Of course, it's important to keep in mind that economic forecasts, particularly in the short term, can turn on a dime, which can make these changes to ABOs highly volatile. To prevent this volatility caused by short-run changes in the economic outlook from causing pension-related expenses to swing wildly, the federal government is able to accrue this change in expenses over a period of up to 15 years.

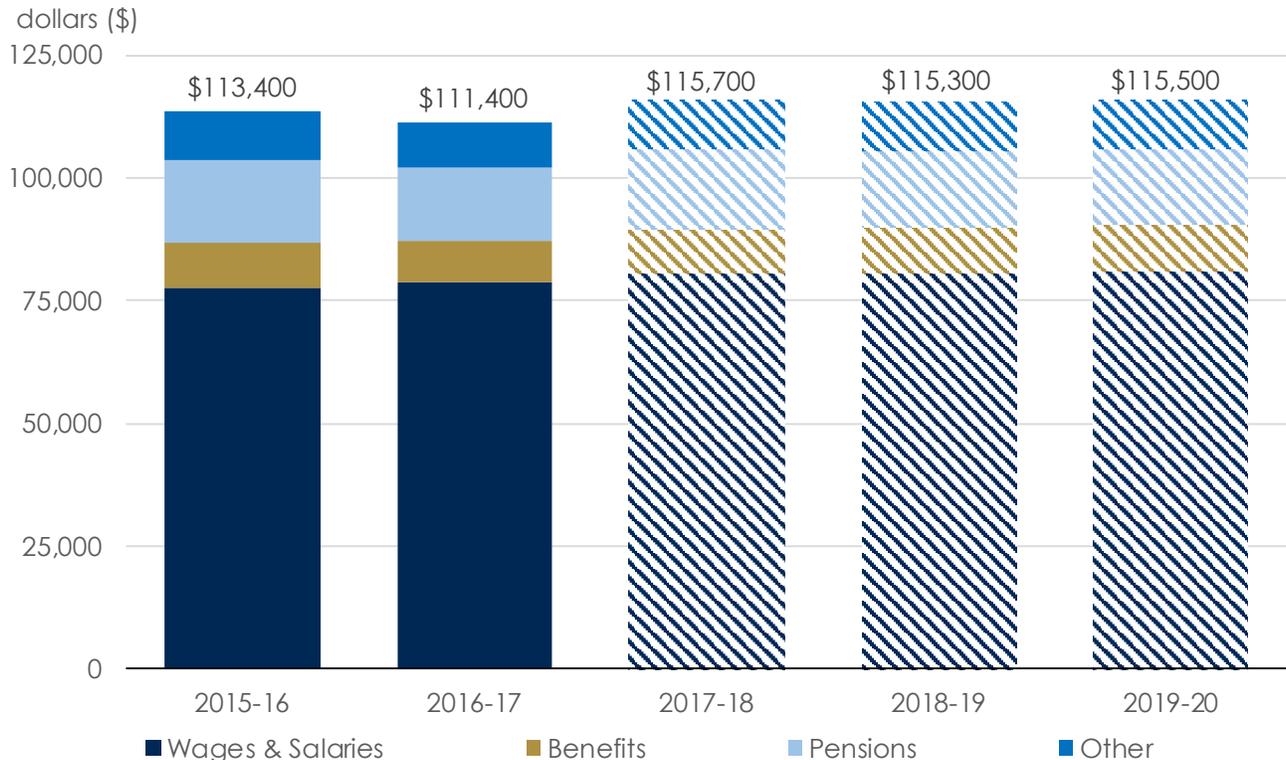
Unfortunately, as a result of this long period of time over which changes in ABOs feed into personnel expenses due to shifting economic forecasts, it is no small task to incorporate this information into the fiscal forecast. So, in order to determine the impact of this shifting pension-valuation landscape, the IFSD has applied some simplifying assumptions. First, the IFSD used the 'actuarial assumptions' on page 2.30 of the Public Accounts of Canada (2017). We then combined these with the changes in budget economic forecasts since Budget 2015 applied to the 'sensitivity analysis' on page 2.31 of the Public Accounts of Canada (2017). Pulling this all together, the impact of changes to each fiscal year's outlook for pension assets and ABOs was then spread over a 13-year period (the midpoint of the range of accrual periods published by the federal government), with each annual adjustment applied to the total allowance for pension adjustments of the prior year.

It should be noted at this point that these ABO-valuation adjustments were requested by the PBO in early 2017 from the federal Department of Finance and Treasury Board Secretariat (PBO, 2017c; PBO, 2017d). The IFSD asked for the response from the Department of Finance to this information request, but was told it would not be provided. As such, this non-confidential, non-public information is not available to the public, thereby reinforcing the lack of transparency in budget reporting on the part of the federal government.

While a crude approach to determining the total compensation subcomponents, the IFSD believes that its estimates provide a reasonable basis on which to forecast the federal government's personnel expenses through the 2019-20 fiscal year. That is, in the absence of the more detailed and non-confidential data that was requested but not provided by the federal government.

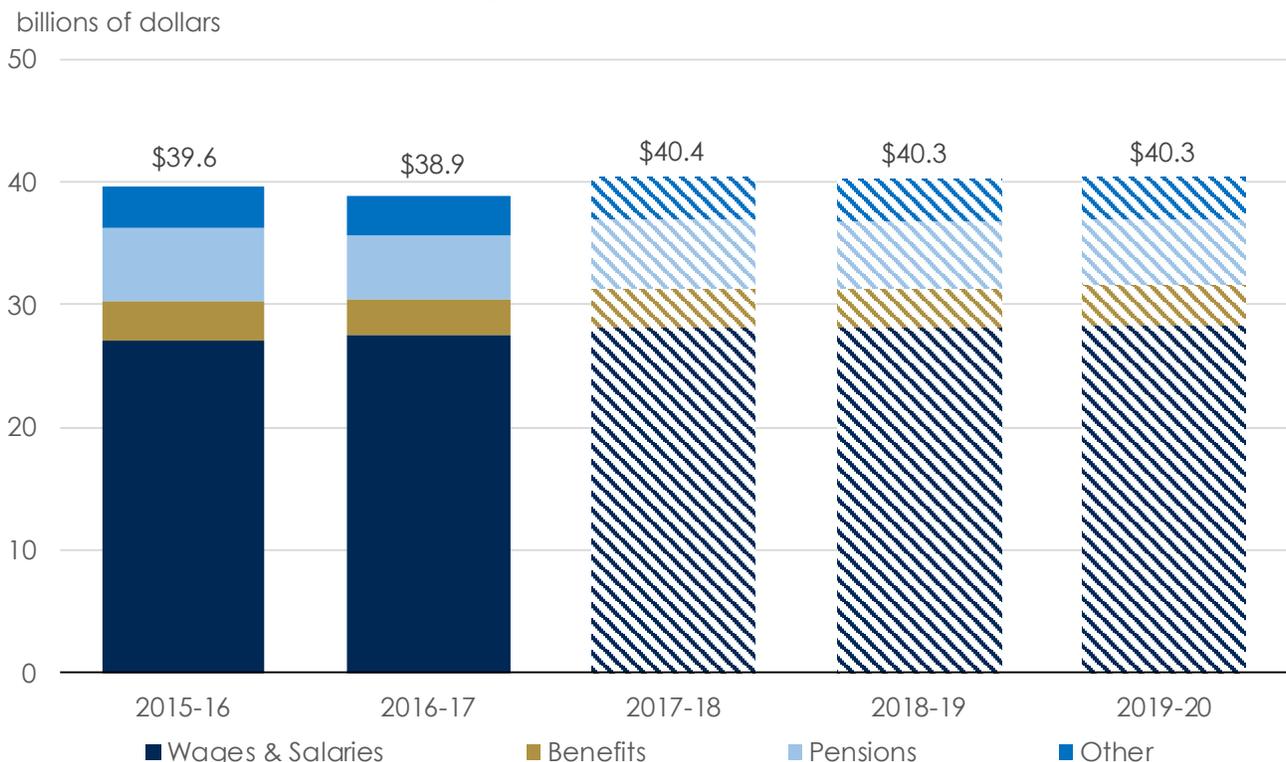
Chart 5 provides a more detailed breakdown of the IFSD's forecast of personnel expenses, based as closely as possible on the approach used in PBO (2012a), given available information. To get to total personnel costs, these per FTE costs are merely multiplied by the estimated and projected number of FTEs for those same fiscal years (Chart 6).

Chart 5: IFSD Per Employee Cost Estimates and Forecasts



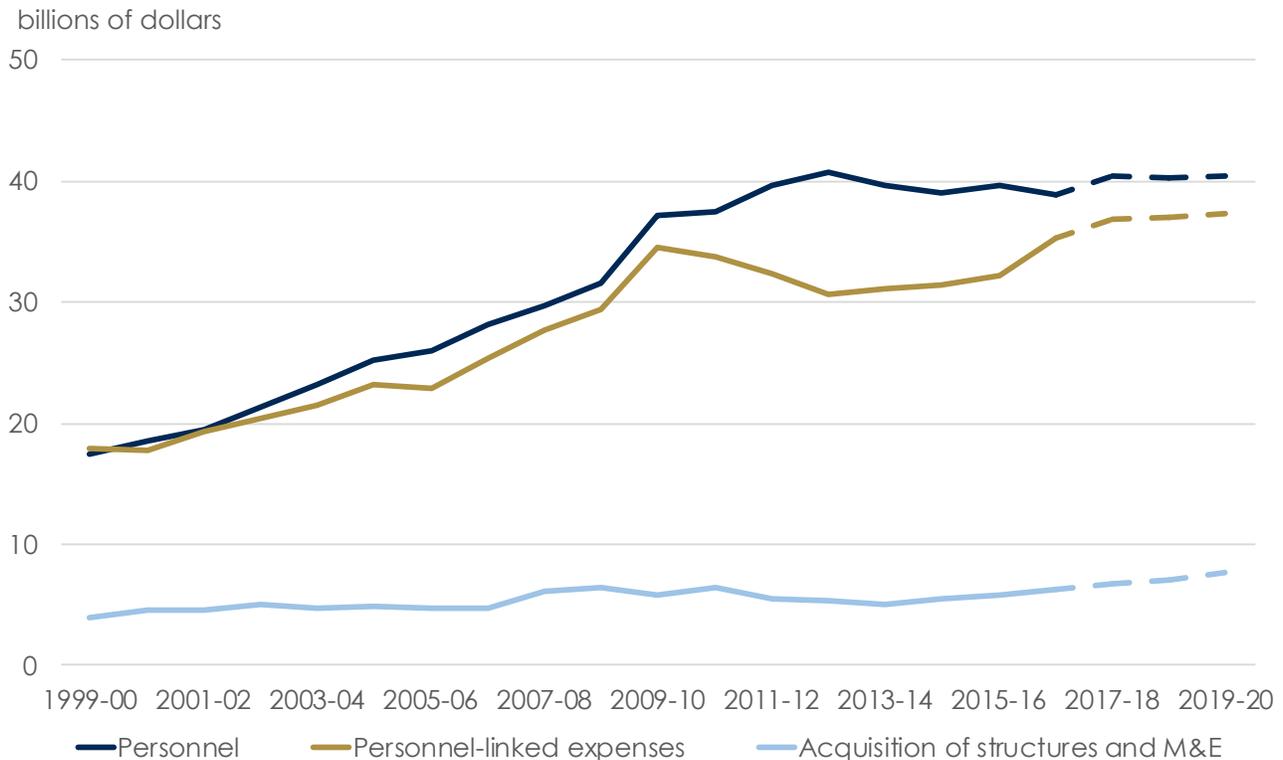
Sources: Government of Canada, Parliamentary Budget Officer, Statistics Canada, Institute of Fiscal Studies and Democracy.
 Note: Estimates and forecasts are determined by the IFSD.

Chart 6: Total Compensation Estimates and Forecasts



Sources: Government of Canada, Parliamentary Budget Officer, Statistics Canada, Institute of Fiscal Studies and Democracy.
 Note: Estimates and forecasts are determined by the IFSD.

Chart 7: Operating Expense Component Forecasts



Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

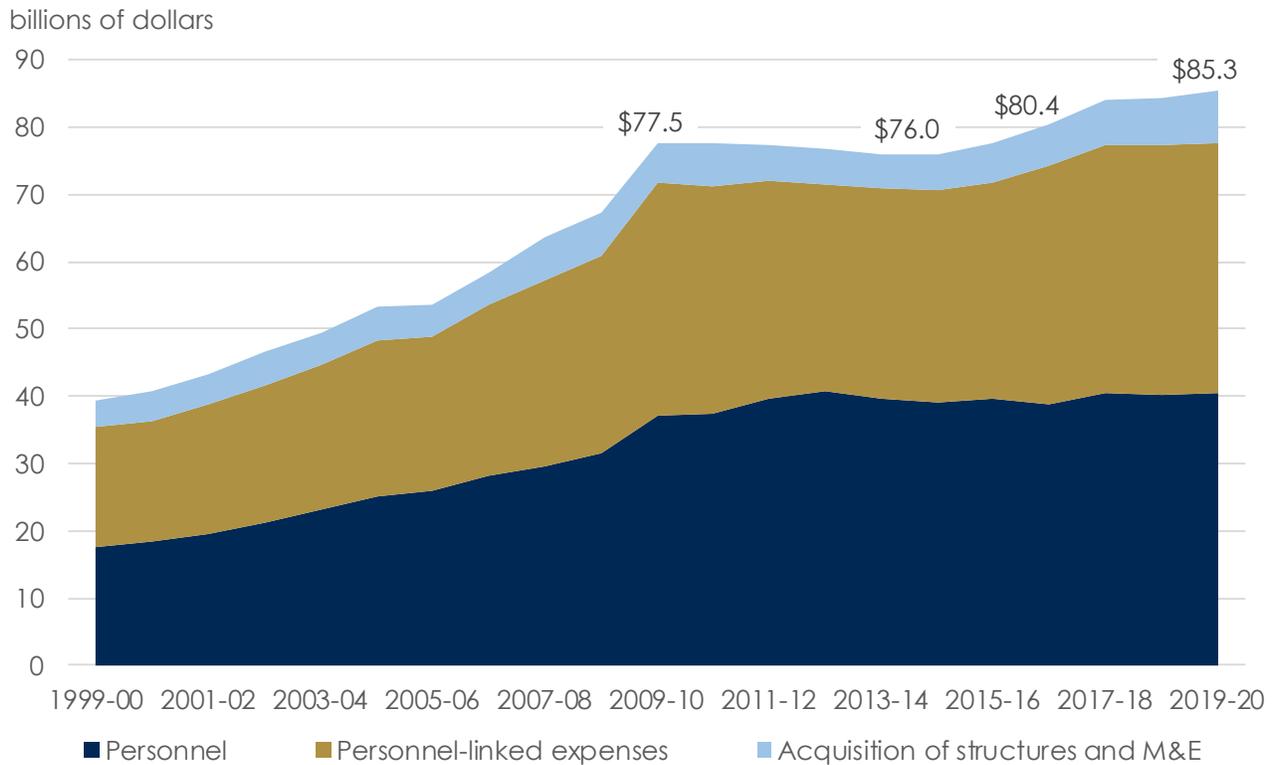
Notes: Values from the 1999-00 through 2016-17 fiscal years are from the Public Accounts of Canada. The forecasts for the 2016-17 through 2019-20 fiscal years were produced by the IFSD. M&E refers to machinery & equipment.

Forecasting the Cost of Other Federal Government Operating and Capital Expenses

While the approach to estimating and forecasting personnel costs was laid out by the PBO (2012a, 2013), there is no guidance provided on how to forecast the remaining costs that fall under operating expenses. These include personnel-linked operating expenses, such as rentals and utilities, and the acquisition of structures and machinery & equipment (M&E).

Looking more closely at personnel-linked operating costs, these include expenditures such as ‘Information’, ‘Professional and special services’, ‘Rentals’, ‘Repair and maintenance’, ‘Transportation and communications’, ‘Utilities, materials and supplies’, and ‘Other subsidies and payments’. In the most recent fiscal year, 2016-17, these amounts totalled \$35.2 billion, somewhat less than the \$38.9 billion spent on personnel. Fortunately, from a forecasting perspective, spending on personnel-linked operating expenses very closely tracked spending on personnel in the decade prior to the spending cuts that began in the 2011-12 fiscal year (Chart 7). Indeed, over the fiscal 2001-02 to 2010-11 period, personnel-linked expenses averaged 93% of personnel costs. And while these spending categories diverged meaningfully during the period of spending restraint in the early years of this decade, they have begun to converge again in recent years. As such, the IFSD has assumed that these series will converge to their historical ratio of 93% by the 2019-20 fiscal year, with the gap closing over the three years following the 2016-17 fiscal year official estimate.

Chart 8: Total Operating Expense Forecast



Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

Notes: Values from the 1999-00 through 2016-17 fiscal years are from the Public Accounts of Canada. The forecasts for the 2016-17 through 2019-20 fiscal years were produced by the IFSD. M&E refers to machinery & equipment.

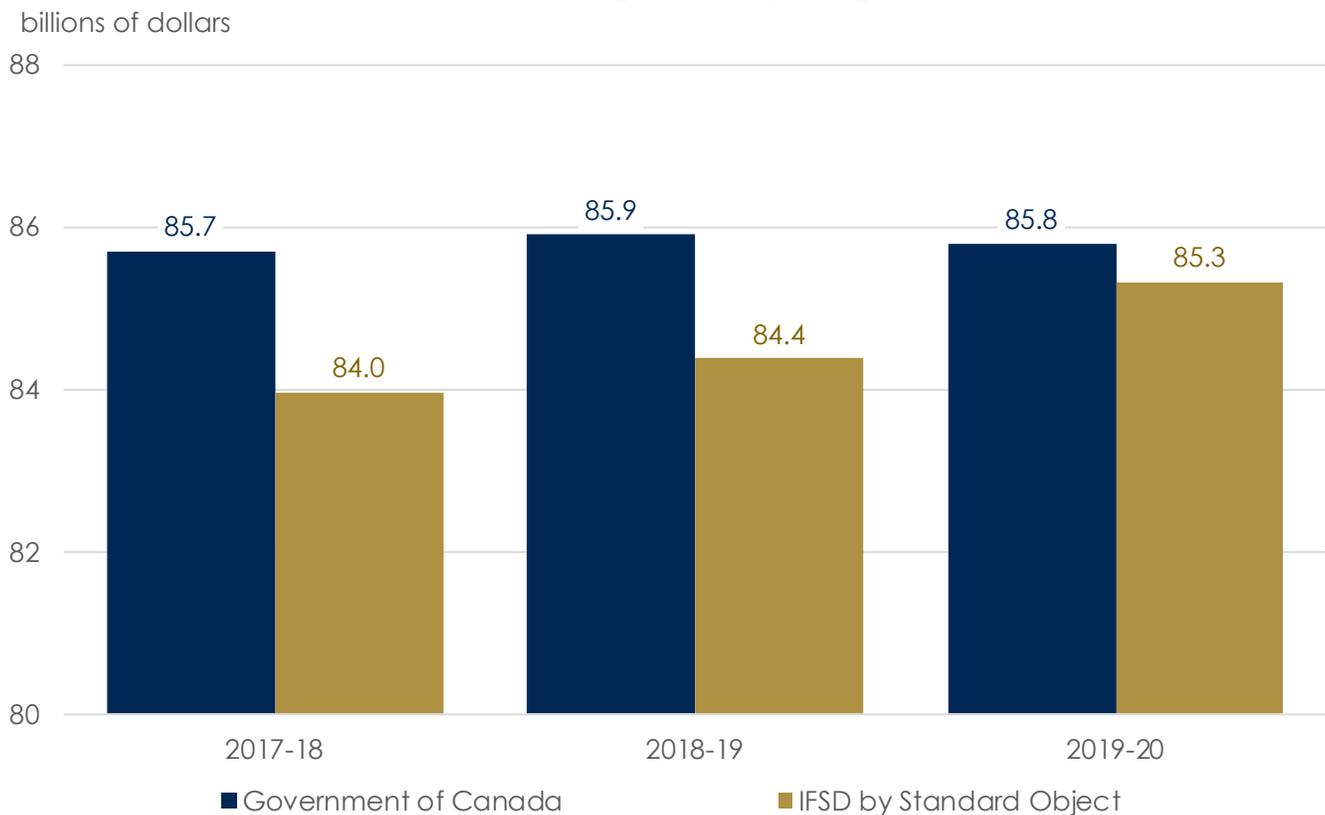
Meanwhile, the final group of expenditures includes the ‘Acquisition of land, buildings and works’ and ‘Acquisition of machinery & equipment’. In fiscal 2016-17—the most recent fiscal year for which numbers are available—this amounted to \$6.2 billion, up from a recent low of \$5.1 billion in the 2013-14 fiscal year. For this expense category, the IFSD applied the assumption that growth will continue at the average rate observed over the past three fiscal years. As a result, acquisition of structures and M&E are projected to rise from \$6.2 billion in the 2016-17 fiscal year to \$7.6 billion in fiscal 2019-20 (Chart 7).

Putting all of this together, the IFSD’s standard-object-based forecast of operating expenses is expected to rise from \$80.4 billion in the 2016-17 fiscal year to \$85.3 billion in the 2019-20 fiscal year (Chart 8). This is an average growth rate of 2.0% annually over the three years of the forecast. It is also roughly half the projected pace of nominal GDP growth over the same years, with operating expenses expected to fall from 4.0% of GDP in the most recent year to a share of 3.6% in fiscal 2019-20.

COMPARING THE IFSD AND GOVERNMENT OF CANADA DIRECT PROGRAM EXPENSE FORECASTS

As the IFSD does not have access to the universe of data available to the Receiver General of Canada, federal Department of Finance, Treasury Board Secretariat, or even the PBO for that matter, we were unsure what the results of this analysis would ultimately be. Fortunately, the two bottom-up approaches resulted in forecasts in the 2017-18 fiscal year that were mutually reinforcing, and allowed the IFSD to have confidence in its forecast beyond that year.

Chart 9: Alternative Operating Expense Forecasts



Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

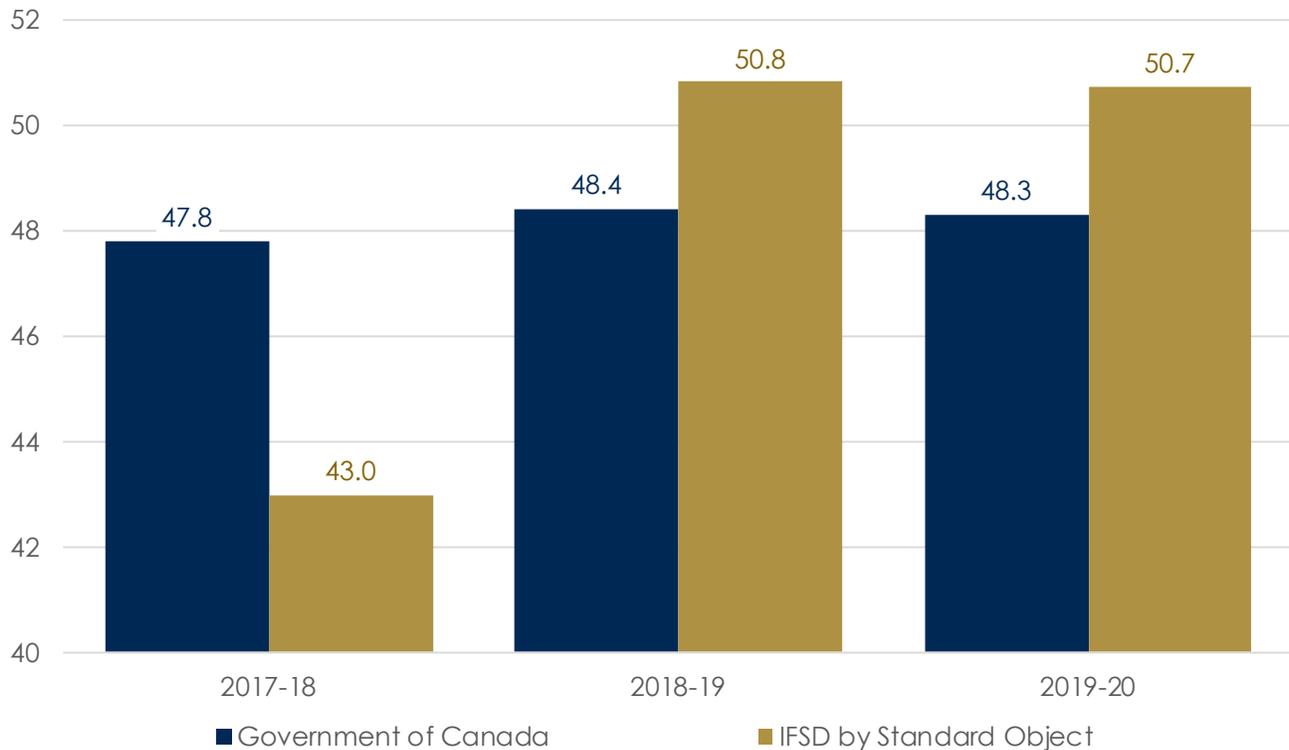
Note: The Government of Canada 'Operating Expense' forecast is taken from the *Fall Economic Statement 2017*.

However, as we noted previously, while both of the IFSD's bottom-up approaches resulted in similar operating expense forecasts for the 2017-18 fiscal year of around \$84.0 billion, this was below the \$85.7 billion forecast presented in the *FES 2017* (Chart 9). Unfortunately, given the lack of information provided in federal budget documents, we don't know why our numbers are different than those of the federal government. For instance, it could be the result of different estimates and forecasts of the actuarial valuation adjustments for public sector pensions. But as that information will not be shared, we can never know. And beyond fiscal 2017-18, what is behind the federal government's operating expense forecast gets even foggier, not clearer. Indeed, to date, it is the IFSD that has produced the most detailed forecast of federal operating expenses, and it still leaves one wanting, and parliamentarians needing, more information.

Then there are transfer payments made by federal departments. At an estimated \$43.0 billion, this is well below the forecasted \$47.8 billion presented by the federal government in the *FES 2017* (Chart 10). By the IFSD's estimate, about 60% of this lower level of transfers will come from lapsed infrastructure spending. But, since this is money that has already been approved, it will no doubt still find its way to other levels of government. As such, given we are unsure about what the remaining amount of lower transfer payments is comprised of since there is virtually no information tied to them, these unused funds are also applied to future years. Dividing the 2017-18 fiscal year lapse evenly between the subsequent two fiscal years results in a level of transfers payments that is \$2.4 billion higher in each respective year than in the *FES 2017*.

Chart 10: Alternative Transfer Payment Forecasts

billions of dollars

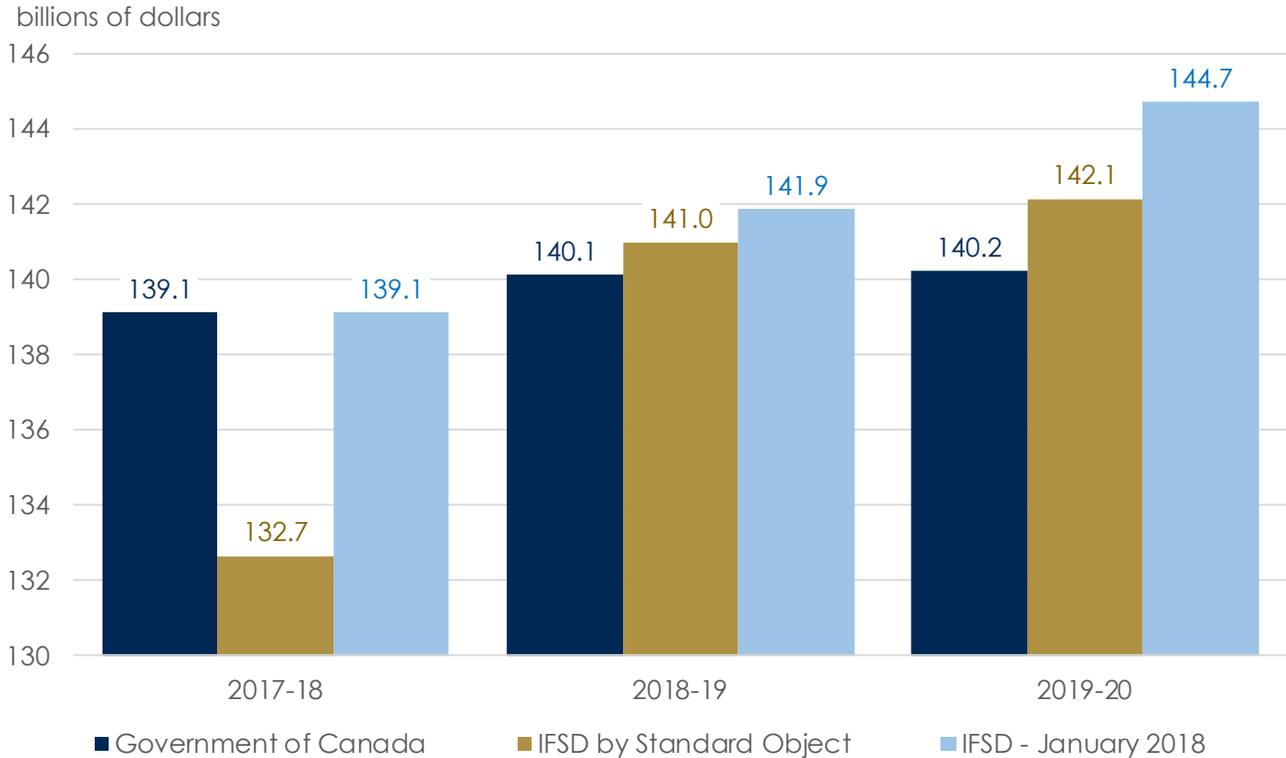


Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

Note: The Government of Canada 'Transfer payments' forecast is taken from the *Fall Economic Statement 2017*.

Merging these operating expense and transfer payments forecasts with the outlook of capital amortization published in the *FES 2017* (for lack of better numbers) gives two very different prognostications for federal DPE through the 2019-20 fiscal year (Chart 11). Indeed, the forecast numbers for federal discretionary spending from the IFSD come in lower in fiscal 2017-18 than those published in the *FES 2017* but higher in the remaining two fiscal years. And when compared with the DPE outlook published in the IFSD's January 2018 federal fiscal forecast, the IFSD's bottom-up forecast tells a similar story, albeit more muted (Bartlett, 2018).

Chart 11: Alternative Direct Program Expense Forecasts

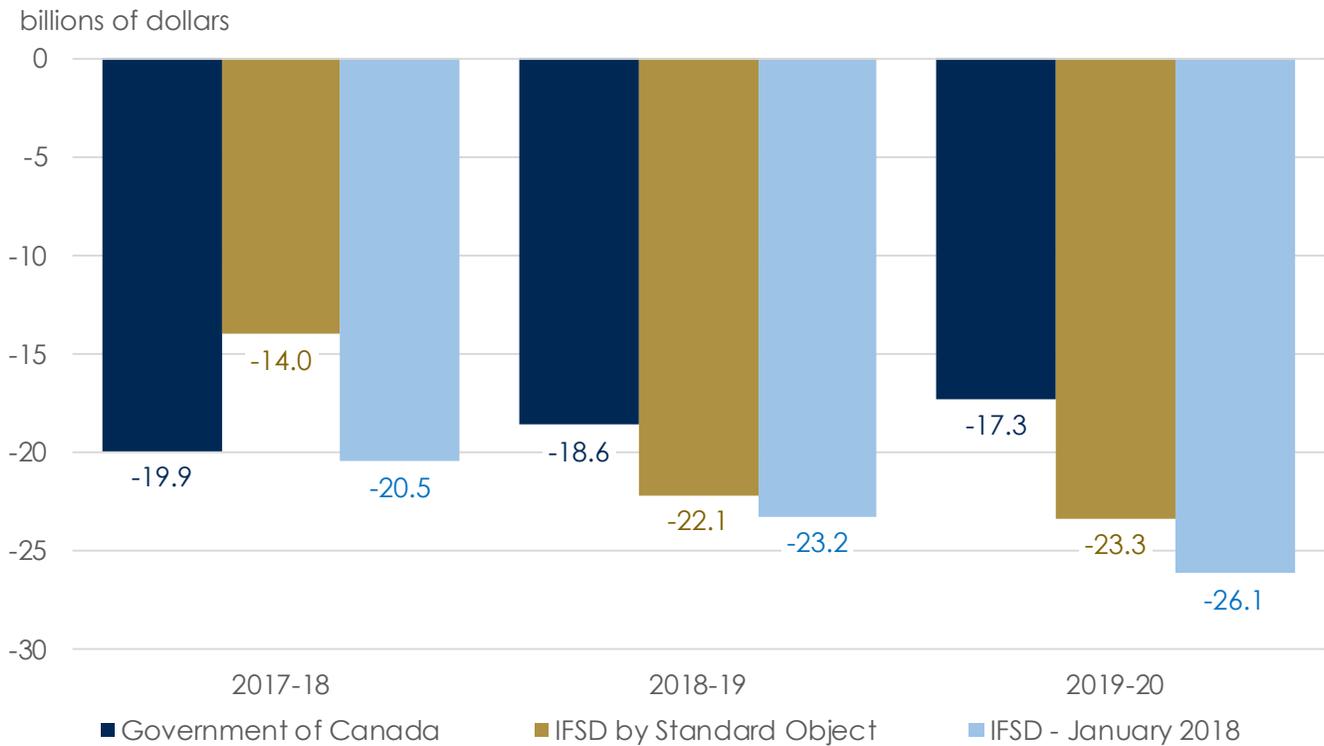


Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

Note: The Government of Canada Direct Program Expense forecast is taken from the *Fall Economic Statement 2017*.

One can take this analysis one step further by including the standard-object-based DPE forecast into the IFSD’s full fiscal forecast from January 2018 (Bartlett, 2018).² In doing so, it can be observed that the budget deficit is expected to be much smaller in the 2017-18 fiscal year (-\$14.0 billion) than was forecasted in the IFSD’s January 2018 outlook and the *FES 2017* (-\$20.5 billion and -\$19.9 billion, respectively). However, after fiscal 2017-18, the federal government’s fiscal forecast from the *FES 2017* looks very much out of place when compared to the two IFSD forecasts (Chart 12). Specifically, the IFSD is forecasting that the Government of Canada’s budget deficits will be much larger in the 2018-19 and 2019-20 fiscal years than the federal government’s outlook published in the *FES 2017*. Additionally, both IFSD forecasts point to rising deficits after the 2017-18 fiscal year, as opposed to the falling deficits published in *FES 2017*.

Chart 12: Alternative Federal Deficit Forecasts



Sources: Government of Canada, Institute of Fiscal Studies and Democracy.

Notes: The Government of Canada Direct Program Expense forecast is taken from the *Fall Economic Statement 2017*.

Program expenses have been revised from January 2018 to include spending on mental health and home care. This change is therefore reflected in the deficit numbers.

WHAT THIS SAYS ABOUT THE CREDIBILITY OF THE FEDERAL GOVERNMENT'S FISCAL FORECAST

If it does ultimately turn out to be the case that DPE comes in higher than the federal government is currently projecting, there is no doubt that the federal government's credibility will be undermined. Indeed, this potential erosion of credibility should provide an important incentive for the Government of Canada to hit its spending forecast.

Our concern at the IFSD is that the federal government has not provided sufficient rationale to support its DPE outlook, which suggests fiscal restraint that is significantly out of step with its behaviour to date and the narrative it has telegraphed to Canadians. Indeed, the outlook for DPE presented in the *FES 2017* more closely resembles the behaviour of the past federal government than the current one (Chart 1). It is also concerning that there is limited useful data made publicly available to allow informed analysts to 'kick the tires' on the federal government's DPE forecast.

For the IFSD to pronounce that the federal government's fiscal forecast is credible, thereby taking the DPE forecast on as the PBO has done, we feel that it needs to meet the four criteria for credible fiscal policy outlined by Scott Clark (2011):

First, fiscal policy must be realistic. By that I mean fiscal policy should be based on sound analysis and a careful and balanced view of economic and fiscal prospects, challenges and risks. Fiscal policy should not be based on a "rosy" or unrealistic view of future economic and fiscal prospects.

Second, fiscal policy must be responsible. This means the government must be committed to establishing and maintaining a sustainable medium or longer-term fiscal framework, one that supports long-run stable economic growth through control of the accumulation of public debt. Such a framework should be able to accommodate temporary fiscal actions, taken to stimulate aggregate demand and cushion fluctuations in output, provided these actions do not lead to permanent structural imbalances and a rising public sector debt burden. It is the case that if the debt-to-GDP ratio is allowed to increase unchecked, then eventually this will reduce the flexibility and capacity of government to deal with short-term fluctuations in output.

Third, fiscal policy must be prudent by including a reasonable amount of "insurance" to guard against forecast error and the impact of unforeseen events and necessary policy actions.

Finally, fiscal policy must be transparent. This means providing full disclosure of analysis and information since, without this, independent experts will not be able to assess how realistic the economic and fiscal forecasts are. Without transparency there can be no accountability. Such analysis should not be restricted to the current planning period, but identify potential risks in the future.

At the IFSD, we don't believe that the federal government's DPE forecast meets all of the Clark (2011) criteria for credible fiscal policy. Specifically, the federal government's DPE forecast is not transparent, as independent experts are not able to assess, without great difficulty, how realistic the DPE forecast is. This is reinforced by the difficulty independent experts have in obtaining non-confidential, non-public information, if they can obtain it at all. And, according to Clark (2011), "without transparency there can be no accountability." It is for these reasons alone that the IFSD has determined that the federal government's DPE forecast, and therefore broader fiscal forecast, is not credible.

CONCLUSIONS AND NEXT STEPS

In conclusion, it is the view of the IFSD that the federal government's forecast for DPE is not credible because is not transparent. The DPE forecast presented in the *FES 2017* very likely underestimates the future costs the federal government will face through the 2019-20 fiscal year, and as such federal government deficits are likely to be larger after the 2017-18 fiscal year than was projected in the *FES 2017*.

The next step in the IFSD's analysis is to build an alternative bottom-up DPE forecast based on the appropriations voted on by parliamentarians in the DPs, broken down by department and program activity. To date, the challenges to undertaking this analysis have proven significant, thereby further substantiating the IFSD's view that the federal government's DPE forecast is not transparent, and therefore not credible.

Notes

¹ As per PBO (2013), one must also consider movement between steps within an occupational group as individuals receive promotions as a result of good performance. Unfortunately, this data is not readily available to the public and the most recent update published on the PBO website was made available on July 1, 2014 (PBO, 2014).

² The IFSD's January 2018 Federal Fiscal Outlook has been updated to reflect a minor spreadsheet error that was discovered subsequent to publication.

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