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Economic and Fiscal Outlook

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The Parliamentary Budget Officer (PBO) supports Parliament by providing analysis, including analysis of macro-economic and fiscal policy, for the purposes of raising the quality of parliamentary debate and promoting greater budget transparency and accountability.

Consistent with the Parliamentary Budget Officer's legislated mandate, this report provides PBO's economic and fiscal outlook.

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Executive Summary

Growth in the Canadian economy slowed sharply in the second half of 2017 following robust advances in the first half of the year.¹ Alongside healthy labour market gains and firming consumer prices, the Bank of Canada has gradually raised its policy interest rate.

Beginning in 2018, we project that growth in exports will rebound from a weak second half of 2017 as consumer spending decelerates and residential investment contracts.

Since our October projection, there have been external and domestic policy developments with important implications for the Canadian economic outlook. Our assumptions for these developments are provided in Summary Table 1 and detailed in this report.²

Summary Table 1

Economic assumptions for recent policy developments

%, impact on the level of Canadian real GDP

	2018	2019	2020	2021-2022
U.S. fiscal policy measures	0.10	0.15	0.15	0.20
Carbon pricing levy	-0.10	-0.20	-0.30	-0.45

Source: Parliamentary Budget Officer.

We project real GDP to advance by 1.9 per cent in 2018 and in 2019 before slowing to average growth of 1.5 per cent annually over 2020 to 2022. This reflects in part the impact of the gradual increase in the carbon pricing levy. Over the medium term, we expect the Canadian economy to rely less on consumer spending and the housing sector as business investment and exports make a greater contribution to economic growth.

We assume that the Bank of Canada will maintain its policy interest rate at 1.25 per cent until May. As inflation continues to firm and the unemployment rate remains close to historical lows, we project that the Bank of Canada will gradually increase its policy rate by 25 basis points each quarter until the policy rate is returned to its (nominal) neutral level of 3.0 per cent by the first quarter of 2020.

Summary Table 2 Economic outlook

%	2017	2018	2019	2020-2022
Real GDP growth	3.0	1.9	1.9	1.5
Consumer price inflation	1.6	2.6	2.1	2.1
Unemployment rate	6.3	5.9	6.0	5.7
Bank of Canada policy rate	0.7	1.5	2.4	3.0

Sources: Statistics Canada and Parliamentary Budget Officer.

PBO's economic outlook reflects the view that possible upside and downside outcomes are, broadly speaking, equally likely. In terms of downside risks, we now believe that the most important risk is weaker export performance. In terms of upside risks, we maintain that the most important risk is stronger household spending.

Compared to our October outlook, the projected level of nominal GDP is unchanged, on balance, over 2018 to 2022, with upward revisions to GDP price levels offsetting downward revisions to real GDP. Compared to Budget 2018, PBO's projected level of nominal GDP is \$6 billion higher, on average, over 2018 to 2022.

Summary Table 3 Fiscal outlook

\$ billions	Projection						
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Budgetary revenues	293.5	308.3	323.9	337.7	352.4	365.6	379.8
Program expenses	287.2	303.2	318.3	327.5	334.5	343.0	351.3
Public debt charges	24.1	23.9	27.7	31.6	34.9	37.2	39.1
Total expenses	311.3	327.1	346.0	359.1	369.4	380.2	390.4
Budgetary balance	-17.8	-18.8	-22.1	-21.4	-16.9	-14.6	-10.6
Federal debt	631.9	650.9	673.1	694.5	711.5	726.0	736.6
Federal debt (% of GDP)	31.0	30.4	30.0	29.9	29.6	29.1	28.5

Sources: Finance Canada and Parliamentary Budget Officer.

Revisions to our outlook for the Canadian economy have modest impacts on our medium-term projection of the budgetary balance. Incorporating new year-to-date financial results, along with our new projection of direct program expenses, contributes toward somewhat lower budgetary deficits on a status quo basis (that is, prior to policy actions taken since October 2017).

We estimate that policy actions taken since the Government's 2017 Fall Economic Statement (FES) amount to \$21.7 billion over 2017-18 to 2022-23. These new measures more than exhaust the projected increase in fiscal room.

Consequently, we are projecting higher budgetary deficits over 2018-19 to 2022-23 compared to our October outlook.

For 2017-18, we expect that the budgetary balance will show a deficit of \$18.8 billion, which is \$1.4 billion lower than our October projection. Our downward revision mainly reflects a lower estimate for direct program expenses, due in part to infrastructure spending delays, that more than offset \$4.0 billion in new policy actions in 2017-18.

We project that budgetary deficits will decline gradually, falling to \$10.6 billion (0.4 per cent of GDP) in 2022-23. Over the medium term, we project that revenues, especially income taxes, will grow faster than nominal GDP while growth in the Government's operating expenses remains restrained. This restraint reflects projected declines in future benefits for federal employees, as well as—based on the Government's current hiring plans—modest decreases in the number of federal personnel through 2019-20.

We estimate that there is approximately a 5 per cent chance that the budget will be balanced or in surplus in 2020-21. The probability of budgetary balance/surplus rises to 25 per cent in 2022-23. We estimate that in 2020-21, there is approximately a 75 per cent chance that the federal debt-to-GDP ratio will be below the Government's anchor of 30.9 per cent.

Summary Table 4 PBO fiscal outlook compared to Budget 2018

<i>\$ billions</i>	Projection					
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Budgetary balance (\$ billions)						
PBO (April 2018)	-18.8	-22.1	-21.4	-16.9	-14.6	-10.6
Budget 2018	-19.4	-18.1	-17.5	-16.9	-13.8	-12.3
Difference	0.6	-4.0	-3.9	0.0	-0.8	1.7
Federal debt (% of GDP)						
PBO (April 2018)	30.4	30.0	29.9	29.6	29.1	28.5
Budget 2018	30.4	30.1	29.8	29.4	28.9	28.4
Difference	0.0	-0.1	0.1	0.2	0.2	0.1

Sources: Finance Canada and Parliamentary Budget Officer.

PBO has independently estimated the fiscal impact of 10 revenue and spending measures announced since the FES and included in Budget 2018. Altogether, PBO's costing of new measures is \$1.4 billion (7 per cent) higher than the Government's estimates provided in Budget 2018. Our estimates of the new measures are fully reflected in our fiscal outlook.

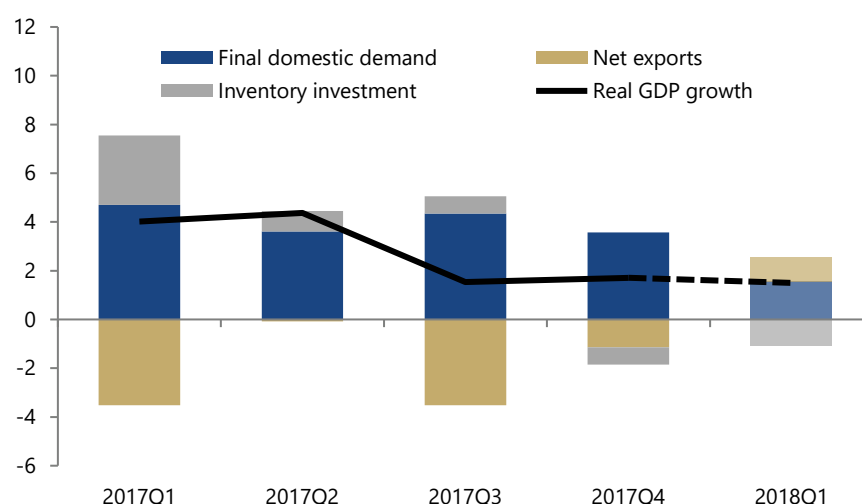
For 2017-18, our projected deficit is \$0.6 billion lower than the Government's estimate in Budget 2018. Beyond 2017-18, PBO is projecting budgetary deficits that are \$1.4 billion higher per year, on average, compared to Budget 2018. This difference largely reflects our higher forecast for public debt charges, direct program expenses and children's benefits.

In Budget 2018, the Government published greater financial detail of new policy actions along with supplementary tables linking measures announced in the budget with the planned estimates. To provide increased scrutiny of the Government's financial plan, parliamentarians may wish to request more detailed disclosures of the underlying cost drivers for direct program expenses and a more complete reconciliation of direct program expenses to departmental plans.

Economic Outlook

Figure 1 Recent economic developments in Canada

Contributions to real GDP growth, percentage points



Sources: Statistics Canada and Parliamentary Budget Officer.

Growth in the Canadian economy slowed sharply in the second half of 2017 following robust advances in the first half of the year. The deceleration in economic activity was primarily driven by lower exports of energy, passenger cars and light trucks. Real GDP growth in the second half of 2017 was slightly lower than our October projection primarily due to weaker-than-expected export performance.

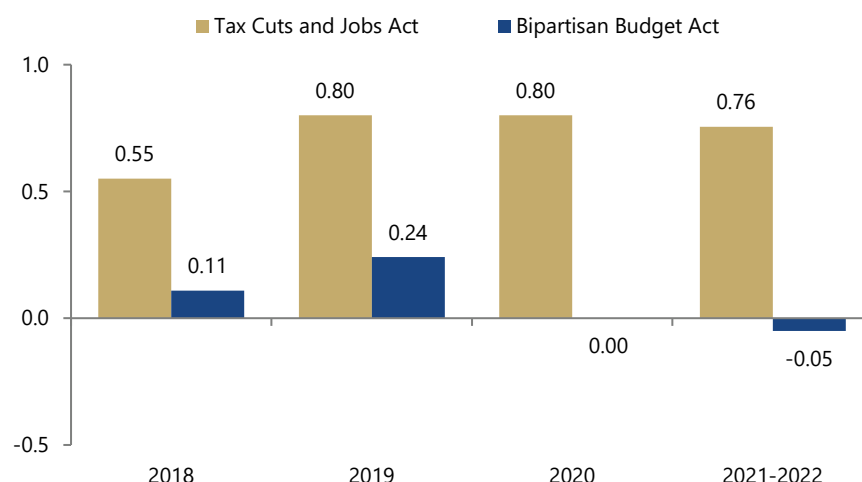
Based on recent monthly data, we expect real GDP to grow by 1.5 per cent in the first quarter of 2018. Although exports are anticipated to rebound, we expect residential investment to contract due to the pulling forward of some activity into the fourth quarter of 2017, as buyers sought to avoid new regulations introduced by the new B-20 mortgage guideline.³

Monthly employment gains have averaged 22,000 over October to March with full-time employment increasing by 37,000 and part-time employment declining by 15,000 jobs. Roughly 40 per cent of job gains during this period came from private sector employers. The unemployment rate has continued to trend lower from 6.2 per cent in October to 5.8 per cent in March. This decrease, however, largely reflects a decline in labour force participation.

Since October, there have been meaningful external and domestic policy developments with implications for Canada's economic outlook. These include changes to fiscal policy in the United States and implementation of Canada's carbon pricing levy.⁴ Assumptions regarding the economic impact of these measures are included in our April economic outlook.

Figure 2 Assumptions for recent U.S. fiscal policy developments

% impact on the level of U.S. real GDP



Source: Parliamentary Budget Officer.

Note: PBO's estimate of the impacts on U.S. real GDP are based on analysis and estimates prepared by the Joint Committee for Taxation and the Congressional Budget Office.

The Tax Cuts and Jobs Act was passed into U.S. law on 22 December 2017. This act lowered personal and corporate income tax rates, repealed some personal deductions, introduced a 100 per cent bonus depreciation for capital costs and included incentives for the repatriation of territorial income by U.S. multinationals.

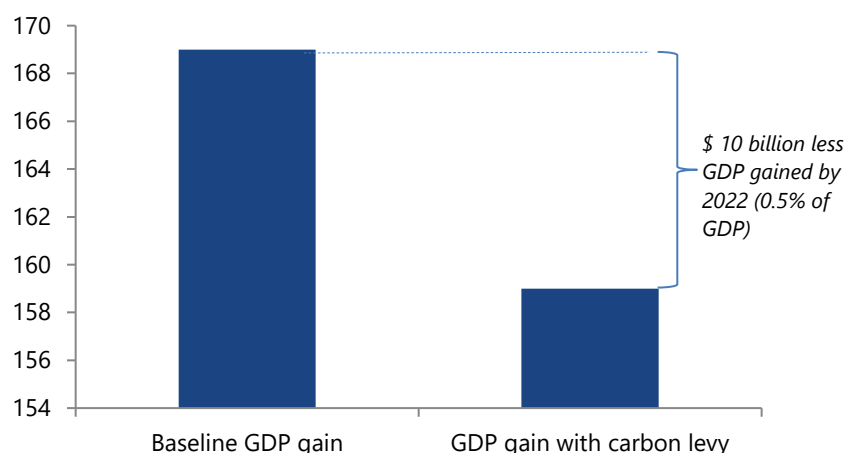
On 9 February 2018, the Bipartisan Budget Act came into force which lifted previously imposed spending caps and is estimated by the Congressional Budget Office (CBO) to increase U.S. government outlays by \$287 billion over 2018 to 2022. The majority of the increase in spending is slated to occur in 2018 and 2019.

We assume that the Tax Cuts and Jobs Act and Bipartisan Budget Act combined will raise the level of U.S. real GDP by 0.75 per cent, on average, over the projection period.⁵ We also expect that the Federal Reserve will increase its policy rate at a faster pace over 2018 to 2019 than we projected in October.

We estimate that this will lift Canada's real GDP by 0.1 per cent in 2018, rising to 0.25 per cent by the end of the projection, primarily through higher exports.⁶ However, we continue to assume that the positive impact of U.S. fiscal policy measures on the Canadian economy will be offset by anticipated U.S. trade policy actions related to NAFTA.⁷ We will continue to monitor NAFTA developments and revise our assumption accordingly.

Figure 3 Impact of carbon pricing levy on GDP projection

Real GDP gain between 2017 and 2022, chained (2007) \$ billions



Source: Parliamentary Budget Officer.

Note: PBO's estimate of the impact of the carbon pricing levy is based on Ecofiscal Commission (2016).

Implementation of a carbon pricing levy across all provinces and territories—consistent with the levy under the federal carbon pricing backstop—will generate a headwind for the Canadian economy over the medium term as the levy rises from \$10 per tonne of CO₂ equivalent in 2018 to \$50 per tonne in 2022.⁸

Based, in large part, on analysis conducted by the Ecofiscal Commission,⁹ we project that real GDP will be 0.5 per cent lower in 2022 compared to a scenario without a carbon pricing levy. This amounts to \$10 billion in 2022.

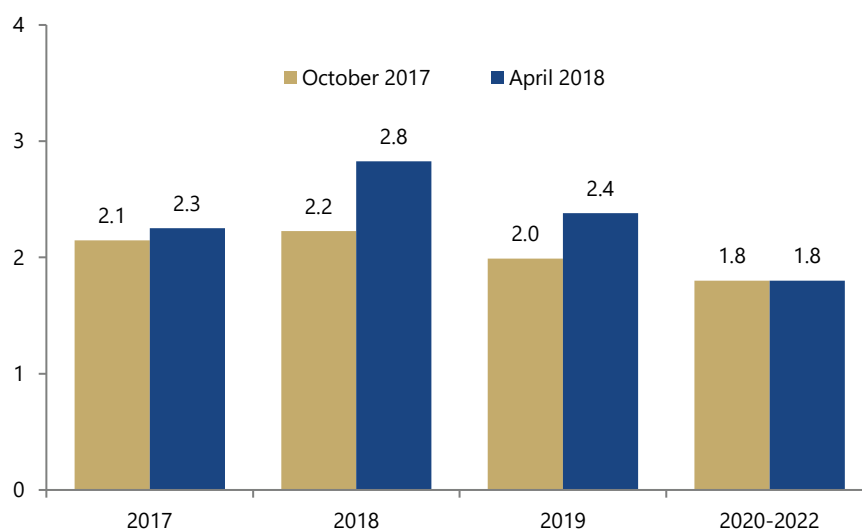
Such a levy will generate significant revenues over the medium term. As has been noted by the Ecofiscal Commission, the impact on the economy will depend on how those revenues are used. Given current policy trends,¹⁰ we assume that revenues generated by the levy will be returned to households as lump-sum payments.¹¹

Were provinces and territories to undertake more efficient revenue recycling, such as reducing corporate or personal income taxes, the impact of the carbon pricing levy on the Canadian economy would be significantly lower.¹²

We will continue to monitor implementation of the carbon pricing levy and will adjust our assumptions accordingly.

Figure 4 United States economic outlook

U.S. real GDP growth, %



Sources: Bureau of Economic Analysis and Parliamentary Budget Officer.

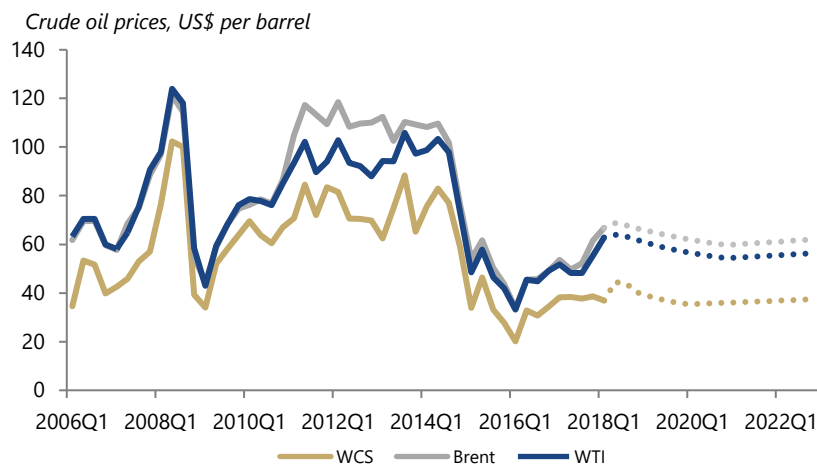
In its March 2018 interim economic outlook¹³, the Organisation for Economic Co-operation and Development (OECD) projected that the global economy will continue to strengthen, with real GDP growth rising to about 4 per cent in 2018 and 2019, from 3.7 per cent in 2017. The OECD cited investment, trade and fiscal stimulus in advanced economies as key factors driving near-term growth.

We project that U.S. real GDP will grow by 2.8 per cent in 2018 and 2.4 per cent in 2019 which is 0.6 and 0.4 percentage points higher respectively than in October. Stronger near-term growth is expected due to the coming into force of the Tax Cuts and Jobs Act and Bipartisan Budget Act which we assume will raise US real GDP by about 0.75 per cent, on average, over the projection period.¹⁴ Near-term growth is expected to be driven by final domestic demand.

U.S. growth is then expected to moderate over the medium term, ultimately growing in line with external estimates of its potential growth.¹⁵

We assume that the Federal Reserve will steadily increase the federal funds rate in response to strong output growth. Following its 25-basis point increase in March, we expect the Federal Reserve to raise its policy rate by 25 basis points again in August and through to the end of 2019, maintaining it at 3.0 per cent thereafter.

Figure 5 Oil price projection



Sources: Kent Group Limited; CME Group; and Parliamentary Budget Officer.

Note: WTI refers to West Texas Intermediate; WCS refers to Western Canadian Select. The projection period covers 2018Q2 to 2022Q4. Projected oil prices are based on average futures prices from March 26 to April 6.

Based on recent futures prices, we project WTI oil prices to fall from current levels of US\$64 per barrel to around US\$56 per barrel by the end of 2022. This is US\$7 per barrel higher, on average, than our October outlook. The expected price decline over the projection reflects, in part, market concerns about the Organization of the Petroleum Exporting Countries' commitment to maintaining production discipline in face of expanding U.S. market share.

The spread between WTI and Western Canada Select (WCS) has widened from US\$12 in October to US\$20 in April as supply outstripped existing pipeline capacity. Our projection for Western Canada Select (WCS) prices is unchanged, on average, compared to October.

Our outlook for energy prices is up 3.8 per cent, on average, over 2018 to 2022 compared to October. We have also revised up our outlook for non-energy commodity prices by 2.6 per cent, on average, due to higher prices for fish and forestry commodities. Overall, our outlook for the Bank of Canada's commodity price index is 3.3 per cent higher over 2018 to 2022 compared to October.

Table 1 Outlook for Canadian real GDP growth

Contributions to real GDP growth, percentage points

	Projection				
	2017	2018	2019	2020	2021-2022
Consumption	2.0	1.4	0.9	0.9	0.8
Housing	0.2	-0.1	-0.3	-0.2	0.1
Business investment	0.3	0.6	0.4	0.5	0.2
Government	0.6	0.4	0.2	0.3	0.3
Exports	0.3	1.2	1.5	0.7	0.7
Imports	-1.2	-1.2	-0.7	-0.6	-0.7
Inventory investment	0.8	-0.4	-0.1	0.0	0.0
Real GDP growth	3.0	1.9	1.9	1.5	1.5
<i>Additional indicators, %</i>					
Potential GDP growth	1.2	1.5	1.7	1.8	1.7
Output gap	0.4	0.7	1.0	0.7	0.3

Sources: Statistics Canada and Parliamentary Budget Officer.

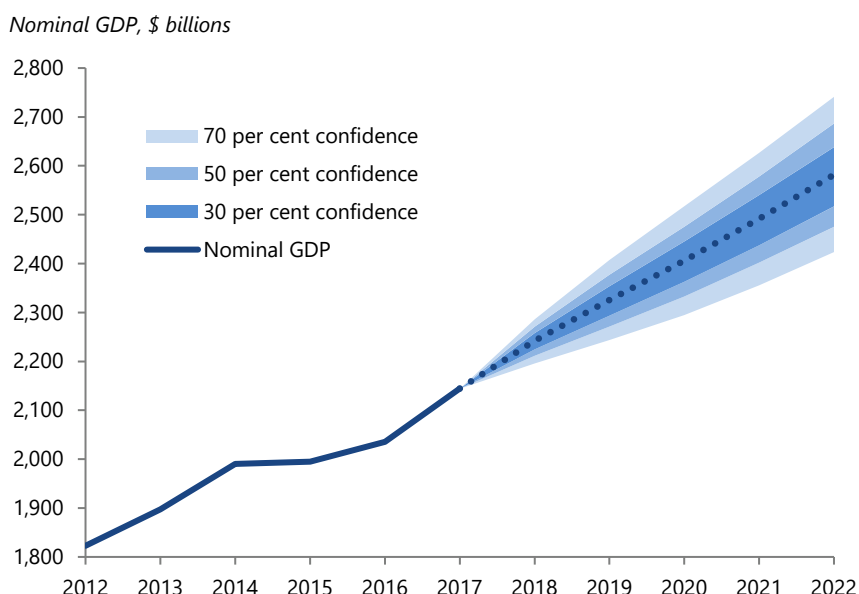
We expect the Canadian economy to grow by 1.9 per cent in 2018 and in 2019 as quarterly real GDP growth stabilizes slightly above its pace in the fourth quarter of 2017. We continue to expect a deceleration in consumer spending over the medium term and a contraction in residential investment through 2020. However, we now anticipate a more modest rebound in business investment.¹⁶

The re-profiling of federal infrastructure spending is expected to provide a modest boost to real GDP over the medium term. We now expect real GDP to grow by 1.5 per cent annually, on average, from 2020 to 2022, which is 0.2 percentage points lower than our October projection (Appendix A). This downward revision reflects, in part, the impact of implementing the federal carbon pricing levy.

After remaining below PBO's estimate of potential GDP since late 2008, the Canadian economy rose above its potential in the second quarter of 2017 and is projected to remain above its potential through 2022. However, this overshoot reflects a temporary slowdown in potential GDP growth in 2016 and 2017 mainly due to sharp declines in business investment. We project potential GDP growth to rise from 1.2 per cent in 2017 to average 1.8 per cent over 2020 to 2022.¹⁷

We assume that the Bank of Canada will maintain its policy interest rate at 1.25 per cent until May. As core inflation continues to firm through 2018, we project that the Bank of Canada will gradually increase its policy rate by 25 basis points each quarter until the policy rate is returned to its (nominal) neutral level of 3.0 per cent by the first quarter of 2020.

Figure 6 Uncertainty around PBO's nominal GDP projection



Sources: Statistics Canada and Parliamentary Budget Officer.

Note: Projection period covers 2018 to 2022.

Over the period 2018 to 2022, we project nominal GDP growth to average 3.8 per cent annually, with real GDP growth averaging 1.7 per cent and GDP inflation averaging 2.1 per cent. Adjusted for historical revisions, the level of nominal GDP is, on average, unchanged over 2018 to 2022 compared to our October projection.

PBO's economic outlook reflects the view that possible upside and downside outcomes are, broadly speaking, equally likely. Further, to illustrate the uncertainty around our nominal GDP projection, we construct a fan chart that provides confidence intervals¹⁸ based on historical forecasting errors.¹⁹

In terms of downside risks, we now believe the most important downside risk is weaker export performance due to rising protectionism in global trade policies. Existing trade agreements could be terminated and replaced by more restrictive arrangements which would dampen global trade and economic growth.

In terms of upside risks, we maintain that the most important risk is stronger household spending. Given elevated levels of household indebtedness and projected increases in interest rates, we project a sharp deceleration in consumer spending based, in part, on the assumption that households will become more prudent. However, it is possible that growth in consumer spending slows less than expected as households take on more debt to maintain higher levels of consumption.

Table 2 PBO economic outlook compared to Budget 2018

<i>Nominal GDP, \$ billions</i>	2017	2018	2019	2020	2021	2022
PBO April 2018	2,144	2,242	2,325	2,406	2,492	2,582
Budget 2018	2,144	2,234	2,312	2,400	2,487	2,582
Difference	0	8	13	6	5	0
<i>Real GDP growth (%)</i>	2017	2018	2019	2020	2021	2022
PBO April 2018	3.0	1.9	1.9	1.5	1.5	1.5
Budget 2018	3.0	2.2	1.6	1.7	1.6	1.8
Difference	0.0	-0.3	0.3	-0.2	-0.1	-0.3
<i>GDP inflation (%)</i>	2017	2018	2019	2020	2021	2022
PBO April 2018	2.3	2.6	1.8	1.9	2.0	2.1
Budget 2018	2.3	1.8	1.9	2.0	2.0	1.9
Difference	0.0	0.8	-0.1	-0.1	0.0	0.2

Sources: Finance Canada and Parliamentary Budget Officer.

Note: We have adjusted Budget 2018 nominal GDP levels to reflect the release of 2017Q4 National Accounts on March 2. Figures for 2017 are actual values.

Compared to Budget 2018, PBO's projected levels of nominal GDP are \$6 billion higher, on average, over 2018 to 2022. However, we project lower real GDP growth (1.7 per cent versus 1.8 per cent annually) and higher GDP inflation (2.1 per cent versus 1.9 per cent annually), on average, over 2018 to 2022.

Appendix B provides a comparison of PBO's current economic outlook and Budget 2018.

Fiscal Outlook

Table 3 Economic and fiscal developments since October 2017

<i>\$ billions</i>	Projection					
	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Budgetary balance in October 2017 EFO	-20.2	-15.5	-14.2	-13.6	-12.5	-9.9
Economic developments	0.0	0.8	1.1	1.4	0.3	-0.5
Fiscal developments	5.4	-4.2	-3.9	-0.9	0.6	2.8
of which: changes to DPE forecast	3.7	-2.3	-2.2	-0.6	0.3	2.1
Status quo balance, before policy actions	-14.8	-18.9	-17.0	-13.1	-11.5	-7.6
Off-cycle policy actions	-1.9	2.2	-1.8	-1.8	-0.7	0.1
Policy actions in Budget 2018	-2.1	-5.5	-2.7	-2.1	-2.3	-3.1
Budgetary balance in April 2018 EFO	-18.8	-22.1	-21.4	-16.9	-14.6	-10.6

Sources: Finance Canada; Statistics Canada and Parliamentary Budget Officer.

Note: DPE refers to "Direct Program Expenses".

Revisions to our outlook for the Canadian economy have modest impacts on our medium-term projection of the budgetary balance. Economic developments contribute \$0.5 billion per year, on average, toward reducing projected budget deficits over 2017-18 to 2022-23.

Since our October EFO, we have developed a new methodology to project direct program expenses (DPE), which include transfer payments administered by departments and operating expenses. This new approach has material implications for the DPE projection. That said, combined with new year-to-date results, fiscal developments contribute less than \$0.1 billion annually, on average, toward higher projected budget deficits.

On a status quo basis (that is, prior to policy actions taken after the Government's 2017 Fall Economic Statement (FES) and in Budget 2018), projected budget deficits are, on average, \$0.5 billion lower per year over 2017-18 to 2022-23 compared to our October projection.

We estimate that policy actions taken since the 2017 FES amount to \$21.7 billion, or \$3.6 billion per year, on average, over 2017-18 to 2022-23. Consequently, our medium-term projection of budgetary deficits is, on average, \$3.1 billion higher than our October outlook.

Appendices C and D provide a detailed summary of the fiscal outlook and Appendix E provides a comparison to our October 2017 fiscal outlook.

Table 4 Policy actions since October 2017

\$ billions	Projection					
	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Off-cycle policy actions						
CWB: Enhancement	0.0	-0.1	-0.5	-0.5	-0.5	-0.5
Other policy actions*	-1.9	2.3	-1.3	-1.2	-0.2	0.6
Total: off-cycle	-1.9	2.2	-1.8	-1.8	-0.7	0.1
Policy actions in Budget 2018						
CWB: Accessibility	0.0	-0.1	-0.4	-0.4	-0.4	-0.4
Parenting & Work	0.0	0.0	-0.2	-0.3	-0.3	-0.3
CPTPP: Foregone Revenues	0.0	-0.1	-0.4	-0.5	-0.6	-0.7
Early-Stage Mineral Exploration	0.0	-0.1	0.0	0.0	0.0	0.0
Expanding Medical Expense Tax credit	0.0	0.0	0.0	0.0	0.0	0.0
Tobacco Taxation	0.0	0.3	0.3	0.2	0.3	0.3
Cannabis Taxation	0.0	0.1	0.1	0.1	0.2	0.2
QPP: Deductibility of Employer Contributions	0.0	0.0	0.0	0.0	-0.1	-0.1
Child Benefits	0.0	0.0	0.0	0.0	0.0	0.0
Tax Support for Clean Energy	0.0	0.0	0.0	0.0	-0.1	-0.1
Other policy actions*	-2.1	-5.6	-2.0	-1.1	-1.3	-2.0
Total: Budget 2018	-2.1	-5.5	-2.7	-2.1	-2.3	-3.1
Total policy actions	-4.0	-3.3	-4.5	-3.8	-3.0	-3.0

Sources: Finance Canada and Parliamentary Budget Officer.

Note: * Estimates of other policy actions are taken from Budget 2018. CWB refers to the Canada Workers Benefit; CPTPP refers to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership; and QPP refers to the Quebec Pension Plan. Detailed cost estimates are available on our website <http://www.pbo-dpb.gc.ca/en/our-publications>.

PBO has independently estimated the fiscal impact of 10 revenue and spending measures announced in Budget 2018 or off-cycle (that is, the period between the 2017 Fall Economic Statement and Budget 2018).

Altogether, PBO's costing of new measures is \$1.4 billion (7 per cent) higher than the Government's estimates provided in Budget 2018. For example, PBO estimates that the costs of enhanced accessibility for the Canada Workers Benefit (CWB) are \$0.2 billion higher, on average, than estimates in Budget 2018.²⁰

Our estimates of the new measures are fully reflected in our fiscal outlook.

Table 5 Summary of the fiscal outlook

<i>\$ billions</i>	Projection						
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Budgetary revenues	293.5	308.3	323.9	337.7	352.4	365.6	379.8
Program expenses	287.2	303.2	318.3	327.5	334.5	343.0	351.3
Public debt charges	24.1	23.9	27.7	31.6	34.9	37.2	39.1
Total expenses	311.3	327.1	346.0	359.1	369.4	380.2	390.4
Budgetary balance	-17.8	-18.8	-22.1	-21.4	-16.9	-14.6	-10.6
Federal debt	631.9	650.9	673.1	694.5	711.5	726.0	736.6
<i>% of GDP</i>							
Budgetary revenues	14.4	14.4	14.4	14.5	14.6	14.7	14.7
Program expenses	14.1	14.1	14.2	14.1	13.9	13.8	13.6
Public debt charges	1.2	1.1	1.2	1.4	1.4	1.5	1.5
Total expenses	15.3	15.3	15.4	15.4	15.4	15.3	15.1
Budgetary balance	-0.9	-0.9	-1.0	-0.9	-0.7	-0.6	-0.4
Federal debt	31.0	30.4	30.0	29.9	29.6	29.1	28.5

Sources: Finance Canada; Statistics Canada and Parliamentary Budget Officer.

For 2017-18, we expect that the budgetary balance will show a deficit of \$18.8 billion, which is \$1.4 billion lower than our October projection. Our downward revision mainly reflects a lower estimate for direct program expenses, due in part to infrastructure spending delays, that more than offset \$4.0 billion in new policy actions in 2017-18.

Over the remaining years, we project the budgetary balance to improve from a deficit of \$22.1 billion (1.0 per cent of GDP) to a deficit of \$10.6 billion (0.4 per cent of GDP). We project that revenues, especially income taxes, will grow faster than nominal GDP over the medium term mainly because the income tax system is not fully indexed to real income growth and inflation.

On the other side of the ledger, we project that growth in program expenses will lag growth in the economy, even after accounting for new policy actions. Relative to the size of the economy, the projected decline in program expenses mainly reflects restrained growth in the Government's operating expenses. Public debt charges are projected to increase from a low of 1.1 per cent of GDP in 2017-18 to 1.5 per cent in 2022-23 as interest rates continue to rise and the stock of interest-bearing debt increases.

We project that the federal debt-to-GDP ratio will continue on its downward trajectory, falling to 29.6 per cent of GDP in 2020-21. Given its debt-to-GDP anchor of 30.9 per cent, or lower, in 2020-21, the Government could lower revenue or increase spending by \$32 billion, cumulatively, and still meet its debt anchor in 2020-21.

Table 6 Outlook for revenues

<i>\$ billions</i>	Projection						
	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Income taxes							
Personal income tax	143.7	150.9	161.0	169.6	177.0	184.2	191.7
Corporate income tax	42.2	46.6	45.8	46.3	48.4	50.4	52.6
Non-resident income tax	7.1	7.8	7.7	7.8	8.0	8.3	8.6
Total income tax	193.0	205.3	214.4	223.7	233.4	242.9	252.9
Excise taxes/duties							
Goods and Services Tax	34.4	35.9	37.8	39.0	40.4	41.8	43.2
Custom import duties	5.5	5.6	5.6	5.8	6.0	6.3	6.5
Other excise taxes/duties	11.5	11.6	12.1	12.3	12.5	12.7	12.8
Total excise taxes/duties	51.3	53.0	55.5	57.2	58.9	60.7	62.5
EI premium revenues	22.1	20.8	22.4	23.4	24.2	25.1	26.0
Other revenues							
Enterprise Crown corporations	5.7	6.7	6.9	7.4	7.6	7.9	8.1
Other programs	19.3	20.7	22.1	22.9	24.9	25.7	26.8
Net foreign exchange	2.1	1.9	2.5	3.1	3.4	3.4	3.5
Total other revenues	27.1	29.2	31.5	33.5	35.9	36.9	38.3
Total budgetary revenues	293.5	308.3	323.9	337.7	352.4	365.6	379.8

Sources: Finance Canada and Parliamentary Budget Officer.

We are projecting revenues of \$308.3 billion in 2017-18, which is effectively unchanged from our October projection.

Overall, federal revenues are projected to outpace growth in nominal GDP—the broadest single measure of the Government's tax base. We project that total revenues will increase as a share of the economy, from 14.4 per cent of GDP in 2016-17 to 14.7 per cent of GDP in 2022-23.

New revenue measures, including recent changes to the taxation of small business income, add an estimated \$1.5 billion annual revenue in 2018-19 through 2022-23.

Beyond 2017-18, we are projecting higher revenues compared to our October outlook, an increase of \$2.2 billion per year. The largest increases are for income tax revenues, owing to higher compensation for employees and corporate profits, as well as new policy actions, particularly on corporate income taxes.

Table 7 Outlook for EI premiums and the EI Operating Account

<i>\$ billions</i>	Projection								
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023		
Revenues	22.5	21.2	22.8	23.8	24.6	25.5	26.5		
Premium revenues	22.1	20.8	22.4	23.4	24.2	25.1	26.0		
Contributions for federal employees	0.4	0.4	0.4	0.4	0.4	0.4	0.4		
Expenses	22.5	21.7	23.6	25.0	25.3	25.9	26.6		
Benefits	20.7	19.8	21.6	23.0	23.2	23.8	24.4		
Administration expenses	1.8	1.9	1.9	2.0	2.1	2.1	2.2		
	2016	2017	2018	2019	2020	2021	2022	(..)	2025
Annual balance	0.7	-0.4	-0.7	-1.1	-0.8	-0.4	-0.3		0.7
Cumulative balance	2.5	2.1	1.4	0.3	-0.6	-1.0	-1.3		0.3
(per \$100 of insurable earnings)	Legislated			Projected					
	2016	2017	2018	2019	2020	2021	2022	(..)	2025
Premium rate (PBO)	1.88	1.63	1.66	1.68	1.68	1.68	1.68		1.68
Premium rate (Budget 2018)	1.88	1.63	1.66	1.66	1.66	1.66	1.66		1.66

Sources: Office of the Chief Actuary; Finance Canada and Parliamentary Budget Officer.

Employment Insurance (EI) program revenues and expenses are consolidated and managed within the EI Operating Account.²¹

Canada's unemployment rate markedly declined in the second half of 2017-18, and compared to October 2017, PBO projects a lower unemployment rate over the medium term. As such, we are projecting \$400 million lower EI benefits, on average until 2022-23. Our lower outlook for EI benefits more than offsets the roughly \$200 million in increased annual EI benefits as part of policy actions in Budget 2018.

The EI premium rate in 2018 is set at \$1.66 (per \$100 of insurable earnings). PBO estimates that the 7-year break-even rate would be \$1.68 in 2019 through 2025, or \$0.02 (per \$100 of insurable earnings) higher than projected in Budget 2018.

Table 8 Outlook for program expenses

\$ billions	Projection						
	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Major transfers to persons							
Elderly benefits	48.2	50.9	53.7	56.9	60.2	63.7	67.3
Employment Insurance	20.7	19.8	21.6	23.0	23.2	23.8	24.4
Children's benefits	22.1	23.6	23.8	24.7	25.4	26.1	26.8
Total	90.9	94.2	99.1	104.5	108.8	113.6	118.5
Major transfers to other levels of government	68.7	70.6	73.6	76.5	79.7	82.8	85.2
Direct program expenses							
Transfer payments	41.6	43.8	47.8	50.7	52.6	52.2	52.3
Operating and capital expenses	86.0	94.6	97.8	95.7	93.3	94.4	95.4
Total direct program expenses	127.6	138.4	145.6	146.5	145.9	146.6	147.6
Total program expenses	287.2	303.2	318.3	327.5	334.5	343.0	351.3

Sources: Finance Canada and Parliamentary Budget Officer.

We are projecting program expenses of \$303.2 billion in 2017-18, which is \$1.2 billion lower than we projected in October.

One contributing factor to lower spending in 2017-18 is Employment Insurance benefits. With the decline in the unemployment rate in the second half of 2017-18, our new estimate for EI benefits (\$19.8 billion) is \$1.8 billion lower than our October projection. Delayed infrastructure spending partially offsets the costs of new direct program spending measures in 2017-18, including the one-time expense for changes to Veterans' benefits.

Over the medium term, we project that total program expenses will decline relative to nominal GDP, from 14.1 per cent of GDP in 2016-17 to 13.6 per cent of GDP in 2022-23.

We project that most federal major transfers (to persons and other levels of government) grow roughly in line with nominal GDP. A notable exception is for elderly benefits, for which expenses outpace nominal GDP growth, due primarily to growth in the population aged 65 and over.

The slowest growing expenditure item in our outlook is for direct program expenses, which remain relatively flat in our projection beyond 2018-19.

Table 9 Outlook for direct program expenses

<i>\$ billions</i>	Projection						
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Transfer payments	41.6	43.8	47.8	50.7	52.6	52.2	52.3
Operating expenses							
Personnel - current costs	38.9	39.7	39.7	40.6	41.6	42.5	43.6
Personnel - future and other benefits	9.6	11.2	12.7	10.6	7.4	6.2	3.7
Enterprise Crown corporations	3.2	2.4	2.0	1.9	1.8	1.9	1.9
Consolidated Crown corporations	8.9	10.7	10.8	10.6	11.1	11.2	11.6
Other operating expenses	18.6	20.7	21.1	21.7	22.4	23.0	23.8
Policy actions	0.0	4.4	5.8	4.5	3.1	3.2	4.1
Total operating expenses	80.8	89.1	92.1	89.8	87.3	88.0	88.7
Capital amortization expenses	5.2	5.5	5.7	5.9	6.0	6.4	6.6
Total direct program expenses	127.6	138.4	145.6	146.5	145.9	146.6	147.6

Sources: Finance Canada and Parliamentary Budget Officer.

PBO projects that direct program expenses will be \$138.4 billion in 2017-18 (6.5 per cent of GDP) and will reach \$147.6 billion in 2022-23 (5.7 per cent of GDP). This corresponds to 1.3 per cent average annual growth over 2018-19 to 2022-23.

Direct program expenses were last held at or below 1.3 per cent annualized growth over five years between 2011-12 and 2015-16 (0.0 per cent growth). The enabling factors at that time were reductions to both DPE transfers and the number of federal personnel.

Our current DPE forecast grows relatively slowly over the medium term for somewhat different reasons. One key factor remains the Government's hiring plan. Aggregated staffing plans for the largest departments (employing three-quarters of federal staff) show plans for small decreases in the number of federal personnel through 2019-2020.²²

That said, falling expenses for future benefits are the main factor driving PBO's outlook for declining operating expenses over the medium term. Future and other benefit costs increased to \$9.6 billion in 2016-17, in part because of low interest rates.²³ With recent and projected increases in interest rates, future and other benefit expenses are expected to ultimately decrease to \$3.7 billion in 2022-23.

Box 1 provides a description of PBO's new approach for projecting direct program expenses over the medium term.

Box 1 – Direct program expense forecasting

The most significant methodological change to PBO's April 2018 fiscal outlook is our independent forecast of operating and capital expenses. Previously, PBO relied heavily upon Finance Canada's outlook for all three components of direct program expenses: transfers, operating and capital expenses.

Budget documents seldom detail the underlying cost drivers of DPE, which makes it difficult for parliamentarians to fully scrutinize the outlook for DPE. For example, the Government outlined a \$2.7 billion average revision to annual direct program expenses in Budget 2018; however, the budget did not provide sufficient detail to reconcile the contributions to the forecast revision.

For our April 2018 outlook, we have developed an independent projection for operating and capital expenses. We believe that a second data point will provide parliamentarians with greater capacity to scrutinize the cost drivers underlying the Government's DPE forecasts.

Much of DPE is highly discretionary, so we base our outlook primarily on public information (for example, federal departments' hiring plans, corporate plans for Crown corporations and cost estimates for new policy actions), supplemented with PBO-derived projections as required (such as, future benefits owed for current and past service, inflation and professional service expenses).

Table 10 Sensitivity of the budgetary balance to economic shocks

<i>\$ billions</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2021	2022- 2023
1 per cent decrease in real GDP	-3.8	-3.2	-3.4	-3.5	-3.8
1 per cent decrease in GDP price level	-1.0	-1.9	-2.0	-2.0	-2.1
100-basis point increase in interest rates	-3.1	-0.3	-0.4	-1.1	-2.0

Source: Parliamentary Budget Officer.

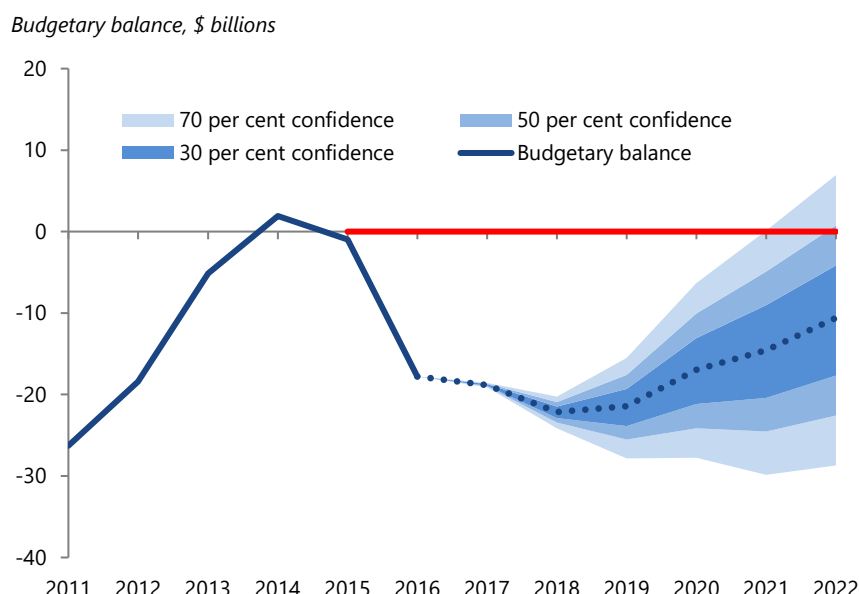
Three key economic indicators drive our overall federal fiscal projection: real GDP growth, GDP inflation and interest rates. Following Finance Canada's approach to assessing fiscal sensitivity, we have estimated the impacts of three key economic shocks on our fiscal outlook:

- i. A permanent 1 per cent decrease in real GDP driven equally by lower productivity and employment.
- ii. A permanent 1 per cent decrease in the GDP price level, assuming the Consumer Price Index moves in line with the decrease in the GDP price level.
- iii. A permanent 1-percentage point (100-basis points) increase in all interest rates.

In constructing our sensitivity estimates, we assume that changes in nominal GDP are proportional across income and expenditure components. Further, it is important to note that these economic shocks are illustrative and simplifications of a complex and endogenous system. As such, these estimates should be considered stylized rules of thumb.

See Appendices F to H for the impacts on revenue and spending categories.

Figure 7 Budgetary balance outcomes under alternative economic scenarios



Sources: Finance Canada and Parliamentary Budget Officer.

Note: The series are presented on a fiscal-year basis where 2011 refers to 2011-12. Projection period covers fiscal years 2017-18 to 2022-23. The red line corresponds to a balanced budget.

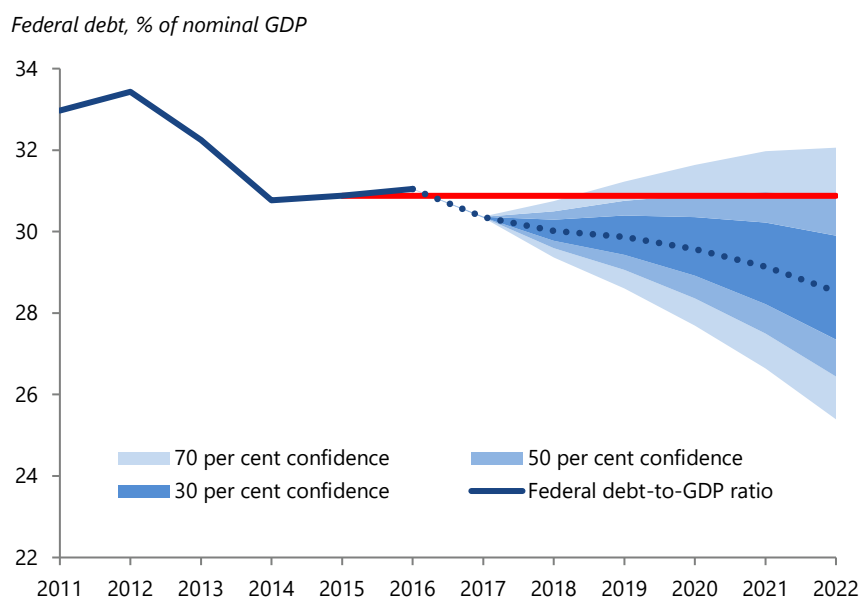
To illustrate the fiscal implications of the uncertainty surrounding our economic outlook, using our fiscal sensitivities, we mapped the distributions of economic scenarios into budgetary components and constructed fan charts with confidence intervals around our baseline fiscal projection.

A key limitation of these charts and distributions is that they reflect only the uncertainty related to our economic outlook. They do not reflect uncertainty related to the translation of economic projections into fiscal projections; discretionary fiscal policy responses to different economic outcomes; or, non-economic risks (for example, expenses related to legal liabilities).

Given the possible scenarios surrounding our economic outlook, and on a status quo basis, it is unlikely that the budget will be balanced, or in a surplus position, over the medium term.²⁴ We estimate that the probability the budget will be in balance or in a surplus position in 2017-18 to 2019-20 is effectively nil.

However, we estimate that in 2020-21 there is, approximately, a 5 per cent chance that the budget will be balanced or in a surplus position. The probability of budgetary balance/surplus rises to 25 per cent in 2022-23.

Figure 8 Federal debt-to-GDP outcomes under alternative economic scenarios



Sources: Finance Canada and Parliamentary Budget Officer.

Note: The series are presented on a fiscal-year basis where 2011 refers to 2011-12. Projection period covers fiscal years 2017-18 to 2022-23. The red line corresponds to the level of the federal debt-to-GDP anchor for 2020-21.

Given the possible scenarios surrounding our economic outlook and status quo fiscal policy assumption, we estimate that a 70 per cent confidence interval for the federal debt-to-GDP ratio in 2022-23 is about 7 percentage points. This is approximately ± 3.5 percentage points relative to our baseline federal debt-to-GDP projection in 2022-23.

Recall that in Budget 2016 the Government committed to reducing the federal debt-to-GDP ratio "to a lower level over a five-year period, ending in 2020-21". This translates into a federal debt-to-GDP anchor of 30.9 per cent in 2020-21.

Given the possible scenarios surrounding our economic outlook, and on a status quo basis, it is highly likely that the federal debt-to-GDP ratio will fall below 30.9 per cent over the period 2017-18 to 2022-23.

We estimate that in 2020-21 there is approximately a 75 per cent chance that the federal debt-to-GDP ratio will be below its anchor level.

Table 11 PBO fiscal outlook compared to Budget 2018

	Projection					
	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Budgetary balance (\$ billions)						
PBO (April 2018)	-18.8	-22.1	-21.4	-16.9	-14.6	-10.6
Budget 2018	-19.4	-18.1	-17.5	-16.9	-13.8	-12.3
Difference	0.6	-4.0	-3.9	0.0	-0.8	1.7
Federal debt (% of GDP)						
PBO (April 2018)	30.4	30.0	29.9	29.6	29.1	28.5
Budget 2018	30.4	30.1	29.8	29.4	28.9	28.4
Difference	0.0	-0.1	0.1	0.2	0.2	0.1

Sources: Finance Canada, Statistics Canada and Parliamentary Budget Officer.

For 2017-18, we project a deficit of \$18.8 billion, or \$0.6 billion lower than the Government's estimate in Budget 2018. We estimate that the operating portion of DPE will be \$1.0 billion lower than the Government's estimate for 2017-18.

Beyond 2017-18, PBO is projecting budgetary deficits that are \$1.4 billion higher per year, on average, compared to Budget 2018. Our higher deficit forecast largely reflects our higher projections for public debt charges, direct program expenses and children's benefits.

In Budget 2018, the Government published greater financial detail of new policy actions along with supplementary tables linking measures announced in the budget with the planned estimates. These inclusions are a step in the right direction. Yet, important information is missing. To provide increased scrutiny of the Government's financial plan, parliamentarians may wish to request more detailed disclosures of the underlying cost drivers for direct program expenses and a more complete reconciliation of direct program expenses to departmental plans.

Appendices

A: Detailed PBO economic outlook

% unless otherwise indicated		2017	2018	2019	2020	2021	2022
Real GDP growth							
	April 2018	3.0	1.9	1.9	1.5	1.5	1.5
	October 2017	3.1	1.9	1.8	1.8	1.7	1.7
Potential GDP growth							
	April 2018	1.2	1.5	1.7	1.8	1.8	1.7
	October 2017	1.2	1.5	1.8	1.9	2.0	1.9
GDP inflation							
	April 2018	2.3	2.6	1.8	1.9	2.0	2.1
	October 2017	2.4	1.8	2.0	2.0	2.1	2.1
Nominal GDP growth							
	April 2018	5.3	4.6	3.7	3.5	3.6	3.6
	October 2017	5.5	3.8	3.8	3.9	3.8	3.8
Nominal GDP (\$ billions)							
	April 2018	2,144	2,242	2,325	2,406	2,492	2,582
	October 2017	2,149	2,232	2,317	2,406	2,498	2,593
3-month treasury rate							
	April 2018	0.7	1.5	2.3	3.0	3.0	3.0
	October 2017	0.7	1.6	2.6	3.0	3.0	3.0
10-year government bond rate							
	April 2018	1.8	2.6	3.6	4.0	4.0	4.0
	October 2017	1.8	2.7	3.3	3.8	3.9	4.0
Exchange rate (US\$/C\$)							
	April 2018	77.1	77.9	76.6	76.4	76.5	76.7
	October 2017	77.4	80.2	80.0	79.8	79.7	79.6
Unemployment rate							
	April 2018	6.3	5.9	6.0	5.8	5.7	5.7
	October 2017	6.4	6.3	6.2	6.1	6.1	6.1
CPI inflation							
	April 2018	1.6	2.6	2.1	2.1	2.1	2.1
	October 2017	1.5	1.7	2.0	2.1	2.1	2.1
U.S. real GDP growth							
	April 2018	2.3	2.8	2.4	1.8	1.8	1.8
	October 2017	2.1	2.2	2.0	1.9	1.8	1.8
WTI oil price (\$US)							
	April 2018	51	63	59	55	55	56
	October 2017	50	52	51	50	51	52

Source: Parliamentary Budget Officer.

Note: October 2017 nominal GDP levels have been adjusted for historical revisions.

B: PBO and Budget 2018 economic outlook comparison

<i>% unless otherwise indicated</i>	2017	2018	2019	2020	2021	2022
Real GDP growth						
PBO April 2018	3.0	1.9	1.9	1.5	1.5	1.5
Budget 2018	3.0	2.2	1.6	1.7	1.6	1.8
GDP inflation						
PBO April 2018	2.3	2.6	1.8	1.9	2.0	2.1
Budget 2018	2.2	1.8	1.9	2.0	2.0	1.9
Nominal GDP growth						
PBO April 2018	5.3	4.6	3.7	3.5	3.6	3.6
Budget 2018	5.2	4.0	3.5	3.8	3.6	3.8
Nominal GDP (\$ billions)						
PBO April 2018	2,144	2,242	2,325	2,406	2,492	2,582
Budget 2018	2,144	2,234	2,312	2,400	2,487	2,582
3-month treasury rate						
PBO April 2018	0.7	1.5	2.3	3.0	3.0	3.0
Budget 2018	0.7	1.4	2.0	2.3	2.5	2.5
10-year government bond rate						
PBO April 2018	1.8	2.6	3.6	4.0	4.0	4.0
Budget 2018	1.8	2.3	2.8	3.1	3.2	3.3
Exchange rate (US\$/C\$)						
PBO April 2018	77.1	77.9	76.6	76.4	76.5	76.7
Budget 2018	77.2	79.0	79.6	80.3	80.6	81.2
Unemployment rate						
PBO April 2018	6.3	5.9	6.0	5.8	5.7	5.7
Budget 2018	6.4	6.0	6.0	6.1	6.0	6.0
CPI inflation						
PBO April 2018	1.6	2.6	2.1	2.1	2.1	2.1
Budget 2018	1.6	1.9	2.0	1.9	1.9	2.0
U.S. real GDP growth						
PBO April 2018	2.3	2.8	2.4	1.8	1.8	1.8
Budget 2018	2.3	2.4	1.9	1.9	1.8	1.9
WTI oil price (\$US)						
PBO April 2018	51	63	59	55	55	56
Budget 2018	51	56	57	57	59	62

Sources: Finance Canada and Parliamentary Budget Officer.

Note: We have adjusted Budget 2018 nominal GDP levels to reflect the release of 2017Q4 National Accounts on March 2.

C: Detailed fiscal outlook

<i>\$ billions</i>	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Income taxes							
Personal income tax	143.7	150.9	161.0	169.6	177.0	184.2	191.7
Corporate income tax	42.2	46.6	45.8	46.3	48.4	50.4	52.6
Non-resident income tax	7.1	7.8	7.7	7.8	8.0	8.3	8.6
Total income tax	193.0	205.3	214.4	223.7	233.4	242.9	252.9
Excise taxes/duties							
Goods and Services Tax	34.4	35.9	37.9	39.0	40.4	41.8	43.2
Custom import duties	5.5	5.6	5.6	5.8	6.0	6.3	6.5
Other excise taxes/duties	11.5	11.6	12.1	12.3	12.5	12.7	12.8
Total excise taxes/duties	51.3	53.0	55.5	57.2	58.9	60.7	62.5
EI premium revenues	22.1	20.8	22.4	23.4	24.2	25.1	26.0
Other revenues	27.1	29.2	31.5	33.5	35.9	36.9	38.3
Total budgetary revenues	293.5	308.3	323.9	337.7	352.4	365.6	379.8
Major transfers to persons							
Elderly benefits	48.2	50.9	53.7	56.9	60.2	63.7	67.3
Employment Insurance	20.7	19.8	21.6	23.0	23.2	23.8	24.4
Children's benefits	22.1	23.6	23.8	24.7	25.4	26.1	26.8
Total	90.9	94.2	99.1	104.5	108.8	113.6	118.5
Major transfers to other levels of government							
Canada Health Transfer	36.1	37.2	38.6	40.1	41.9	43.6	45.1
Canada Social Transfer	13.3	13.7	14.2	14.6	15.0	15.5	15.9
Equalization	18.0	18.2	19.0	19.7	20.6	21.4	22.2
Territorial Formula Financing	3.6	3.7	3.8	3.9	4.0	4.1	4.2
Gas Tax Fund	2.1	2.1	2.2	2.2	2.3	2.3	2.4
Home care and mental health	0.0	0.3	0.9	1.1	1.3	1.5	1.2
Other fiscal arrangements	-4.4	-4.6	-5.0	-5.1	-5.4	-5.6	-5.9
Total	68.7	70.6	73.6	76.5	79.7	82.8	85.2
Direct program expenses							
Transfer payments	41.6	43.8	47.8	50.7	52.6	52.2	52.3
Operating and capital expenses	86.0	94.6	97.8	95.7	93.3	94.4	95.4
Total direct program expenses	127.6	138.4	145.6	146.5	145.9	146.6	147.6
Total program expenses	287.2	303.2	318.3	327.5	334.5	343.0	351.3
Public debt charges	24.1	23.9	27.7	31.6	34.9	37.2	39.1
Total expenses	311.3	327.1	346.0	359.1	369.4	380.2	390.4
Budgetary balance	-17.8	-18.8	-22.1	-21.4	-16.9	-14.6	-10.6
Federal debt	631.9	650.9	673.1	694.5	711.5	726.0	736.6

Sources: Finance Canada and Parliamentary Budget Officer.

D: Detailed fiscal outlook (per cent of GDP)

<i>% of GDP</i>	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Income taxes							
Personal income tax	7.1	7.0	7.2	7.3	7.4	7.4	7.4
Corporate income tax	2.1	2.2	2.0	2.0	2.0	2.0	2.0
Non-resident income tax	0.3	0.4	0.3	0.3	0.3	0.3	0.3
Total income tax	9.5	9.6	9.6	9.6	9.7	9.7	9.8
Excise taxes/duties							
Goods and Services Tax	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Custom import duties	0.3	0.3	0.2	0.2	0.3	0.3	0.3
Other excise taxes/duties	0.6	0.5	0.5	0.5	0.5	0.5	0.5
Total excise taxes/duties	2.5	2.5	2.5	2.5	2.4	2.4	2.4
El premium revenues	1.1	1.0	1.0	1.0	1.0	1.0	1.0
Other revenues	1.3	1.4	1.4	1.4	1.5	1.5	1.5
Total budgetary revenues	14.4	14.4	14.4	14.5	14.6	14.7	14.7
Major transfers to persons							
Elderly benefits	2.4	2.4	2.4	2.4	2.5	2.6	2.6
Employment Insurance	1.0	0.9	1.0	1.0	1.0	1.0	0.9
Children's benefits	1.1	1.1	1.1	1.1	1.1	1.0	1.0
Total	4.5	4.4	4.4	4.5	4.5	4.6	4.6
Major transfers to other levels of government							
Canada Health Transfer	1.8	1.7	1.7	1.7	1.7	1.7	1.7
Canada Social Transfer	0.7	0.6	0.6	0.6	0.6	0.6	0.6
Equalization	0.9	0.8	0.8	0.8	0.9	0.9	0.9
Territorial Formula Financing	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Gas Tax Fund	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Home care and mental health	0.0	0.0	0.0	0.0	0.1	0.1	0.0
Other fiscal arrangements	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Total	3.4	3.3	3.3	3.3	3.3	3.3	3.3
Direct program expenses							
Transfer payments	2.0	2.0	2.1	2.2	2.2	2.1	2.0
Operating and capital expenses	4.2	4.4	4.4	4.1	3.9	3.8	3.7
Total direct program expenses	6.3	6.5	6.5	6.3	6.1	5.9	5.7
Total program expenses	14.1	14.1	14.2	14.1	13.9	13.8	13.6
Public debt charges	1.2	1.1	1.2	1.4	1.4	1.5	1.5
Total expenses	15.3	15.3	15.4	15.4	15.4	15.3	15.1
Budgetary balance	-0.9	-0.9	-1.0	-0.9	-0.7	-0.6	-0.4
Federal debt	31.0	30.4	30.0	29.9	29.6	29.1	28.5

Sources: Finance Canada and Parliamentary Budget Officer.

E: Comparison to PBO's October 2017 fiscal outlook

<i>\$ billions</i>	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Income taxes						
Personal income tax	0.0	0.0	0.2	0.4	-0.1	-0.7
Corporate income tax	2.6	1.9	1.9	2.0	1.8	1.9
Non-resident income tax	0.0	-0.1	-0.1	-0.1	-0.2	-0.2
Total income tax	2.6	1.8	2.0	2.3	1.5	1.0
Excise taxes/duties						
Goods and Services Tax	0.3	0.7	0.7	0.7	0.4	0.4
Custom import duties	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1
Other excise taxes/duties	-0.2	0.1	0.2	0.1	0.2	0.3
Total excise taxes/duties	-0.2	0.7	0.8	0.7	0.5	0.6
EI premium revenues	-0.7	-0.8	-0.6	-0.6	-0.5	-0.6
Other revenues	-1.6	-1.0	0.4	1.0	0.9	0.9
Total budgetary revenues	0.1	0.7	2.6	3.4	2.4	1.9
Major transfers to persons						
Elderly benefits	0.5	0.3	0.4	0.4	0.4	0.4
Employment Insurance	-1.8	-0.1	0.3	-0.2	-0.4	-0.5
Children's benefits	-0.4	-0.5	0.3	0.4	-0.1	-0.2
Total	-1.8	-0.3	1.0	0.7	0.0	-0.3
Major transfers to other levels of government						
Canada Health Transfer	0.0	0.3	0.4	0.5	0.5	0.5
Canada Social Transfer	0.0	0.0	0.0	0.0	0.0	0.0
Equalization	-0.1	0.3	0.3	0.3	0.4	0.3
Territorial Formula Financing	0.0	0.0	0.0	-0.1	-0.1	-0.2
Gas Tax Fund	0.0	0.0	0.0	0.0	0.0	0.0
Home care and mental health	0.0	0.0	0.0	0.0	0.0	0.0
Other fiscal arrangements	0.2	0.1	0.2	0.2	0.2	0.2
Total	0.1	0.8	0.9	1.0	1.0	0.8
Direct program expenses						
Transfer payments	-4.0	-0.6	2.4	3.3	2.1	1.7
Operating and capital expenses	4.4	7.3	5.1	0.9	0.6	-0.1
Total direct program expenses	0.4	6.8	7.5	4.3	2.8	1.5
Total program expenses	-1.2	7.2	9.4	5.9	3.7	2.1
Public debt charges	-0.1	0.2	0.4	0.8	0.7	0.6
Total expenses	-1.3	7.4	9.8	6.7	4.4	2.7
Budgetary balance	1.4	-6.7	-7.3	-3.4	-2.0	-0.7
Federal debt	-1.2	5.5	12.8	16.2	18.2	18.9

Sources: Finance Canada and Parliamentary Budget Officer.

F: Fiscal impact of 1 per cent decrease in real GDP

<i>\$ billions</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Income taxes					
Personal income tax	-2.1	-2.3	-2.4	-2.5	-2.6
Corporate income tax	-0.2	-0.3	-0.4	-0.5	-0.5
Non-resident income tax	-0.1	-0.1	-0.1	-0.1	-0.1
Total income tax	-2.4	-2.7	-2.9	-3.1	-3.2
Excise taxes/duties					
Goods and Services Tax	-0.4	-0.4	-0.4	-0.4	-0.4
Custom import duties	-0.1	-0.1	-0.1	-0.1	-0.1
Other excise taxes/duties	0.0	0.0	0.0	0.0	0.0
Total excise taxes/duties	-0.4	-0.4	-0.5	-0.5	-0.5
EI premium revenues	0.1	1.2	1.2	1.2	1.3
Other revenues	-0.1	-0.1	-0.2	-0.2	-0.2
Total budgetary revenues	-2.8	-2.1	-2.3	-2.5	-2.6
Major transfers to persons					
Elderly benefits	0.0	0.0	0.0	0.0	0.0
Employment Insurance benefits	0.9	0.9	1.0	1.0	1.0
Children's benefits	0.0	0.1	0.1	0.1	0.1
Total	0.9	1.0	1.1	1.1	1.2
Major transfers to other levels of government					
Canada Health Transfer	0.0	-0.1	-0.2	-0.4	-0.5
Canada Social Transfer	0.0	0.0	0.0	0.0	0.0
Equalization	0.0	-0.1	-0.1	-0.2	-0.2
Territorial Formula Financing	0.0	0.0	0.0	0.0	0.0
Gas Tax Fund	0.0	0.0	0.0	0.0	0.0
Home care and mental health	0.0	0.0	0.0	0.0	0.0
Other fiscal arrangements	0.0	0.0	0.0	0.0	0.0
Total	0.0	-0.1	-0.3	-0.6	-0.6
Direct program expenses	0.1	0.2	0.2	0.2	0.2
Public debt charges	0.0	0.1	0.2	0.3	0.4
Total expenses	1.0	1.2	1.1	1.0	1.2
Budgetary balance	-3.8	-3.2	-3.4	-3.5	-3.8

Source: Parliamentary Budget Officer.

G: Fiscal impact of 1 per cent decrease in GDP price level

<i>\$ billions</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Income taxes					
Personal income tax	-0.8	-1.7	-1.8	-1.9	-2.0
Corporate income tax	-0.2	-0.3	-0.4	-0.5	-0.5
Non-resident income tax	-0.1	-0.1	-0.1	-0.1	-0.1
Total income tax	-1.1	-2.1	-2.3	-2.5	-2.7
Excise taxes/duties					
Goods and Services Tax	-0.4	-0.4	-0.4	-0.4	-0.4
Custom import duties	-0.1	-0.1	-0.1	-0.1	-0.1
Other excise taxes/duties	0.0	0.0	0.0	0.0	0.0
Total excise taxes/duties	-0.4	-0.4	-0.5	-0.5	-0.5
EI premium revenues	-0.1	-0.2	-0.3	-0.3	-0.3
Other revenues	-0.2	-0.2	-0.2	-0.2	-0.2
Total budgetary revenues	-1.8	-3.0	-3.2	-3.4	-3.7
Major transfers to persons					
Elderly benefits	-0.4	-0.6	-0.6	-0.6	-0.7
Employment Insurance benefits	-0.2	-0.2	-0.2	-0.2	-0.2
Children's benefits	0.0	0.2	0.2	0.2	0.2
Total	-0.6	-0.6	-0.6	-0.6	-0.7
Major transfers to other levels of government					
Canada Health Transfer	0.0	-0.1	-0.2	-0.4	-0.5
Canada Social Transfer	0.0	0.0	0.0	0.0	0.0
Equalization	0.0	-0.1	-0.1	-0.2	-0.2
Territorial Formula Financing	0.0	0.0	0.0	0.0	0.0
Gas Tax Fund	0.0	0.0	0.0	0.0	0.0
Home care and mental health	0.0	0.0	0.0	0.0	0.0
Other fiscal arrangements	0.0	0.0	0.0	0.1	0.1
Total	0.0	-0.1	-0.3	-0.4	-0.6
Direct program expenses	-0.3	-0.4	-0.4	-0.4	-0.4
Public debt charges	0.0	0.0	0.1	0.1	0.2
Total expenses	-0.9	-1.1	-1.3	-1.5	-1.5
Budgetary balance	-1.0	-1.9	-2.0	-2.0	-2.1

Source: Parliamentary Budget Officer.

H: Fiscal impact of 100-basis point increase in interest rates

<i>\$ billions</i>	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Income taxes	0.0	0.0	0.0	0.0	0.0
Excise taxes/duties	0.0	0.0	0.0	0.0	0.0
EI premium revenues	0.0	0.0	0.0	0.0	0.0
Other revenues	0.8	0.8	0.8	0.8	0.9
Total budgetary revenues	0.8	0.8	0.8	0.8	0.9
Major transfers to persons	0.0	0.0	0.0	0.0	0.0
Major transfers to other levels of government	0.0	0.0	0.0	0.0	0.0
Direct program expenses	1.1	-3.0	-4.0	-4.2	-4.2
Public debt charges	2.8	4.1	5.2	6.2	7.1
Total expenses	3.9	1.1	1.2	2.0	2.8
Budgetary balance	-3.1	-0.3	-0.4	-1.1	-2.0

Source: Parliamentary Budget Officer.

I: PBO and Budget 2018 fiscal outlook comparison

<i>\$ billions</i>	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023
Income taxes						
Personal income tax	-1.4	-0.4	1.0	1.8	1.4	1.7
Corporate income tax	-1.6	-1.5	-1.6	-1.0	-1.0	0.4
Non-resident income tax	-0.4	-0.6	-0.7	-0.7	-0.5	-0.4
Total income tax	-3.3	-2.6	-1.3	0.1	-0.1	1.7
Excise taxes/duties						
Goods and Services Tax	-0.6	0.1	-0.2	-0.2	-0.2	-0.3
Custom import duties	0.1	0.1	0.5	0.6	0.8	0.8
Other excise taxes/duties	0.0	0.0	0.0	0.0	0.0	0.0
Total excise taxes/duties	-0.7	0.1	0.5	0.5	0.5	0.5
EI premium revenues	0.2	0.7	0.8	0.9	1.0	1.0
Other revenues	2.4	2.1	2.2	2.8	2.1	2.5
Total budgetary revenues	-1.3	0.5	2.2	4.4	3.5	5.9
Major transfers to persons						
Elderly benefits	0.0	0.1	0.2	0.1	0.2	0.3
Employment Insurance	-0.3	0.9	1.3	0.7	0.5	0.4
Children's benefits	0.2	0.1	0.8	1.1	1.4	1.7
Total	-0.2	1.0	2.2	2.0	2.1	2.4
Major transfers to other levels of government						
Canada Health Transfer	0.1	0.0	-0.1	0.2	0.3	0.2
Canada Social Transfer	0.0	0.0	0.0	0.0	0.0	0.0
Equalization	-0.1	0.0	-0.1	0.1	0.1	0.1
Territorial Formula Financing	0.0	0.0	0.0	0.0	0.0	0.0
Gas Tax Fund	0.0	0.0	0.0	0.1	0.0	0.1
Home care and mental health	0.0	-0.1	0.0	-0.1	0.0	0.0
Other fiscal arrangements	0.1	-0.1	0.2	0.0	0.0	0.0
Total	0.1	0.0	0.0	0.4	0.5	0.5
Direct program expenses						
Transfer payments	-0.3	0.3	0.3	0.2	0.2	0.2
Operating and capital expenses	-1.0	4.7	3.4	0.4	-0.5	-1.9
Total direct program expenses	-1.3	5.1	3.8	0.6	-0.4	-1.7
Total program expenses	-1.4	6.1	6.0	3.0	2.3	1.2
Public debt charges	-0.5	1.4	3.0	4.6	4.9	6.0
Total expenses	-1.9	7.5	9.1	7.5	7.3	7.2
Budgetary balance (unadjusted)	0.6	-7.0	-6.9	-3.0	-3.8	-1.3
Risk adjustment	0.0	-3.0	-3.0	-3.0	-3.0	-3.0
Budgetary balance (with risk adjustment)	0.6	-4.0	-3.9	0.0	-0.8	1.7
Federal debt	-0.6	3.5	7.4	7.5	8.2	6.5

Sources: Finance Canada and Parliamentary Budget Officer.

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Notes

1. This report incorporates data available up to and including 6 April 2018. Unless otherwise specified, all rates are reported at annual rates.
2. These assumptions are primarily taken from external sources and brought into our economic projection using our macroeconomic model of the Canadian economy.
3. Our medium-term outlook assumes a meaningful correction in residential investment and its share of the economy to return to historical levels. We judge that our outlook is consistent with potential economic impacts on housing demand from the B-20 guideline and other recent policy measures.
4. In addition, we assume that provincial changes to minimum wages have minimal impact on the Canadian economy over the medium term. We assume that provincial changes to minimum wages will raise aggregate wages by 0.7 per cent and the level of the consumer price index by 0.2 per cent by 2019 based on results from Brouillette et. al. (2017). We then estimate the partial equilibrium employment impacts using an elasticity of -0.25 for the change in the employment rate in response to a one per cent change in the aggregate wage rate. Our elasticity is taken from Lichter et. al. (2014) meta-analysis of the literature. We then apply these changes to wages, prices and employment to determine the economy-wide impacts of provincial changes to minimum wage levels.
5. Our assumption for the economic impact of the Tax Cuts and Jobs Act on the U.S. economy is based on analysis by the Staff of the Joint Committee on Taxation (2017) available at: <https://www.jct.gov/publications.html?func=startdown&id=5061>. Our assumption for the economic impact of the Bipartisan Budget Act is based on spending projections and fiscal multipliers from the Congressional Budget Office available at: <https://www.cbo.gov/publication/49925>.
6. We have also assessed potential implications of lower U.S. corporate tax rates on the competitiveness of Canada's investment climate and presently do not expect the changes to have a material impact. Estimates of the marginal tax burden on new investment prepared by Bazel et al. (2018) indicate that under the recent tax reforms, U.S. marginal effective tax rates will temporarily fall slightly below Canadian rates over 2018 to 2022. Thereafter, U.S. marginal effective rates are projected to rise above Canadian rates as the expensing provisions for capital are phased out. That said, Bazel et al. (2018) argue that corporate tax rates in Canada should be reduced to avoid a loss in competitiveness. We will continue to monitor this issue.
7. Although the risk of the U.S. terminating NAFTA appears to be lower than in October, we have assessed a scenario in which NAFTA is terminated and member countries raise tariffs to levels prescribed for most favoured nations (MFN). In this scenario, we estimate that the level of Canada's real GDP would ultimately be reduced by 0.7 per cent.

Based on recent reports of NAFTA negotiations, we believe that a termination scenario is unlikely but nonetheless we still expect a negative impact on the Canadian economy from changes to the existing agreement. Therefore, we maintain our assumption that the spillovers from U.S. fiscal measures on the Canadian economy will be offset by U.S. trade policy actions related to NAFTA.

8. See the Technical Paper on the Federal Carbon Pricing Backstop available at: <https://www.canada.ca/en/services/environment/weather/climatechange/technical-paper-federal-carbon-pricing-backstop.html>.
9. Ecofiscal Commission (2016), Choose Wisely: Options and Trade-offs in Recycling Carbon Pricing Revenues, Ottawa, April. Available at: <https://ecofiscal.ca/reports/choose-wisely-options-trade-offs-recycling-carbon-pricing-revenues/>
10. For example, British Columbia had initially been revenue neutral but in the most recent budget planned increases in carbon taxes no longer have to be offset by reductions in other taxes. See: http://bcbudget.gov.bc.ca/2018/bfp/2018_Budget_and_Fiscal_Plan.pdf#page=82.

Alberta's plan will return less than half of the revenues as rebates with the remaining going to green spending and infrastructure. See: <https://www.alberta.ca/climate-carbon-pricing.aspx#p184s4>. Only a small portion will go to corporate tax reduction, though large emitters will be required to meet output-based performance standards and not be charged for emissions that meet them.

Ontario will grant (some) free emission permits to participating firms, which will be reduced over time. The revenue from its auction of emission permits will be put aside and spent on measures to reduce greenhouse gas emissions or compliance costs. See: <https://www.ontario.ca/laws/statute/16c07#BK80>.

In Quebec, all revenues are spent through a Green Fund that is to finance actions to fight climate change. See: <http://www.mddelcc.gouv.qc.ca/changementsclimatiques/plan-action-fonds-vert-en.asp>.

11. We assume planned provincial policies are best represented in terms of economic efficiency by the Ecofiscal Commission's scenario where carbon proceeds are returned to households as lump-sum payments. That is, such policies are relatively less efficient than reducing income taxes.
12. For example, estimates by Ecofiscal Commission (2016) indicate that recycling carbon revenues by reducing corporate income taxes would essentially offset the impact of the carbon levy on the Canadian economy in 2022.
13. Available at: <http://www.oecd.org/eco/outlook/economic-outlook/>.
14. In October, we assumed potential U.S. fiscal measures would raise U.S. real GDP by 0.25 per cent by the end of 2019.
15. For example, see estimates of potential or longer-run U.S. real GDP growth by the Congressional Budget Office, the Federal Reserve and the International Monetary Fund.

16. Recent changes to our macroeconomic model suggest that investment in non-residential construction will be more responsive to the increase in interest rates over the medium term. Policy developments have also contributed to our lower profile for business investment.
17. Over 2018 to 2022, potential GDP growth is projected to average 1.7 per cent annually, which is 0.1 percentage points lower than our October outlook. This primarily reflects our revised outlook for business investment. We have also revised our trend labour estimates and now project higher trend employment rates and lower trend average hours worked over the medium term. On balance, labour's contribution to potential GDP is higher than in October but this is more than offset by lower labour productivity.
18. Relative to our baseline nominal GDP growth projection (3.8 per cent annually, on average, over 2018 to 2022), the 30, 50 and 70 per cent confidence intervals shown in Figure 6 are consistent with average nominal GDP growth of ± 0.5 , ± 0.9 and ± 1.3 percentage points respectively.
19. Similar to the Federal Reserve's approach (see D. Reifschneider and P. Tulip (February 2017), available at: <https://doi.org/10.17016/FEDS.2017.020>), we use average historical forecast errors from external forecasters (from Finance Canada's survey of private sector forecasters) over the past twenty-four years to benchmark the uncertainty surrounding our economic projections for key indicators.
20. Detailed cost estimates for each of the 10 policy actions costed by the PBO are available on our website <http://www.pbo-dpb.gc.ca/en/our-publications>.
21. Starting in 2017, EI premium rates are set each year to generate just enough premium revenue to balance the EI Operating Account over a seven-year period. The EI Operating Account had a cumulative surplus of \$2.5 billion at the end of 2016. Under law, the break-even rate must be set such that this surplus will be exhausted over the next 7 years.
22. PBO projects the size of the federal workforce based on a sample of large federal departments and agencies, adjusted for historical forecast bias.
23. See PBO's 20 March 2018 report, Federal Personnel Spending: Past and Future Trends for a more detailed explanation of the relationship between future benefit payments and interest rates. Available at: http://www.pbo-dpb.gc.ca/en/blog/news/Fed_personnel_spending.
24. Recall that in Budget 2016, the Government abandoned its fiscal anchor of balancing the budget in 2019-20 and committed to "returning to balanced budgets".