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Economic and Fiscal Outlook

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The Parliamentary Budget Officer (PBO) supports Parliament by providing economic and financial analysis 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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Table of Contents

Executive Summary

The Canadian economy continued to operate above its potential output in the first half of 2018. Fuelled by strong export growth, real GDP growth averaged 2.2 per cent in the first two quarters of the year.[1] As underlying inflation moved up to the 2 per cent target and wage growth improved, the Bank of Canada raised its policy interest rate by 25 basis points in January and again in July.

While Canadian economic performance remains solid, we continue to monitor macroeconomic developments and risks to the outlook, adjusting our key assumptions and judgements accordingly. In particular:

- We assume that negative trade actions will reduce Canada's GDP by 0.25 per cent by 2022;
- We assume that the U.S. Tax Cuts and Jobs Act will not have a material impact on Canada's investment climate;
- We assume that the Bank of Canada will steadily increase its policy interest rate through early 2020.
- We expect households' financial vulnerability to increase as interest rates rise and their debt-servicing capacity is stretched further.

Looking ahead, we project real GDP in Canada to advance by 2.1 per cent in 2018 and 1.8 per cent in 2019 before slowing to growth of 1.5 per cent annually, on average, over 2020 to 2023.

Over the medium term, we continue to 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. Indeed, we expect a significant contraction in residential investment and a deceleration in house prices through 2020.

With the economy continuing to operate above its potential output and inflation running above the Bank of Canada's target, we assume that the Bank will increase its policy interest 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 1 Economic outlook

%	2017	2018	2019	2020-2023
Real GDP growth	3.0	2.1	1.8	1.5
Consumer price inflation	1.6	2.2	2.1	2.1
Unemployment rate	6.3	5.9	6.0	5.7
Bank of Canada policy rate	0.7	1.4	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 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.

Summary Table 2 Fiscal outlook

$ billions	2017-2018	Projection 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Budgetary revenues	313.6	325.3	337.7	352.0	364.1	377.8	392.0
Program expenses	310.7	321.0	331.5	338.5	345.6	353.8	364.6
Public debt charges	21.9	23.7	27.4	30.9	33.3	35.3	36.8
Total expenses	332.6	344.7	358.9	369.4	378.9	389.1	401.4
Budgetary balance	-19.0	-19.4	-21.3	-17.4	-14.8	-11.2	-9.4
Federal debt	671.3	690.6	711.9	729.2	744.1	755.3	764.7
Federal debt (% of GDP)	31.3	30.9	30.7	30.3	29.9	29.3	28.7

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

Our fiscal outlook takes into account recent policy changes in Canada and abroad. We estimate that Canadian tariffs on imports of steel, aluminum and other products from the United States will generate additional revenue of $1.3 billion in 2018-19 and $1.8 billion in 2019-20. However, we assume these measures will have no net fiscal impact, as revenue from these tariffs will be redirected dollar-for-dollar as spending to support affected industries.

We also assume that recent U.S. corporate tax changes will result in multinational corporations shifting some of their profits from Canada to the United States, resulting in lower federal corporate income tax revenues of $500 million annually, on average.

For the current fiscal year, 2018-19, we project that the budgetary deficit will be $19.4 billion (0.9 per cent of GDP), slightly higher than the budgetary deficit of $19.0 billion in 2017-18. Our fiscal projection reflects the recent change in the Government's discount rate methodology. Our projections are based on preliminary assumptions about the future impacts of this accounting change on the Government's operating expenses and public debt charges.

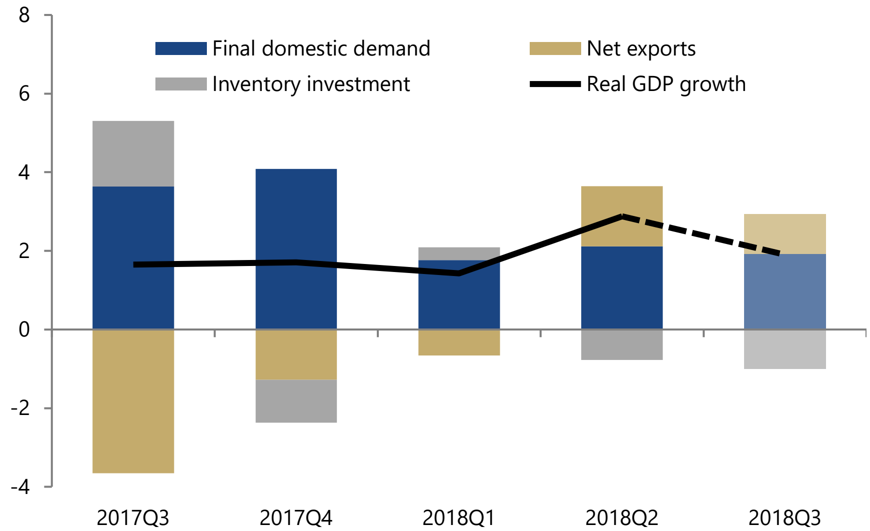
Over the remainder of our outlook, we project the budgetary balance to reach a deficit of $9.4 billion in 2023-24 (0.4 per cent of GDP). The projected decline in the deficit relative to the size of the economy reflects growth in income tax revenue that exceeds nominal GDP while growth in the Government's operating expenses remains restrained. This restraint stems from falling expenses for federal employees' future benefits and limited growth in federal personnel.

We estimate that there is approximately a 10 per cent chance that the budget will be balanced or in surplus in 2021-22. The probability of budgetary balance/surplus rises to 30 per cent in 2023-24. In addition, we estimate that in 2020-21, there is approximately an 80 per cent chance that the federal debt-to-GDP ratio will be below the Government's anchor of 31.8 per cent.

Economic Outlook

Figure 1 Economic developments in Canada

Contributions to real GDP growth, percentage points



Sources: Statistics Canada and Parliamentary Budget Officer.

Following consecutive quarters of relatively stable growth, real GDP accelerated in the second quarter of 2018, advancing by 2.9 per cent. The pick-up in economic growth exceeded our April projection, largely due to stronger-than-expected export performance.

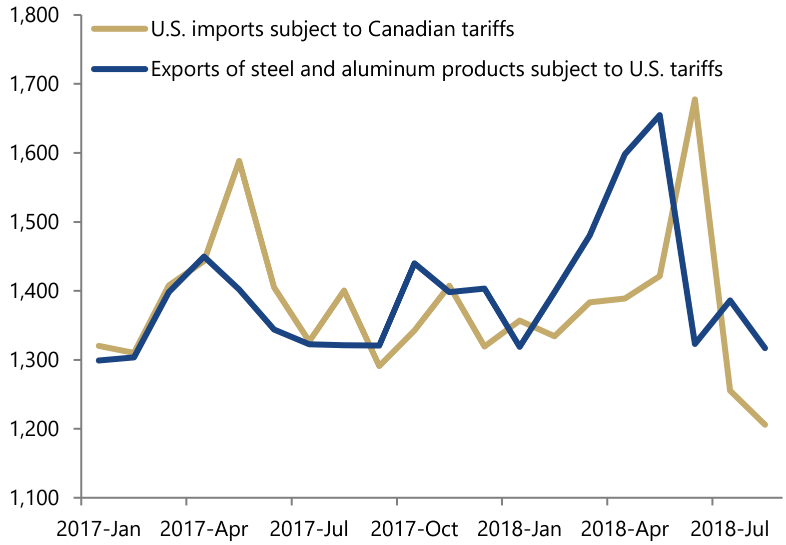
Based on recent monthly data, we expect real GDP growth to moderate to 1.9 per cent in the third quarter as export growth pulls back, residential investment contracts and firms reduce the build-up of their inventories. We estimate that the economy was operating above its potential with an output gap of 0.7 per cent in the third quarter.

Since April, the unemployment rate ticked higher from a record low of 5.8 per cent to 5.9 per cent in September, reflecting moderate employment gains. From April to September, monthly (net) job gains averaged 15,000 and were entirely driven by part-time employment. Employment gains were concentrated in the private sector.

We continue to monitor international trade developments, corporate tax competitiveness, household financial vulnerabilities and the housing market. We provide an updated analysis on these issues in this report.

Figure 2 Recent tariff changes

Canadian exports and imports subject to tariffs



Source: Statistics Canada.

In June, the United States levied tariffs of 25 per cent and 10 per cent on $16.4 billion of Canadian steel and aluminum products respectively.[2] This follows the implementation of various tariffs on Canadian softwood lumber products since April 2017.[3]

In response to the U.S. tariffs, in July, Canada imposed the same tariff rates on $8.2 billion of imports of U.S. steel and aluminum products, as well as a 10 per cent tariff on $8.3 billion of other selected U.S. goods.[4] Monthly trade data show swings in Canadian exports and imports affected by these tariffs as U.S. and Canadian importers rushed to avoid their implementation.

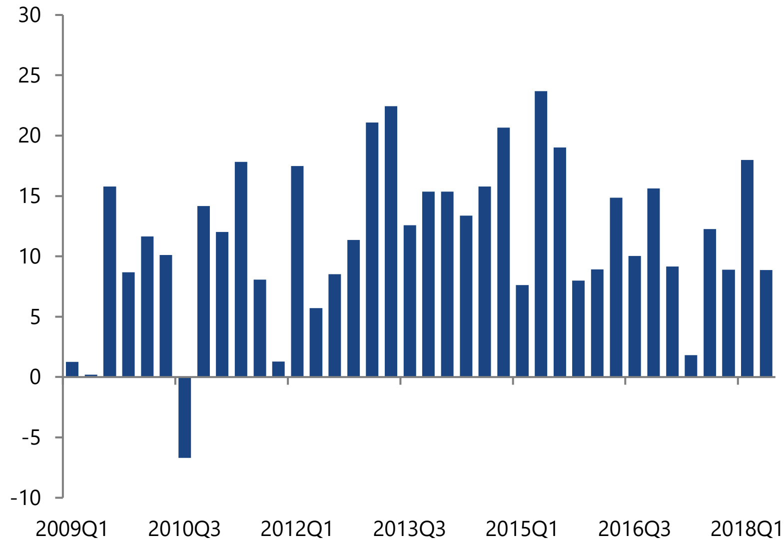
Based on our analysis, we estimate that the level of Canada's real GDP would ultimately be reduced by 0.5 per cent if these U.S. and Canadian tariffs on steel, aluminum and other products were made permanent.

With the agreement reached by the U.S., Mexico and Canada (USMCA) at the end of September, uncertainty surrounding the North American trading relationship has dissipated.[5] Based on a preliminary assessment of the USMCA, we do not anticipate that this new agreement will have a material impact on the overall Canadian economy.[6] We will, however, continue to assess potential impacts of the USMCA in future reports.

That said, given the uncertainty concerning the date at which the U.S. tariffs on steel and aluminum products will be removed, as well as uncertainty related to additional actions, we have maintained our risk adjustment regarding trade policy. We continue to assume that negative trade actions will reduce Canada's GDP by 0.25 per cent by 2022.

Figure 3 Canada's investment climate and corporate tax competitiveness

Foreign direct investment in Canada, billions of dollars



Source: Statistics Canada.

We maintain our assumption that the U.S. Tax Cuts and Jobs Act (TCJA) will not have a material impact on Canada's investment climate.[7]

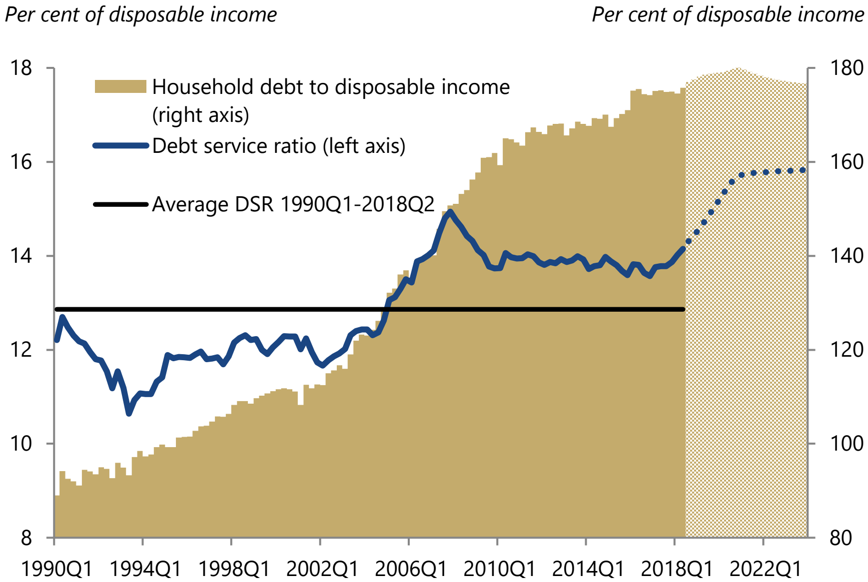
Based on estimates prepared by Bazel et al. (2018), the TCJA is projected to reduce the U.S. marginal effective tax rate on new investment slightly below Canadian rates over 2018 to 2022 (18.8 per cent versus 20.9 per cent).[8] However, beyond 2022 some of the tax advantages, prominently 100 per cent expensing provisions for capital, are phased out. With each deduction removed, U.S. competitiveness decreases. Bazel et al. (2018) also note that in several provinces, retail sales taxes on capital purchases are boosting their effective rates, resulting in marginal effective tax rates ranging from 24.2 per cent in Saskatchewan to 27.7 per cent in British Columbia.

While Canada's corporate tax advantage relative to the United States has declined, it is important to recall that firms' investment decisions are based on more than taxes alone. In the case of foreign direct investment (FDI), the OECD notes that it is encouraged by "access to markets and profit opportunities; a predictable and non-discriminatory legal and regulatory framework; macroeconomic stability; skilled and responsive labor markets and well-developed infrastructure."[9]

To date, FDI flows do not suggest an immediate deterioration in Canada's investment climate. In the first half of 2018, global FDI flows into Canada totalled $26.8 billion, which is broadly in line with flows observed over the past five years.

We will continue to monitor Canada's investment climate and corporate tax competitiveness and will adjust our assumptions accordingly.

Figure 4 Household indebtedness and financial vulnerability



Sources: Statistics Canada and Parliamentary Budget Officer.

Note: The projection period covers 2018Q3 to 2023Q4.

Household indebtedness remains elevated.[10] Based on PBO's estimate, household debt amounted to 175.8 per cent of household disposable income in the second quarter of 2018. That is, for every $100 of disposable income, households had about $176 of debt.[11]

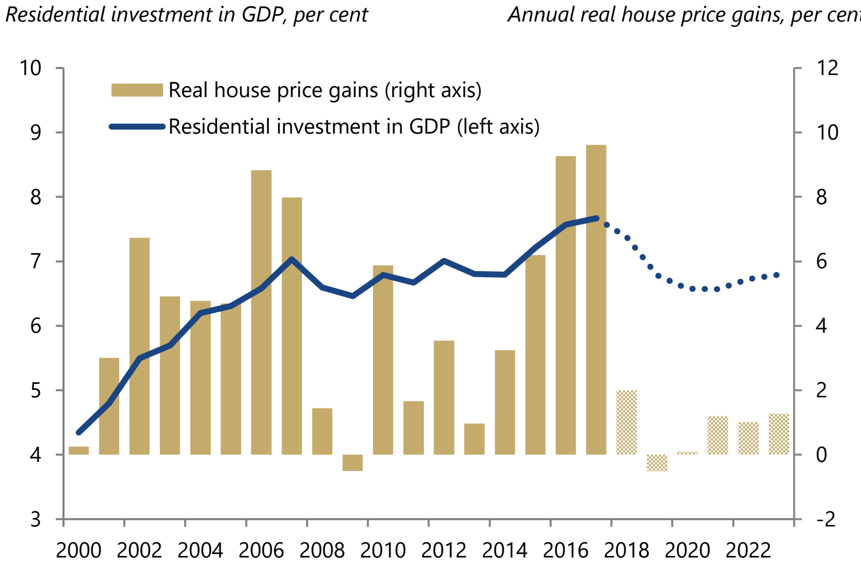
Looking forward, we project that household debt as a share of disposable income will ultimately stabilize around 177 per cent by 2023. Real house price gains are projected to slow to 0.6 per cent (year over year), on average, over the projection period compared to 5.0 per cent from 2010Q1 to 2018Q2. The projected increase in interest rates will also contribute to slower household debt accumulation.

However, what matters more for household financial vulnerability is not so much the level of household debt relative to disposable income, but rather the capacity of households to service their debts.

After a period of relative stability, households' debt service ratio (DSR) has increased such that for every $100 of disposable income, households had $14.15 of debt payments in the second quarter of 2018. The increase broadly coincides with the rise in the Bank of Canada's policy rate that commenced in the second half of 2017.

With rising interest rates and indebtedness edging higher, we project the household DSR to reach 15.83 per cent by the end of 2023. Consequently, households that are required to devote a substantial portion of their disposable income to service their debts will become more vulnerable to adverse income and interest rate shocks, and more likely to be delinquent in their debt payments.[12]

Figure 5 Housing investment and house prices



Sources: Statistics Canada and Parliamentary Budget Officer.

Note: The projection period covers 2018 to 2023.

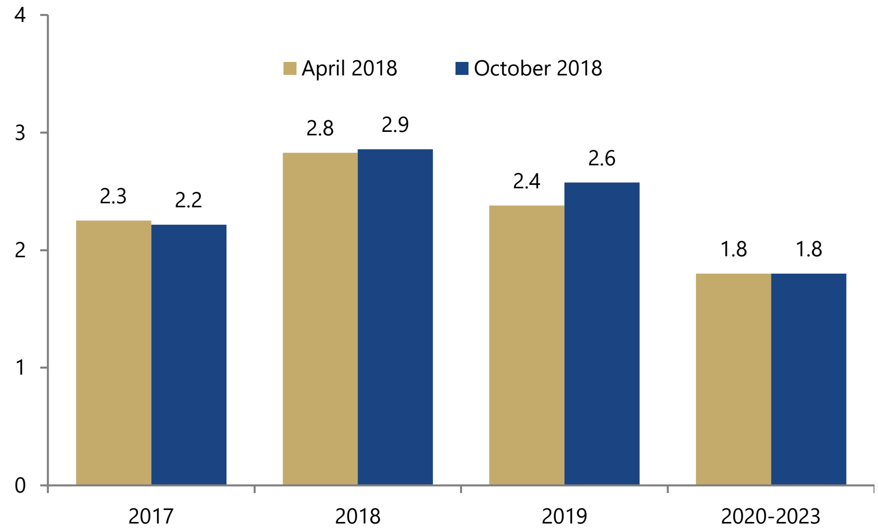
Residential investment grew significantly as a share of the economy from 2014 to 2017 while real housing prices at the national level increased by over 7 per cent annually, on average.[13] Beginning in 2016, the federal government introduced more stringent regulations for insured mortgages.[14] While it is too early to determine the impact of these measures, investment in residential construction and real housing price gains have moderated in the first half of 2018.

We continue to expect a significant correction in housing investment over the medium term. We project residential investment to fall from 7.8 per cent of GDP in the fourth quarter of 2017 to 6.5 per cent of GDP by the end of 2020. The projected decline primarily reflects weaker residential investment volumes, owing to rising household borrowing rates and a deceleration in house prices.

Consequently, residential investment is projected to subtract 0.25 percentage points, on average, from annual real GDP growth over 2018 to 2020. We project real housing prices to be essentially flat, on average, over 2019 to 2020 and then increase by 1.2 per cent annually thereafter—well below the average pace observed over the past four years.

Figure 6 U.S. economic outlook

U.S. real GDP growth, per cent



Sources: Bureau of Economic Analysis and Parliamentary Budget Officer.

In its October 2018 World Economic Outlook, the International Monetary Fund (IMF) projected that the global economy will grow by 3.7 per cent in 2018 and 2019. The IMF noted that the global expansion continues but has become less balanced and may have peaked in some advanced economies. The IMF judges that downside risks to global growth (e.g., from rising trade barriers and tighter financial conditions) have increased while the potential for upside surprises has receded.

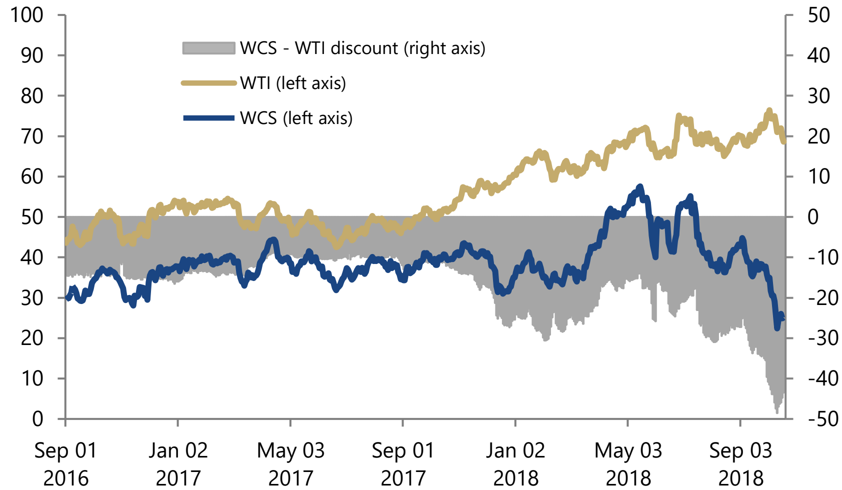
We project that the U.S. real GDP will grow by 2.9 per cent in 2018 and 2.6 per cent in 2019, which is 0.1 and 0.2 per cent higher, respectively, compared to our April outlook. Final domestic demand is expected to continue to drive growth and is supported by the coming into force of the Tax Cuts and Jobs Act and Bipartisan Budget Act.[15]

U.S. growth is then expected to moderate over the medium term, ultimately growing in line with external estimates of its potential growth.[16]

We assume that the Federal Reserve will steadily increase the federal funds rate as economic growth and labour market performance remain strong. Following its 25-basis point increase in September, we expect the Federal Reserve to raise its policy rate by 25 basis points again in December and through to the end of 2019, maintaining it at 3.0 per cent thereafter.

Figure 7 Canadian and U.S. crude oil prices

Crude oil prices, US$ per barrel



Sources: CME Group and Parliamentary Budget Officer.

Note: WTI refers to West Texas Intermediate; WCS refers to Western Canadian Select.

The spread between West Texas Intermediate (WTI) and Western Canadian Select (WCS) crude oil prices widened from US$17 per barrel in April to a record of US$49 in October. The increase in the discount for WCS crude reflects reduced demand from U.S. refineries undergoing maintenance as well as ongoing transportation constraints. Futures prices indicate that the WTI-WCS spread will narrow somewhat from current levels to US$28 per barrel by the end of 2019. We assume that the spread will remain relatively stable at this level thereafter.

Based on recent futures prices, we project WTI oil prices to remain close to current levels of US$69 per barrel. This is US$11 per barrel higher, on average, than our April outlook. The upward revision to oil prices reflects sustained discipline by the Organization of the Petroleum Exporting Countries' as well as reduced supply from Iran.

Our outlook for energy prices is up 11.8 per cent, on average, over 2018 to 2023 compared to April. We have also revised down our outlook for non-energy commodity prices by 7.7 per cent, on average, due to lower prices for forestry and agricultural commodities. Overall, our outlook for the Bank of Canada's commodity price index is 1.9 per cent higher over 2018 to 2023 compared to April.

Table 1 Outlook for Canadian real GDP growth

Contributions to real GDP growth, percentage points

		Projection			
	2017	**2018**	**2019**	**2020**	**2021-2023**
Consumption	1.9	1.3	1.0	0.9	0.9
Housing	0.2	-0.1	-0.5	-0.1	0.1
Business investment	0.3	0.8	0.3	0.4	0.3
Government	0.6	0.6	0.3	0.1	0.2
Exports	0.3	1.1	1.7	0.9	0.6
Imports	-1.2	-1.4	-0.5	-0.7	-0.6
Inventory investment	0.8	-0.1	-0.4	0.0	0.0
Real GDP growth	**3.0**	**2.1**	**1.8**	**1.5**	**1.5**
Additional indicators, %					
Potential GDP growth	1.3	1.6	1.7	1.7	1.7
Output gap	0.3	0.7	0.8	0.6	0.2

Sources: Statistics Canada and Parliamentary Budget Officer.

We expect the Canadian economy to grow by 2.1 per cent in 2018 and 1.8 per cent in 2019 as quarterly real GDP growth stabilizes below its pace over the first half of 2018. We continue to expect a deceleration in consumer spending over the medium term and a contraction in residential investment through 2020. Appendix A provides a comparison to our April 2018 outlook.

We project real GDP to grow by 1.5 per cent annually, on average, over 2020 to 2023. We maintain our assumption from April that the federal carbon levy will generate a modest 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.[17]

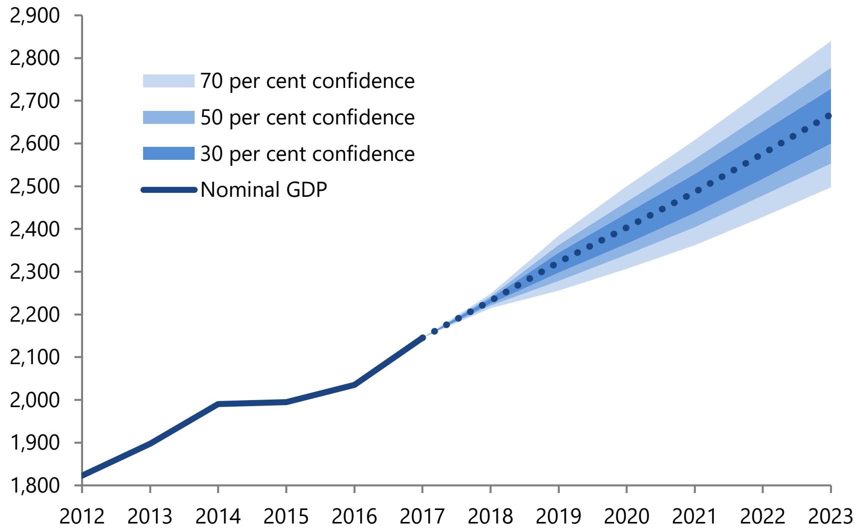
After remaining below PBO's estimate of potential GDP since late 2008, the Canadian economy rose above its potential in the second quarter of 2017 and is projected to remain above its potential through 2023. However, this overshoot primarily reflects a temporary slowdown in potential GDP growth in 2016 and 2017 mainly due to sharp declines in business investment. We project potential GDP growth to rise from 1.3 per cent in 2017 to average 1.7 per cent over 2020 to 2023 as growth in trend labour productivity accelerates.

Following a 25-basis point increase in October, 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.

Appendix B presents PBO's extended economic outlook.

Figure 8 Uncertainty around PBO's nominal GDP projection

Nominal GDP, $ billions



Sources: Statistics Canada and Parliamentary Budget Officer.

Over the period 2018 to 2023, we project nominal GDP growth to average 3.7 per cent annually, with real GDP growth averaging 1.6 per cent and GDP inflation averaging 2.0 per cent. Adjusted for historical revisions, the annual level of nominal GDP is, on average, $6.0 billion lower over 2018 to 2023 compared to our April 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 intervals[18] based on historical forecasting errors.[19]

In terms of downside risks, we continue to believe the most important downside risk is weaker export performance due to rising protectionism in global trade policies, which would dampen global trade and economic growth. Despite the recent U.S.-Mexico-Canada agreement, global tensions could escalate further if the U.S. administration and other countries continue to impose tariffs and countermeasures. Further, U.S. trade actions to limit foreign competition in specific industries based on national security concerns (e.g., tariffs on steel and aluminum imports) could be broadened.

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.

Fiscal Outlook

Table 2 Financial results for 2017-18

$ billions	Actual	PBO April 2018	Difference
Revenues			
Personal income taxes	153.6	150.9	2.8
Corporate income taxes	47.8	46.6	1.2
Non-resident income taxes	7.8	7.8	0.0
Excise taxes/duties	53.8	53.0	0.8
EI premium revenue	21.1	20.8	0.4
Other revenue	29.4	29.2	0.2
Total revenue	313.6	308.3	5.3
Program expenses			
Major transfers to persons	93.8	94.2	-0.4
Major transfers to other levels of government	70.5	70.6	-0.1
Direct program expenses	146.4	138.4	8.0
Total program expenses	310.7	303.2	7.5
Public debt charges	21.9	23.9	-2.0
Total expenses	332.6	327.1	5.4
Budgetary balance	-19.0	-18.8	-0.1

Sources: Finance Canada and Parliamentary Budget Officer.

The budgetary deficit in 2017-18 was $19.0 billion. In our April 2018 Economic and Fiscal Outlook, we projected a budgetary deficit of $18.8 billion, or $0.2 billion lower than the actual deficit in 2017-18.

The Government has changed its discount rate methodology, which is used in the measurement of its long-term assets and liabilities. This change affects direct program expenses, public debt charges, the budgetary balance and several measures of debt. Absent this accounting change, the budgetary deficit would have been $18.5 billion in 2017-18.

Compared to our projected results, both actual revenues and expenses were higher than we anticipated, by $5.3 billion (1.7 per cent) billion and $5.4 billion (1.7 per cent), respectively.

Revenues were higher mainly due to personal and corporate income tax receipts being higher than we anticipated.

Direct program expenses were $8.0 billion higher than expected, mainly owing to the Government's accounting change, higher-than-anticipated increases in provisions for claims and litigation, and a large year-to-year increase in cash outlays for federal personnel.

Table 3 Economic and fiscal developments since April 2018

$ billions	2017-2018	Projection 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Budgetary balance in April 2018 EFO	**-18.8**	**-22.1**	**-21.4**	**-16.9**	**-14.6**	**-10.6**
Economic developments	0.0	0.4	0.2	0.7	1.3	1.6
Fiscal developments	-0.1	2.6	0.3	-0.8	-1.4	-2.0
Status quo balance, before policy actions	**-19.0**	**-19.2**	**-20.9**	**-17.0**	**-14.6**	**-11.1**
Policy actions since Budget 2018	0.0	-0.2	-0.3	-0.3	-0.2	-0.2
Budgetary balance in October 2018 EFO	**-19.0**	**-19.4**	**-21.3**	**-17.4**	**-14.8**	**-11.2**

Sources: Finance Canada and Parliamentary Budget Officer.

Compared to our April outlook, we are projecting budgetary deficits that are $0.3 billion lower, on average, over 2018-19 to 2022-23.

Revisions to our outlook for the Canadian economy contribute $0.8 billion per year, on average, to decreasing projected budget deficits over 2018-19 to 2022-23.

Including final 2017-18 financial results, fiscal developments contribute $0.3 billion annually, on average, to increasing projected budget deficits. The largest fiscal changes reflect the Government's new discount rate methodology that immediately increases pension benefit expenses in direct program expenses, which are partially offset by lower public debt charges.

On a status quo basis (that is, prior to new policy actions), budgetary deficits would be $0.6 billion lower per year, on average, over 2018-19 to 2022-23 compared to our April projection.

Policy actions taken since Budget 2018 have a relatively small impact on our outlook for the budgetary balance—the Government has announced $0.2 billion in new spending per year, on average. We estimate that Canadian tariffs on imports of steel, aluminum and other products from the United States will generate $1.3 billion in 2018-19, and up to $1.8 billion in 2019-20. However, we assume these measures will have no net fiscal impact, as revenue from these tariffs will be redirected dollar-for-dollar as spending to support affected industries.

Appendices C, D and E provide a detailed summary of the fiscal outlook and Appendix F provides a comparison to our April 2018 fiscal outlook.

Table 4 Summary of the fiscal outlook

		Projection					
$ billions	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Budgetary revenues	313.6	325.3	337.7	352.0	364.1	377.8	392.0
Program expenses	310.7	321.0	331.5	338.5	345.6	353.8	364.6
Public debt charges	21.9	23.7	27.4	30.9	33.3	35.3	36.8
Total expenses	332.6	344.7	358.9	369.4	378.9	389.1	401.4
Budgetary balance	-19.0	-19.4	-21.3	-17.4	-14.8	-11.2	-9.4
Federal debt	671.3	690.6	711.9	729.2	744.1	755.3	764.7
% of GDP							
Budgetary revenues	14.6	14.6	14.5	14.6	14.6	14.7	14.7
Program expenses	14.5	14.4	14.3	14.1	13.9	13.7	13.7
Public debt charges	1.0	1.1	1.2	1.3	1.3	1.4	1.4
Total expenses	15.5	15.4	15.5	15.4	15.2	15.1	15.0
Budgetary balance	-0.9	-0.9	-0.9	-0.7	-0.6	-0.4	-0.4
Federal debt	31.3	30.9	30.7	30.3	29.9	29.3	28.7

Sources: Finance Canada and Parliamentary Budget Officer.

For the current fiscal year, we estimate that the budgetary deficit will increase from $19.0 billion in 2017-18 to $19.4 billion in 2018-19.

Over the remainder of our outlook, we project the budgetary balance to increase from a deficit of $19.4 billion (0.9 per cent of GDP) in 2018-19 to a deficit of $9.4 billion (0.4 per cent of GDP) in 2023-24. 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 indexed to real income growth.

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 operating expenses.

Even after taking into account the Government's new discount rate methodology, we project that the federal debt-to-GDP ratio will continue on its downward trajectory, falling to 30.3 per cent of GDP in 2020-21. Given its debt-to-GDP anchor of 31.8 per cent, or lower, in 2020-21, the Government could lower revenue or increase spending and still meet its debt anchor in 2020-21.

Table 5 Outlook for revenues

$ billions	2017-2018	Projection 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Income taxes							
Personal income tax	153.6	160.1	168.3	176.2	183.5	191.0	199.0
Corporate income tax	47.8	45.8	47.0	49.3	51.3	53.5	55.6
Non-resident income tax	7.8	8.4	8.1	8.3	8.5	8.8	9.1
Total income tax	209.3	214.3	223.5	233.8	243.3	253.3	263.7
Excise taxes/duties							
Goods and Services Tax	36.8	37.7	39.0	40.4	41.8	43.2	44.7
Custom import duties	5.4	6.8	7.1	7.1	6.6	6.8	7.1
Other excise taxes/duties	11.7	12.5	12.9	13.1	13.5	13.8	14.0
Total excise taxes/duties	53.8	57.0	59.1	60.6	61.9	63.9	65.8
EI premium revenues	21.1	22.4	22.7	23.6	24.4	25.4	26.3
Other revenues							
Enterprise Crown corporations	7.7	8.4	8.4	8.4	8.6	8.9	9.2
Other programs	20.2	20.7	20.7	21.9	22.2	22.6	23.1
Net foreign exchange	1.5	2.6	3.3	3.7	3.7	3.8	3.9
Total other revenues	29.4	31.7	32.4	34.0	34.5	35.2	36.2
Total budgetary revenues	313.6	325.3	337.7	352.0	364.1	377.8	392.0

Sources: Finance Canada and Parliamentary Budget Officer.

We are projecting revenues of $325.3 billion in 2018-19, which is $1.5 billion higher compared to our April projection.

Overall, federal revenues are projected to outpace growth in nominal GDP—the broadest single measure of the Government's tax base. By 2023-2024, total revenues are projected to reach $392.0 billion, or 14.7 per cent of GDP.

Our outlook takes into account recent tax policy changes in Canada and abroad. We estimate that tariffs on the imports of steel, aluminum and other products from the United States will generate additional revenue of $1.3 billion in 2018-19, $1.8 billion in 2019-20 and $1.0 billion per year, on average, thereafter. We assume that offsetting expenses to support industry result in no net fiscal impact.

We assume that lower corporate tax rates in the United States will result in some outward profit shifting by U.S. multinationals, corresponding to $500 million lower Canadian federal corporate income tax revenues, per year on average, over our outlook.[20]

Table 6 Outlook for EI premiums and the EI Operating Account

$ billions	2017-2018	2018-2019 (Projection)	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024		
Revenues	21.6	22.8	23.1	24.0	24.8	25.8	26.8		
Premium revenues	21.1	22.4	22.7	23.6	24.4	25.4	26.3		
Contributions for federal employees	0.4	0.4	0.4	0.4	0.4	0.4	0.4		
Expenses	21.6	22.7	24.1	24.6	25.4	26.0	26.4		
Benefits	19.7	20.8	22.1	22.6	23.3	23.8	24.2		
Administration expenses	1.9	1.9	2.0	2.1	2.1	2.2	2.2		
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Annual balance	-0.3	0.3	-1.1	-0.8	-0.8	-0.5	0.1	0.4	0.7
Cumulative balance	1.6	1.9	0.8	0.1	-0.7	-1.2	-1.1	-0.6	0.1

(per $100 of insurable earnings)	Actual		Projection					
	2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Premium rate (PBO)	1.66	1.62	1.63	1.63	1.63	1.63	1.63	1.63
Premium rate (Chief Actuary)	1.66	1.62	1.62	1.62	1.62	1.62	1.62	1.62

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]

The annual balance in the Account improves steadily throughout our forecast for two reasons: EI benefits grow at a modest pace because the number of unemployed peaks in 2019 before plateauing over the medium term. Conversely, on the revenue side, EI revenues grow in line with an increasing number of workers and rising wage rates.

The EI premium rate in 2019 is set at $1.62 (per $100 of insurable earnings). PBO estimates that the 7-year break-even rate would be $1.63 in 2019 through 2025, or $0.01 (per $100 of insurable earnings) higher than recently announced by the Minister of Finance and the Minister of Families, Children and Social Development.[22]

Table 7 Outlook for program expenses

$ billions	2017-2018	Projection 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Major transfers to persons							
Elderly benefits	50.6	53.4	56.6	59.9	63.4	67.0	70.7
Employment Insurance	19.7	20.8	22.1	22.6	23.3	23.8	24.2
Children's benefits	23.4	23.7	24.5	25.2	25.9	26.6	27.3
Total	93.8	97.8	103.2	107.8	112.6	117.4	122.2
Major transfers to other levels of government	70.5	73.5	76.3	79.4	82.3	84.7	87.4
Direct program expenses							
Transfer payments	47.1	49.4	53.4	54.9	53.8	53.7	54.6
Operating and capital expenses	99.2	100.3	98.6	96.4	96.9	98.0	100.4
Total direct program expenses	146.4	149.7	152.0	151.4	150.7	151.7	155.0
Total program expenses	310.7	321.0	331.5	338.5	345.6	353.8	364.6

Sources: Finance Canada and Parliamentary Budget Officer.

We project that total program expenses will be $321.0 billion in 2018-19, which amounts to 14.4 per cent of GDP.

Transfers to persons, such as elderly benefits, are the fastest growing category in our expense outlook for 2018-19. Growth in elderly benefits outpaces nominal GDP growth because of growth in the population aged 65 and over.

We have adjusted the transfer component of the Government’s direct program expense (DPE) forecast to reflect financial support to industries affected by Canadian tariffs on imports of steel, aluminum and other products from the United States. We have also adjusted DPE transfers for recent developments in federal claims and litigation provisions, and for delays in infrastructure spending, consistent with PBO’s August publication *Status Report on Phase 1 of the Investing in Canada Plan*.

Over the medium term, we project that total program expenses will decline relative to nominal GDP, from 14.5 per cent of GDP in 2017-18 to 13.7 per cent of GDP in 2023-24.

Table 8 Outlook for direct program expenses

$ billions	2017-2018	Projection 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Transfer payments	47.1	49.4	53.4	54.9	53.8	53.7	54.6
Operating expenses							
Personnel – current costs	45.3	44.2	45.0	44.8	45.9	47.0	48.1
Personnel – future/other benefits	13.3	13.7	12.1	8.9	7.1	5.1	4.8
Enterprise Crown corporations	2.7	2.2	2.1	2.0	1.9	1.9	2.0
Consolidated Crown corporations	9.4	9.3	9.2	10.5	10.5	10.9	11.3
Other operating expenses	23.8	22.6	23.3	23.6	24.3	25.1	25.9
Policy actions	-	3.0	1.4	0.7	1.0	1.4	1.5
Total operating expenses	94.4	95.1	93.0	90.5	90.6	91.4	93.5
Capital amortization expenses	4.8	5.2	5.6	5.9	6.3	6.6	6.9
Total direct program expenses	146.4	149.7	152.0	151.4	150.7	151.7	155.0

Sources: Finance Canada and Parliamentary Budget Officer.

Direct program expenses increased by nearly $20 billion in 2017-18. The increase is partly caused by several factors, including higher cash outlays for federal personnel ($6.4 billion), accounting changes ($4.1 billion) and recent policy actions ($4.4 billion).[23]

PBO projects that direct program expenses will be $149.7 billion in 2018-19 (6.7 per cent of GDP) and will reach $155.0 billion in 2023-24 (5.8 per cent of GDP). This corresponds to 0.7 per cent average annual growth over 2018-19 to 2023-24.

Direct program expenses were last held at or below 0.7 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. Falling expenses for future benefits are the main factor driving PBO's outlook for slow-growing direct program expenses over the medium term. Future and other benefit costs increased to $13.3 billion in 2017-18 because of low interest rates and the change to the Government's discount rate methodology.[24] The Government's accounting change will make future and other benefit expenses even more sensitive to interest rate fluctuations going forward. Given past and projected increases in interest rates, future and other benefit expenses are expected to ultimately decrease to $4.8 billion in 2023-24.[25]

One other key factor remains the Government's hiring plan. Aggregated staffing plans for the largest departments (employing more than three-quarters of federal staff) show plans for no increase in the number of federal personnel through 2020-21.[26]

Table 9 Sensitivity of the budgetary balance to economic shocks

$ billions	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
1 per cent decrease in real GDP	-3.8	-3.0	-3.1	-3.3	-3.6
1 per cent decrease in GDP price level	-1.0	-2.1	-2.2	-2.3	-2.4
100-basis point increase in interest rates	-1.7	-2.1	-2.0	-2.5	-3.1

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:

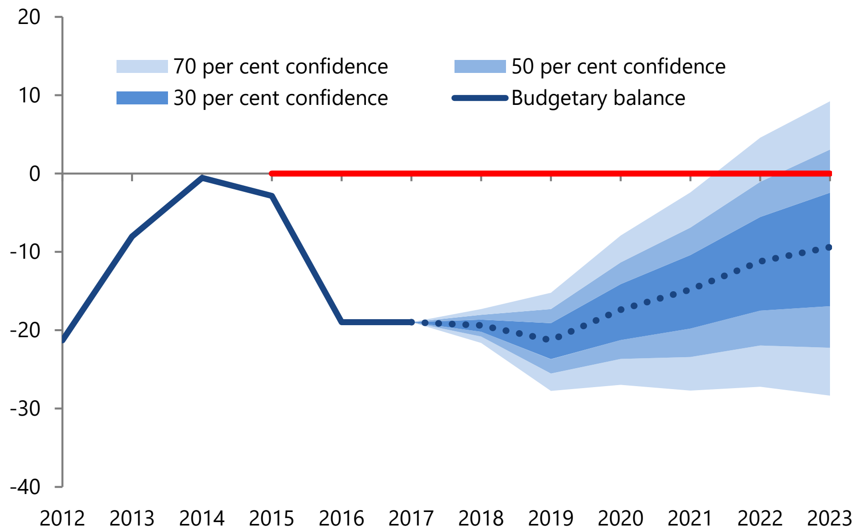
i. A permanent 1 per cent decrease in real GDP driven equally by lower productivity and employment.
ii. A permanent 1 per cent decrease in the GDP price level, assuming the Consumer Price Index moves in line with the decrease in the GDP price level.
iii. A permanent 1-percentage point (100-basis points) 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 G to I for the impacts on revenue and spending categories.

Figure 9 Budgetary balance outcomes under alternative economic scenarios

Budgetary balance, $ billions



Sources: Finance Canada and Parliamentary Budget Officer.

Note: The series are presented on a fiscal-year basis where 2012 refers to 2012-13. Projection period covers fiscal years 2018-19 to 2023-24. 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.

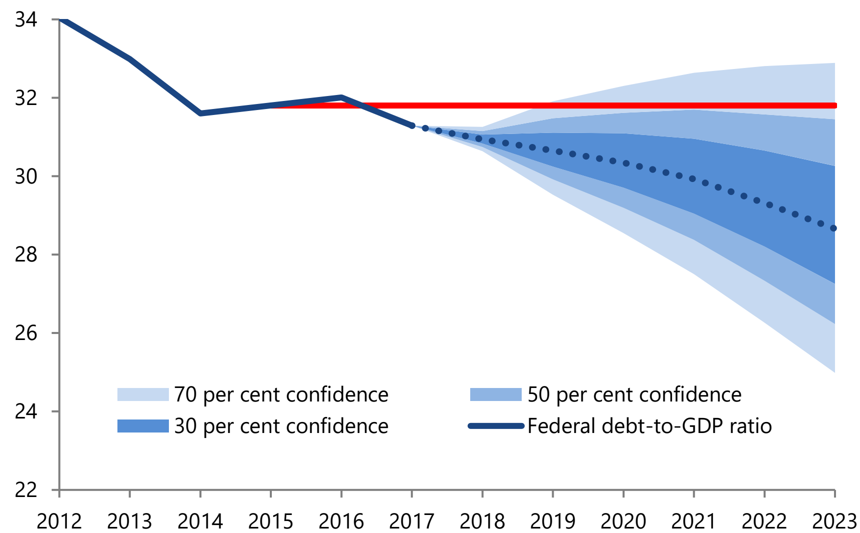
A key limitation of these charts and distributions is that they reflect only the uncertainty related to our economic outlook. They do not reflect uncertainty related to the translation of economic projections into fiscal projections; discretionary fiscal policy responses to different economic outcomes; 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.[27] We estimate that the probability the budget will be in balance or in a surplus position in 2018-19 to 2020-21 is effectively nil.

However, we estimate that in 2021-22 there is, approximately, a 10 per cent chance that the budget will be balanced or in a surplus position. The probability of budgetary balance/surplus rises to 30 per cent in 2023-24.

Figure 10 Federal debt-to-GDP outcomes under alternative economic scenarios

Federal debt-to-GDP ratio, per cent



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

Note: The series are presented on a fiscal-year basis where 2012 refers to 2012-13. Projection period covers fiscal years 2018-19 to 2023-24. The red line corresponds to the level of the federal debt-to-GDP anchor for 2020-21.

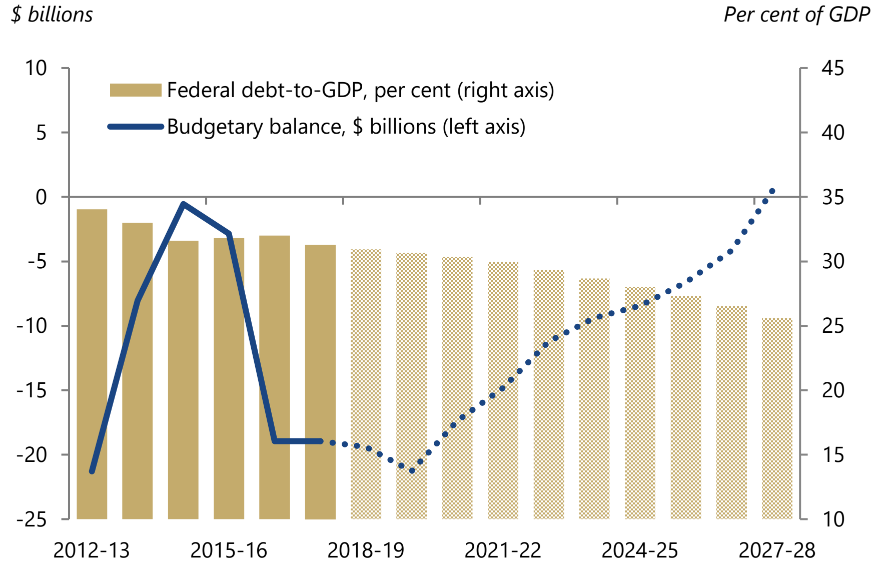
Given the possible scenarios surrounding our economic outlook and status quo fiscal policy assumption, we estimate that a 70 per cent confidence interval for the federal debt-to-GDP ratio in 2023-24 is about 8 percentage points. This is approximately ±4.0 percentage points relative to our baseline federal debt-to-GDP projection in 2023-24.

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 31.8 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 31.8 per cent over the period 2018-19 to 2023-24.

We estimate that in 2020-21 there is approximately a 80 per cent chance that the federal debt-to-GDP ratio will be below its anchor level.

Figure 11 PBO extended fiscal outlook



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

Note: The projection period covers 2018-19 to 2027-28.

In January 2018, the PBO provided guidelines about how it plans to implement the financial costing of election campaign proposals made by political parties during the 120 days before the 2019 general election.

Prior to the start of the pre-election period, in early June 2019, the PBO will publish a 10-year economic and fiscal outlook based on an update of its April 2019 Economic and Fiscal Outlook (EFO).

This outlook is intended to provide a more comprehensive fiscal planning framework and to more transparently account for the budgetary implications of multi-year spending commitments, such as defence procurement and infrastructure investments.[28] The PBO will also provide independent line-item costing of measures in Budget 2019 along with its 10-year outlook.[29]

Political parties may choose to use the economic and fiscal projections in preparing their own cost estimates. Further, political parties may choose to remove some, or all, of the costed Budget 2019 measures to construct their own fiscal planning frameworks.[30]

Over our extended outlook, we project that revenues will grow slightly faster than nominal GDP due primarily to growth in personal income taxes. On the other hand, we project that program spending will grow slower than nominal GDP, largely due to restrained growth in operating and capital expenses. Overall, we project the budgetary balance to continue to rise and the federal debt-to-GDP ratio to fall through 2027-28. See Appendix J for a detailed summary of the extended fiscal outlook.

Appendices

A: Detailed PBO economic outlook

% unless otherwise indicated	2017	2018	2019	2020	2021	2022	2023
Real GDP growth							
October 2018	3.0	2.1	1.8	1.5	1.5	1.5	1.5
April 2018	3.0	1.9	1.9	1.5	1.5	1.5	
Potential GDP growth							
October 2018	1.3	1.6	1.7	1.7	1.7	1.7	1.6
April 2018	1.2	1.5	1.7	1.8	1.8	1.7	
GDP inflation							
October 2018	2.3	1.9	2.2	2.0	1.9	2.1	2.0
April 2018	2.3	2.6	1.8	1.9	2.0	2.1	
Nominal GDP growth							
October 2018	5.4	4.0	4.0	3.5	3.4	3.6	3.6
April 2018	5.3	4.6	3.7	3.5	3.6	3.6	
Nominal GDP ($ billions)							
October 2018	2,145	2,232	2,322	2,403	2,486	2,576	2,668
April 2018	2,145	2,243	2,326	2,407	2,492	2,582	2,673
3-month treasury rate							
October 2018	0.7	1.4	2.3	3.0	3.0	3.0	3.0
April 2018	0.7	1.5	2.3	3.0	3.0	3.0	
10-year government bond rate							
October 2018	1.8	2.3	3.3	4.0	4.0	4.0	4.0
April 2018	1.8	2.6	3.6	4.0	4.0	4.0	
Exchange rate (US¢/C$)							
October 2018	77.1	77.6	77.6	77.4	77.1	77.1	77.1
April 2018	77.1	77.9	76.6	76.4	76.5	76.7	
Unemployment rate							
October 2018	6.3	5.9	6.0	5.8	5.7	5.7	5.6
April 2018	6.3	5.9	6.0	5.8	5.7	5.7	
CPI inflation							
October 2018	1.6	2.2	2.1	2.1	2.1	2.1	2.1
April 2018	1.6	2.6	2.1	2.1	2.1	2.1	
U.S. real GDP growth							
October 2018	2.2	2.9	2.6	1.8	1.8	1.8	1.8
April 2018	2.3	2.8	2.4	1.8	1.8	1.8	
WTI oil price ($US)							
October 2018	51	68	71	68	67	69	70
April 2018	51	63	59	55	55	56	

Sources: Statistics Canada and Parliamentary Budget Officer.

Note: April 2018 nominal GDP levels have been adjusted for historical revisions.

B: PBO extended economic baseline

% unless otherwise indicated	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Real GDP growth	3.0	2.1	1.8	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4
Potential GDP growth	1.3	1.6	1.7	1.7	1.7	1.7	1.6	1.5	1.4	1.4	1.4	1.4
GDP inflation	2.3	1.9	2.2	2.0	1.9	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Nominal GDP growth	5.4	4.0	4.0	3.5	3.4	3.6	3.6	3.5	3.5	3.4	3.4	3.4
Nominal GDP ($ billions)	2,145	2,232	2,322	2,403	2,486	2,576	2,668	2,761	2,857	2,955	3,060	3,160
3-month treasury rate	0.7	1.4	2.3	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
10-year government bond rate	1.8	2.3	3.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Exchange rate (US cents/C$)	77.1	77.6	77.6	77.4	77.1	77.1	77.1	77.1	77.1	77.2	77.2	77.2
Unemployment rate	6.3	5.9	6.0	5.8	5.7	5.7	5.6	5.6	5.5	5.5	5.5	5.5
CPI inflation	1.6	2.2	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0
U.S. real GDP growth	2.2	2.9	2.6	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.7
WTI oil price ($US per barrel)	51	68	71	68	67	69	70	71	73	74	76	77

Sources: Statistics Canada and Parliamentary Budget Officer.

C: Detailed fiscal outlook

$ billions	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Income taxes							
Personal income tax	153.6	160.1	168.3	176.2	183.5	191.0	199.0
Corporate income tax	47.8	45.8	47.0	49.3	51.3	53.5	55.6
Non-resident income tax	7.8	8.4	8.1	8.3	8.5	8.8	9.1
Total income tax	209.3	214.3	223.5	233.8	243.3	253.3	263.7
Excise taxes/duties							
Goods and Services Tax	36.8	37.7	39.0	40.4	41.8	43.2	44.7
Custom import duties	5.4	6.8	7.1	7.1	6.6	6.8	7.1
Other excise taxes/duties	11.7	12.5	12.9	13.1	13.5	13.8	14.0
Total excise taxes/duties	53.8	57.0	59.1	60.6	61.9	63.9	65.8
EI premium revenues	21.1	22.4	22.7	23.6	24.4	25.4	26.3
Other revenues	29.4	31.7	32.4	34.0	34.5	35.2	36.2
Total budgetary revenues	313.6	325.3	337.7	352.0	364.1	377.8	392.0
Major transfers to persons							
Elderly benefits	50.6	53.4	56.6	59.9	63.4	67.0	70.7
Employment Insurance	19.7	20.8	22.1	22.6	23.3	23.8	24.2
Children's benefits	23.4	23.7	24.5	25.2	25.9	26.6	27.3
Total	93.8	97.8	103.2	107.8	112.6	117.4	122.2
Major transfers to other levels of government							
Canada Health Transfer	37.1	38.6	40.1	41.9	43.5	45.1	46.6
Canada Social Transfer	13.7	14.2	14.6	15.0	15.5	15.9	16.4
Equalization	18.3	19.0	19.7	20.6	21.4	22.1	22.9
Territorial Formula Financing	3.7	3.8	3.8	3.8	3.9	3.9	3.9
Gas Tax Fund	2.1	2.2	2.2	2.3	2.3	2.3	2.4
Home care and mental health	0.3	0.9	1.1	1.3	1.5	1.2	1.2
Other fiscal arrangements	-4.7	-4.9	-5.2	-5.4	-5.6	-5.9	-6.1
Total	70.5	73.5	76.3	79.4	82.3	84.7	87.4
Direct program expenses							
Transfer payments	47.1	49.4	53.4	54.9	53.8	53.7	54.6
Operating and capital expenses	99.2	100.3	98.6	96.4	96.9	98.0	100.4
Total direct program expenses	146.4	149.7	152.0	151.4	150.7	151.7	155.0
Total program expenses	310.7	321.0	331.5	338.5	345.6	353.8	364.6
Public debt charges	21.9	23.7	27.4	30.9	33.3	35.3	36.8
Total expenses	332.6	344.7	358.9	369.4	378.9	389.1	401.4
Budgetary balance	-19.0	-19.4	-21.3	-17.4	-14.8	-11.2	-9.4
Federal debt	671.3	690.6	711.9	729.2	744.1	755.3	764.7

Sources: Finance Canada and Parliamentary Budget Officer.

D: Detailed fiscal outlook (per cent of GDP)

% of GDP	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Income taxes							
Personal income tax	7.2	7.2	7.2	7.3	7.4	7.4	7.5
Corporate income tax	2.2	2.1	2.0	2.1	2.1	2.1	2.1
Non-resident income tax	0.4	0.4	0.3	0.3	0.3	0.3	0.3
Total income tax	9.8	9.6	9.6	9.7	9.8	9.8	9.9
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	0.3	0.3	0.3	0.3	0.3
Other excise taxes/duties	0.5	0.6	0.6	0.5	0.5	0.5	0.5
Total excise taxes/duties	2.5	2.6	2.5	2.5	2.5	2.5	2.5
EI premium revenues	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Other revenues	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Total budgetary revenues	14.6	14.6	14.5	14.6	14.6	14.7	14.7
Major transfers to persons							
Elderly benefits	2.4	2.4	2.4	2.5	2.5	2.6	2.7
Employment Insurance	0.9	0.9	1.0	0.9	0.9	0.9	0.9
Children's benefits	1.1	1.1	1.1	1.1	1.0	1.0	1.0
Total	4.4	4.4	4.4	4.5	4.5	4.6	4.6
Major transfers to other levels of government							
Canada Health Transfer	1.7	1.7	1.7	1.7	1.7	1.7	1.7
Canada Social Transfer	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Equalization	0.9	0.8	0.8	0.9	0.9	0.9	0.9
Territorial Formula Financing	0.2	0.2	0.2	0.2	0.2	0.2	0.1
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	0.1	0.1	0.0	0.0
Other fiscal arrangements	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Total	3.3	3.3	3.3	3.3	3.3	3.3	3.3
Direct program expenses							
Transfer payments	2.2	2.2	2.3	2.3	2.2	2.1	2.0
Operating and capital expenses	4.6	4.5	4.2	4.0	3.9	3.8	3.8
Total direct program expenses	6.8	6.7	6.5	6.3	6.1	5.9	5.8
Total program expenses	14.5	14.4	14.3	14.1	13.9	13.7	13.7
Public debt charges	1.0	1.1	1.2	1.3	1.3	1.4	1.4
Total expenses	15.5	15.4	15.5	15.4	15.2	15.1	15.0
Budgetary balance	-0.9	-0.9	-0.9	-0.7	-0.6	-0.4	-0.4
Federal debt	31.3	30.9	30.7	30.3	29.9	29.3	28.7

Sources: Finance Canada and Parliamentary Budget Officer.

E: PBO debt projection

	2017-2018	Projection 2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
$ billions							
Federal debt	671.3	690.6	711.9	729.2	744.1	755.3	764.7
Interest-bearing debt	1,002.6	1,057.6	1,093.3	1,119.7	1,141.0	1,157.4	1,171.1
Market debt: Government	704.3	723.7	744.9	762.3	777.1	788.3	797.7
Non-market debt	281.4	317.1	331.5	340.5	347.0	352.1	356.5
Other debt	16.9	16.9	16.9	16.9	16.9	16.9	16.9
Market debt: agent Crown corporations	282.7	297.3	301.9	309.5	308.8	316.4	324.2
Borrowing requirements, per the *Borrowing Authority Act*	987.0	1,021.0	1,046.8	1,071.8	1,085.9	1,104.7	1,122.0
% of GDP							
Federal debt	31.3	30.9	30.7	30.3	29.9	29.3	28.7
Interest-bearing debt	46.7	47.4	47.1	46.6	45.9	44.9	43.9
Market debt: Government	32.8	32.4	32.1	31.7	31.3	30.6	29.9
Non-market debt	13.1	14.2	14.3	14.2	14.0	13.7	13.4
Other debt	0.8	0.8	0.7	0.7	0.7	0.7	0.6
Market debt: agent Crown corporations	13.2	13.3	13.0	12.9	12.4	12.3	12.2
Borrowing requirements, per the *Borrowing Authority Act*	46.0	45.7	45.1	44.6	43.7	42.9	42.1

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

F: Comparison to PBO's April 2018 fiscal outlook

$ billions (October 2018 - April 2018)	**2017-2018**	**2018-2019**	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**
Income taxes						
Personal income tax	2.8	-0.9	-1.2	-0.8	-0.7	-0.7
Corporate income tax	1.2	0.0	0.7	0.9	1.0	0.9
Non-resident income tax	0.0	0.7	0.3	0.2	0.2	0.2
Total income tax	4.0	-0.2	-0.2	0.4	0.5	0.4
Excise taxes/duties						
Goods and Services Tax	0.9	-0.1	0.0	0.0	0.0	0.0
Custom import duties	-0.1	1.2	1.3	1.1	0.4	0.3
Other excise taxes/duties	0.1	0.4	0.6	0.6	0.8	1.0
Total excise taxes/duties	0.8	1.5	1.9	1.7	1.2	1.4
EI premium revenues	0.4	-0.1	-0.6	-0.6	-0.8	-0.6
Other revenues	0.1	0.2	-1.1	-1.9	-2.4	-3.1
Total budgetary revenues	5.3	1.5	0.0	-0.4	-1.6	-1.9
Major transfers to persons						
Elderly benefits	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3
Employment Insurance	-0.1	-0.9	-0.9	-0.6	-0.6	-0.6
Children's benefits	-0.2	-0.1	-0.1	-0.1	-0.1	-0.1
Total	-0.4	-1.3	-1.3	-1.1	-1.0	-1.1
Major transfers to other levels of government						
Canada Health Transfer	0.0	0.0	-0.1	-0.1	-0.1	-0.1
Canada Social Transfer	0.0	0.0	0.0	0.0	0.0	0.0
Equalization	0.1	-0.1	0.0	0.0	-0.1	0.0
Territorial Formula Financing	0.0	0.0	-0.1	-0.2	-0.2	-0.3
Gas Tax Fund	0.0	0.0	0.0	0.0	0.0	-0.1
Home care and mental health	0.0	0.0	0.0	0.0	0.0	0.0
Other fiscal arrangements	-0.2	0.1	0.0	0.0	0.0	0.0
Total	-0.1	-0.1	-0.3	-0.3	-0.5	-0.5
Direct program expenses						
Transfer payments	3.4	1.6	2.7	2.3	1.5	1.4
Operating and capital expenses	4.6	2.5	2.9	3.1	2.5	2.6
Total direct program expenses	8.0	4.1	5.6	5.4	4.0	4.1
Total program expenses	7.5	2.7	4.0	4.0	2.5	2.5
Public debt charges	-2.0	-4.0	-4.2	-4.0	-3.8	-3.7
Total expenses	5.4	-1.3	-0.2	0.0	-1.3	-1.3
Budgetary balance	-0.1	2.8	0.2	-0.4	-0.3	-0.6
Federal debt	20.3	17.5	17.4	17.8	18.0	18.7

Sources: Finance Canada and Parliamentary Budget Officer.

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

$ billions	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Income taxes					
Personal income tax	-2.2	-2.3	-2.4	-2.5	-2.6
Corporate income tax	-0.3	-0.4	-0.5	-0.5	-0.6
Non-resident income tax	-0.1	-0.1	-0.1	-0.1	-0.1
Total income tax	-2.6	-2.8	-3.0	-3.1	-3.3
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	-0.1	-0.1
Total excise taxes/duties	-0.5	-0.5	-0.5	-0.5	-0.6
EI premium revenues	0.1	1.1	1.1	1.1	1.1
Other revenues	-0.2	-0.2	-0.2	-0.2	-0.2
Total budgetary revenues	-3.2	-2.4	-2.6	-2.8	-3.0
Major transfers to persons					
Elderly benefits	0.0	0.0	0.0	0.0	0.0
Employment Insurance benefits	0.9	0.9	0.9	1.0	1.0
Children's benefits	0.0	0.1	0.1	0.1	0.1
Total	0.9	1.0	1.0	1.1	1.1
Major transfers to other levels of government					
Canada Health Transfer	-0.1	-0.2	-0.4	-0.5	-0.5
Canada Social Transfer	0.0	0.0	0.0	0.0	0.0
Equalization	0.0	-0.1	-0.2	-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	0.1
Total	-0.1	-0.3	-0.5	-0.6	-0.6
Direct program expenses	-0.2	-0.2	-0.2	-0.2	-0.3
Public debt charges	0.0	0.1	0.2	0.3	0.4
Total expenses	0.6	0.6	0.5	0.5	0.6
Budgetary balance	-3.8	-3.0	-3.1	-3.3	-3.6

Source: Parliamentary Budget Officer.

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

$ billions	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
Income taxes					
Personal income tax	-0.9	-1.8	-1.9	-2.1	-2.1
Corporate income tax	-0.3	-0.4	-0.5	-0.5	-0.6
Non-resident income tax	-0.1	-0.1	-0.1	-0.1	-0.1
Total income tax	-1.3	-2.3	-2.5	-2.7	-2.8
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	-0.1	-0.1
Total excise taxes/duties	-0.5	-0.5	-0.5	-0.5	-0.6
EI premium revenues	-0.1	-0.2	-0.2	-0.3	-0.3
Other revenues	-0.2	-0.2	-0.2	-0.2	-0.2
Total budgetary revenues	-2.1	-3.2	-3.5	-3.7	-3.9
Major transfers to persons					
Elderly benefits	-0.6	-0.6	-0.6	-0.7	-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	-0.8	-0.6	-0.7	-0.7	-0.7
Major transfers to other levels of government					
Canada Health Transfer	-0.1	-0.2	-0.4	-0.5	-0.5
Canada Social Transfer	0.0	0.0	0.0	0.0	0.0
Equalization	0.0	-0.1	-0.2	-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	0.1	0.1	0.1
Total	-0.1	-0.3	-0.5	-0.6	-0.6
Direct program expenses	-0.2	-0.2	-0.2	-0.2	-0.3
Public debt charges	0.0	0.0	0.1	0.1	0.2
Total expenses	-1.0	-1.1	-1.3	-1.4	-1.4
Budgetary balance	-1.0	-2.1	-2.2	-2.3	-2.4

Source: Parliamentary Budget Officer.

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

$ billions	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024
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	0.6	0.6	0.6	0.7	0.7
Total budgetary revenues	0.6	0.6	0.6	0.7	0.7
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	-0.7	-1.7	-2.9	-3.5	-3.9
Public debt charges	3.0	4.4	5.6	6.7	7.7
Total expenses	2.3	2.7	2.7	3.2	3.8
Budgetary balance	**-1.7**	**-2.1**	**-2.0**	**-2.5**	**-3.1**

Source: Parliamentary Budget Officer.

J: PBO extended fiscal baseline

$ billions	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
Budgetary revenues	313.6	325.3	337.7	352.0	364.1	377.8	392.0	406.6	421.9	437.9	454.3
Program expenses	310.7	321.0	331.5	338.5	345.6	353.8	364.6	377.1	389.7	402.3	412.8
Public debt charges	21.9	23.7	27.4	30.9	33.3	35.3	36.8	37.9	38.8	39.7	40.5
Total expenses	332.6	344.7	358.9	369.4	378.9	389.1	401.4	415.0	428.6	442.1	453.3
Budgetary balance	-19.0	-19.4	-21.3	-17.4	-14.8	-11.2	-9.4	-8.4	-6.6	-4.2	1.0
Federal debt	671.3	690.6	711.9	729.2	744.1	755.3	764.7	773.1	779.7	783.9	782.9
Federal debt (% of GDP)	31.3	30.9	30.7	30.3	29.9	29.3	28.7	28.0	27.3	26.5	25.6

Sources: Finance Canada and Parliamentary Budget Officer.

Notes

1. This report incorporates data available up to and including 19 October 2018. Unless otherwise specified, all rates are reported at annual rates.

2. The $16.4 billion is based on 2017 trade values from Statistics Canada. See https://www150.statcan.gc.ca/n1/pub/89-28-0001/2018001/article/00002-eng.htm. These sectors represent some 0.75 per cent of Canadian GDP. Their importance to Canadian economy, however, is magnified by the significant surplus in trade that aluminum and softwood lumber represent. Any permanent tariffs on those goods could result in significant secondary effects through a loss of income and deterioration in Canada's terms of trade.

3. The tariffs on softwood lumber apply only to Canadian firms, while those on the other products apply more broadly.

4. These figures are based on 2017 trade values from Statistics Canada. See https://www150.statcan.gc.ca/n1/pub/89-28-0001/2018001/article/00002-eng.htm.

5. In our April 2018 report, we assessed a scenario in which both the U.S. and Mexico withdrew from the North American Free Trade Agreement (NAFTA) and tariffs in former member countries were raised to most-favoured-nation levels against each other. PBO's estimate was that the level of Canada's real GDP would ultimately be reduced by 0.7 per cent.

6. That is, relative to a scenario in which NAFTA remains in force.

7. 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.

8. Bazel, Philip and Mintz, Jack and Thompson, Austin, 2017 Tax Competitiveness Report: The Calm Before the Storm (February 22, 2018). The School of Public Policy Publications, Vol. 11:7, February 2018. Available at: https://www.policyschool.ca/wp-content/uploads/2018/02/2017-Tax-Competitiveness-Bazel-Mintz-Thompson-final.pdf.

   The authors argue that corporate tax rates and other business tax burdens in Canada should be reduced to ensure competitiveness in the wake of the U.S. Tax Cut and Jobs Act.

9. This quote is sourced from OECD, 2008. "Tax Effects on Foreign Direct Investment", OECD Policy Brief, February, OECD, Paris. Available at: https://www.oecd.org/investment/investment-policy/40152903.pdf.

10. Canadian household debt is the largest among the G7 economies and has increased the most among the same group (see OECD household debt for more details). The Bank for International Settlements (2018 Quarterly Review) has cautioned about the possible negative effects on the Canadian economy in case of an economic downturn.

11. Statistics Canada's "headline" household debt-to-income ratio is calculated as household credit market debt relative to disposable income that includes pension entitlements. PBO uses a slightly broader definition of household debt "total financial obligations" (i.e., credit market debt plus trade payables), as well as household disposable income that excludes pension entitlements. In the second quarter of 2018, Statistics Canada's headline household debt-to-income stood at 169.1 per cent compared to PBO's estimate of 175.8 per cent. PBO's higher estimate primarily reflects its exclusion of pension entitlements.

12. That said, based on recent data, the Canadian Mortgage and Housing Corporation (CMHC) reports that delinquency rates have been declining for all major credit types, with mortgage delinquency being at 0.30 percent as of 2017Q2, which is the lowest since 2007. For more detail, see CMHC's May 2018 Mortgage and Consumer Credit Trends available at: https://www03.cmhc-schl.gc.ca/catalog/productList.cfm?cat=201&lang=en&fr=1539543380995.

13. Our nominal house price measure is based on the Teranet/National Bank of Canada Composite House Price Index. To construct real housing prices, we deflate our nominal price level measure by the GDP price index.

14. For example, see the summary provided in Annex III of the 2018 Article IV IMF Staff report. Available at: https://www.imf.org/en/Publications/CR/Issues/2018/07/16/Canada-2018-Article-IV-Consultation-Press-Release-Staff-Report-and-Statement-by-the-46084.

15. As in April 2018, we assume the Tax Cut and Jobs Act along with the Bipartisan Budget Act will raise U.S. real GDP by 0.75 per cent on average over the projection period. We estimated that this would 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.

16. 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.

17. In our April outlook, based in large part on analysis conducted by the Ecofiscal Commission, we projected that real GDP would be 0.5 per cent lower in 2022 compared to a scenario without a carbon pricing levy. For additional detail, see: https://www.pbo-dpb.gc.ca/en/blog/news/Carbon_price_levy. Beyond 2022, we simply assume that the carbon levy increases in line with inflation.

18. Relative to our baseline nominal GDP growth projection (3.7 per cent annually, on average, over 2018 to 2023), the 30, 50 and 70 per cent confidence intervals shown in Figure 7 are consistent with average nominal GDP growth of ±0.4, ±0.7 and ±1.1 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. The TCJA featured a reduction in the U.S. federal corporate income tax rate to 21 per cent from 35 per cent. See Note 8.

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. See: https://www.fin.gc.ca/n18/18-078-eng.asp.

23. These figures are estimates. PBO has requested a more detailed reconciliation of the increase in personnel expense from federal departments.

24. 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.

25. *Economic and Fiscal Outlook April 2018* provides a description of PBO's approach for projecting direct program expenses over the medium term. Available at: http://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2018/EFO%20April%202018/EFO_April%202018_EN.pdf.

26. PBO projects the size of the federal workforce based on a sample of large federal departments and agencies, adjusted for historical forecast bias. Our forecast of full-time equivalents does not take into account hiring associated with announcements in Budget 2018 or after. These personnel expenses are accounted for as 'policy actions' in our operating expenses projection.

27. 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".

28. PBO provided an extension of its April 2018 Economic and Fiscal Outlook in July 2018. See: https://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2018/Extended%20April%202018%20EFO/Extended_April_2018_EFO_EN_Revised_JUL19.pdf.

29. See PBO's April 2018 report *Costing Budget 2018 Measures*. Available at: http://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2018/Costing%20Budget%202018/Budget%202018_EN_Final.pdf.

30. Consistent with PBO's Budget 2018 costing exercise, the costing of Budget 2019 measures will not include the impact on public debt charges. Consequently, measures that are removed or added to PBO's fiscal outlook will not reflect the impact on public debt charges or any potential corresponding macroeconomic impact. That said, to a first approximation, the resulting fiscal outlook should provide a reasonable basis for fiscal planning for political parties.