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Fiscal Sustainability Report 2015

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The mandate of the Parliamentary Budget Officer (PBO) is to provide independent analysis to Parliament on the state of the nation's finances, the Government's estimates and trends in the Canadian economy; and, upon request from a committee or parliamentarian, to estimate the financial cost of any proposal for matters over which Parliament has jurisdiction.

This report provides an assessment of the long-term sustainability of government finances for three government sub-sectors: the federal government; subnational governments consisting of provinces, territories, local, and aboriginal governments; and, the Canada and Quebec Pension Plans.

Beginning with this report, PBO will be releasing its annual report on fiscal sustainability earlier in the year and basing it on the April Economic and Fiscal Outlook.

This report was prepared by the staff of the Parliamentary Budget Officer. Scott Cameron, Helen Lao, Chris Matier and Trevor Shaw wrote the report. Mostafa Askari, Jason Jacques, Carleigh Malanik and Tim Scholz contributed to the analysis and or provided comments. Patricia Brown and Jocelyne Scrim provided comments and assisted with the preparation of the report for publication.

This report is available electronically on PBO's website at http://www.pbo-dpb.gc.ca/OUR+PUBLICATIONS.
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Contents

SUMMARY

This report assesses the fiscal sustainability of Canada's federal government, subnational governments and public pension plans. Its goal is to evaluate if policy changes are required to correct the long-term path of public debt, after considering the economic and fiscal impacts of population ageing.

Fiscal sustainability means that government debt does not ultimately grow faster than the economy. To assess fiscal sustainability PBO projects the path of federal and subnational government debt and public pension plan assets over a 75-year horizon. If a government's debt relative to gross domestic product (GDP) is projected to continue to rise above its current level over the long term, its fiscal policy is not sustainable and may require policy actions.

To measure the degree to which fiscal policy is unsustainable, PBO provides an estimate of the *fiscal gap*. The fiscal gap measures the amount of policy action required, or alternatively the amount of fiscal room available, to stabilize the debt-to-GDP ratio at its current level 75 years into the future. To help gauge the sensitivity of the estimates, PBO assesses the fiscal gap under alternative demographic, economic and fiscal policy assumptions.

Considerable uncertainty surrounds any long-term projection, and the projections in this report are not intended to be a forecast of what will happen over the coming decades. They are reported to create a conversation about the adequacy of current fiscal policy to deal with expected long-term demographic and economic challenges. The earlier that a required policy intervention can be identified, the lower will be the cost of its implementation.

The main conclusions reached are:

- Federal net debt is eliminated over the next 35 years under the baseline scenario. To maintain the debt-to-GDP ratio at its current level over the long term, the federal government could permanently increase spending or reduce taxes by up to 1.4 per cent of GDP. This would require setting aside its balanced budget law.

- Recent federal policy changes have little effect on fiscal room. The long-term costs of expanding the Universal Child Care Benefit are small, as monthly cash transfers are not indexed to inflation under current policy. Although the expansion of Tax Free Savings Accounts reduces long-term revenues, the fiscal gap estimate assumes that foregone revenues are offset by increases elsewhere.

- Health care spending has slowed. Spending growth in 2014 is estimated to have reached its lowest level in two decades. Nonetheless, subnational governments cannot meet the challenges of population ageing under current policy. PBO estimates that permanent policy actions amounting to 1.4 per cent of GDP are required to put subnational government debt on a sustainable path.

- The Canada Pension Plan and Quebec Pension Plan can finance the projected increase in retirees while remaining sustainable as a share of the economy.

- The total general government sector in Canada (that is, the combined federal and subnational governments and public pension plans) is fiscally sustainable. However, this is because the fiscal room of the federal government offsets the fiscal gap of subnational governments.

1 Outline of report

Policy measures and changes from last year's report

New federal measures with long-term consequences are the enhancement of the Universal Child Care Benefit (UCCB) and the increase in Tax Free Savings Accounts (TFSAs). Where appropriate, PBO has made methodological changes to reflect these measures.

PBO has also included the federal government's updated direct program expenses plan to 2019-20 as published in Budget 2015, as well as several other significant measures that affect the initial stock of debt and the long-term outlook starting point in 2020. These include the new infrastructure funding of $5.8 billion announced in November 2014, the Transportation Fund with provinces, and the sale of GM shares in the first quarter of 2015, among others.

The trend of declining growth in subnational health care spending has continued along with wider fiscal consolidation trends following the global financial crisis. PBO has updated its medium-term outlook to reflect these developments.

General framework and structure of report

Assessing fiscal sustainability involves first projecting the government's primary balance (the difference between revenues and spending on programs) and the effective interest rate on government debt over the long term.[1] To build the long-term projections, PBO begins with its post-budget economic and fiscal outlook published in April.[2]

To extend the medium-term economic outlook, PBO constructs long-term trends in labour productivity and labour inputs using demographic projections from Statistics Canada. The demographic and economic projections are described in Section 2 and Section 3.

To construct long-term fiscal projections, PBO overlays the current fiscal structure onto the long-term economic and demographic outlook. For government revenues, the projections assume that the current tax burden will be maintained beyond 2019. That is, revenues will grow at the same rate as nominal GDP. For program spending, PBO decomposes each category into three drivers: the demographic profile of its beneficiaries, nominal income (GDP), and for some categories, an enrichment factor.[3] This approach has been described in previous reports.[4]

The results of the long-term projections of federal revenues and spending on programs are given in Section 4. The results for the provincial, territorial, and local governments are given in Section 5. The results for the public pension plans are described in Section 6.

With these projections, PBO then determines the path of government debt and calculates a summary statistic of fiscal sustainability called the *fiscal gap*. The fiscal gap measures the difference between current policy and a policy that is sustainable over the long term. Specifically, the baseline fiscal gap is calculated as the immediate and permanent improvement in the primary balance required to stabilize the debt-to-GDP ratio at its current level 75 years into the future. The projected path of government debt and the resulting fiscal gap is calculated for each government sector in Section 7.

To help gauge the sensitivity of the estimates, PBO calculates fiscal gaps for each sector under alternative demographic, economic, and fiscal policy assumptions in Section 8.

[1] Expenses include acquisitions of non-financial capital and exclude capital amortization.

[2] The post-budget projection was published in the PBO's remarks to the House Finance Committee on 28 April 2015. These are available at: http://www.pbo-dpb.gc.ca/files/files/2015-04-28_FINA_Opening_Remarks_EN.pdf.

[3] The enrichment factor represents growth of spending that is in excess of demographics, inflation and real per capita income growth. This factor is also referred to as excess cost.

[4] See, for example, Annex D of FSR 2014 available at: http://www.pbo-dpb.gc.ca/files/files/FSR_2014.pdf.

2 Demographic projection

The evolving demographic profile of the Canadian population is one of the key drivers of PBO's long-term economic and fiscal projection. PBO's baseline population projection was produced by Statistics Canada's Demography Division using assumptions consistent with Statistics Canada (2014) until 2061 and using assumptions provided by PBO thereafter.[5] PBO's demographic projection depends on assumptions for fertility, mortality (life expectancy) and immigration rates.

The long-term total fertility rate assumption remains unchanged from FSR 2014 at 1.67 children per woman of child-bearing age and the immigration rate remains at 7.5 immigrants per thousand persons to 2061 (Table 2-1). However, the mortality rate assumptions to 2061 have been revised to be consistent with Statistics Canada (2014). Consequently, life expectancy at birth is projected to be higher over the long term in FSR 2015 relative to FSR 2014. Under the baseline demographic scenario, male life expectancy at birth is projected to increase from 79.9 years in 2014 to 87.8 years in 2065 and 90.1 years by 2090. Female life expectancy at birth is projected to increase from 83.9 years in 2014 to 89.3 years in 2065 and 91.1 years by 2090. Annex A provides a summary and comparison of the demographic projections in the 2015 and 2014 FSRs.

Table 2-1: Key baseline demographic assumptions

	2014	2040	2065	2090
Total fertility rate (children per woman of child-bearing age)	1.63	1.67	1.67	1.67
Male life expectancy at birth (years)	79.9	84.6	87.8	90.1
Female life expectancy at birth (years)	83.9	87.0	89.3	91.1
Immigration rate (immigrants per 1,000 persons)	7.4	7.5	7.3	6.3

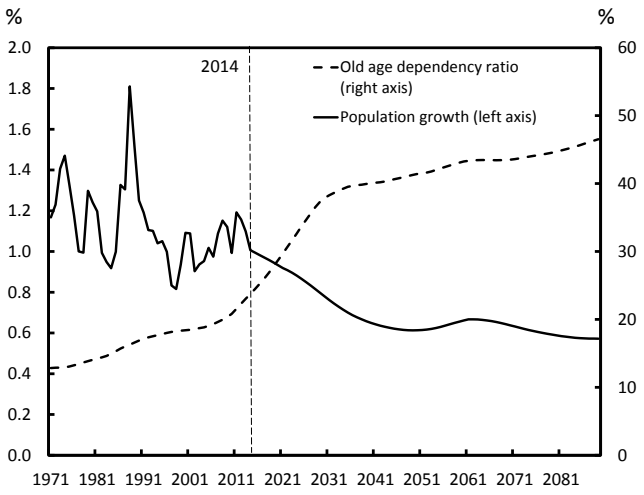
Source: Parliamentary Budget Officer.

Population ageing is projected to intensify

Population growth is projected to decline steadily from an annual rate of 1.1 per cent in 2014 to 0.7 per cent in 2034, ultimately edging lower to 0.6 per cent by 2090 as the contribution of natural increase (the difference between births and deaths) falls (Figure 2-1). The ageing of the population is projected to intensify. The old age dependency ratio (the ratio of individuals 65 years of age and over relative to the population between 15 to 64 years of age) is projected to rise from 23 per cent in 2014 to just under 39 per cent by 2034. Thereafter, the ratio is projected to continue to rise at a slower pace, reaching 43.3 per cent by 2061 and 46.5 per cent by 2090. Expressed differently, there were 4.3 persons between the ages of 15 to 64 for every individual 65 years of age and over in 2014. By 2034, this ratio is projected to fall to 2.6 and continue to decline, reaching 2.1 by 2090—less than half of its current level.

[5] PBO's population projection was updated to include the current population estimates for 2014. Assumptions are consistent with Statistics Canada (2014). Beyond 2014, single-year age and sex groups are extrapolated using Statistics Canada (2014) growth rates to 2061.

Figure 2-1: Population growth will slow as the old age dependency ratio climbs higher



Sources: Parliamentary Budget Officer, Statistics Canada.

3 Long-term economic projection

PBO's April 2015 medium-term outlook (2015-2020) provides the starting point for the long-term economic projection. Beyond 2020, PBO's economic projection is determined by trends in labour input and productivity growth, as well as assumptions about inflation and interest rates.

Over the long term, the economy is assumed to operate at its productive capacity or potential GDP, which is projected to grow in line with trend labour input (total hours worked) and trend labour productivity (output per hour worked). Consequently, real GDP, labour input and labour productivity are projected to remain at their respective trends.

Trend labour input is determined by the working age population, trends in age and gender-specific employment rates and average weekly hours worked.[6] Over the long term (2021-2089), projected growth in labour input is due entirely to growth in the working-age population, which is 0.7 per cent annually on average. Shifts in the age composition of the population continue to push the aggregate employment rate lower, subtracting 0.2 percentage points annually, on average, from labour input growth. Annex A provides a more detailed summary of the long-term economic projection and comparison to FSR 2014.

Table 3-1: Summary of the economic projection

%, annual averages

	1982-2014	2015-2020	2021-2089
Real GDP growth	2.4	1.9	1.6
Labour input growth	1.2	0.7	0.5
Labour productivity growth	1.2	1.2	1.1
Nominal GDP growth	5.3	3.6	3.6
CPI inflation	2.9	1.9	2.0
3-month treasury bill rate	5.4	2.0	3.5
10-year government bond rate	6.7	3.5	4.6

Sources: Parliamentary Budget Officer, Statistics Canada.

Trend labour productivity growth is assumed to converge to its "steady-state" level of 1.1 per cent over the long term.[7] This growth rate is slightly lower than the 1.2 per cent average annual growth in labour productivity observed over 1982-2014. Previously, PBO assumed that growth in trend labour productivity over both medium- and long-term projection horizons was equal to average labour productivity growth observed over history. To maintain consistency with its new approach to estimating potential GDP, PBO applies the steady-state labour productivity growth derived within its framework.

PBO's long-term assumptions for GDP inflation and CPI (Consumer Price Index) inflation—2 per cent annually—are consistent with the Bank of Canada's inflation target. PBO has revised its long-term assumptions for the 3-month treasury bill rate and the 10-year Government of Canada benchmark bond rate to reflect a lower "neutral" rate of interest.[8] Based on Bank of Canada analysis and

[6] Annex B in the 2014 FSR details the methodology used to construct trend labour inputs.

[7] PBO's estimates of potential GDP over history and over the medium-term projection horizon are now based on a production function approach. Consistent with the production function used, steady-state (or constant) growth in labour productivity is determined by growth in total factor productivity and the share of labour income in GDP.

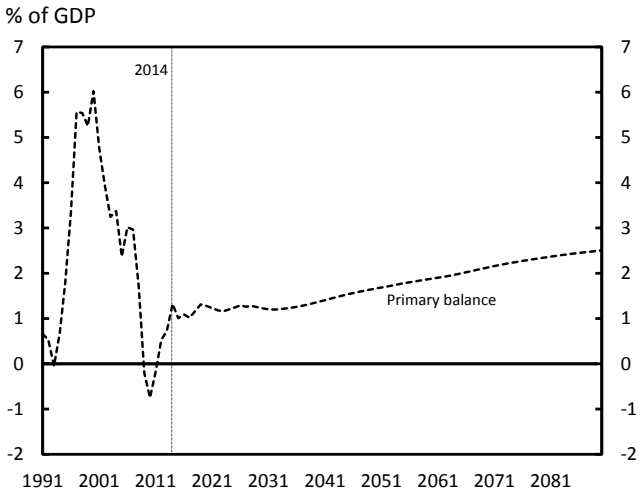
[8] The Bank of Canada defines the neutral rate as the policy rate "consistent with output at its potential level and inflation equal to the

PBO assumptions, 3-month treasury bill and 10-year government bond rates are set at, respectively, 3.45 per cent and 4.55 per cent over the long term, which is 75 basis points lower than assumed in FSR 2014.[9]

4 Federal government operations

For the federal government, the primary balance is positive over the projection period. It averages 1.2 per cent of GDP until 2032 and rises afterward, reaching 2.5 per cent in the final year of the projection (Figure 4-1).

Figure 4-1: Increasing federal primary balance surpluses after 2032



Sources: Parliamentary Budget Officer, Statistics Canada.

The main results of the long-term projections that determine the federal primary balance are as follows:

- Non-interest spending increases from 12.5 per cent of GDP in 2014 to 12.9 per cent in 2032, when the cost pressure of the baby boom cohort on elderly benefits is greatest. Spending decreases to 11.6 per cent by the end of the projection.
- Spending on elderly benefits was 2.2 per cent of GDP in 2014. This is projected to reach its highest point at 2.7 per cent in 2032, before steadily declining to 1.8 per cent by the end of the projection.
- Children's benefits are projected to decline over the long term as a share of GDP, from 0.7 per cent in 2014 to 0.5 per cent at the end of the projection. This is a result of demographics (the share of the population aged 17 and under shrinks over time) and the policy that UCCB is not indexed to inflation (See Box 1).

Box 1: Changes to children's benefits for FSR 2015

Recent changes to the UCCB have increased payments for children aged five and under and have expanded payments to include children aged six to 17. These changes are projected to increase children's benefits by roughly $5 billion in 2015, or 0.3 per cent of GDP.

To reflect these changes, PBO divides its long-term projection of children's benefits into three components: the Child Tax Benefit (CTB), the UCCB for children aged five and under and the UCCB for children aged six to 17 years old. CTB is grown with nominal income and the population share of children 17 and under. UCCB is grown with the separate population share of the two targeted groups: the $100 monthly payment for children aged five and under, and the $60 monthly payment for children aged six to 17. It is not indexed with inflation or incomes because current policy is a fixed nominal monthly cash transfer.

- Most transfers to other levels of government are inconsequential to sustainability as the majority of programs have been legislated to grow with nominal GDP. An exception is the Canada Social Transfer (CST), which is legislated to grow at 3 per cent annually. This is lower than long-term GDP growth and results in a reduction in

2 per cent target *after the effects of all cyclical shocks have dissipated*." See http://www.bankofcanada.ca/wp-content/uploads/2014/09/dp2014-5.pdf.

[9] Bank of Canada estimates of the (nominal) neutral policy interest rate range from 3 to 4 per cent (see Bank of Canada Discussion Paper 2014-5, *The Neutral Rate of Interest in Canada* by R.R. Mendes, available at: http://www.bankofcanada.ca/wp-content/uploads/2014/09/dp2014-5.pdf). In its medium-term projection model and long-term assumption, PBO uses the midpoint of this range (3.5 per cent). Consistent with historical averages, the long-term assumption for the 3-month treasury bill rate is set 5 basis points lower than the neutral rate at 3.45 per cent. Similar to FSR 2014, the long-term assumption for the 10-year Government of Canada bond rate is set 110 basis points above the 3-month treasury bill rate at 4.55 per cent.

spending from 0.6 per cent of GDP in 2014 to 0.4 per cent by the end of the projection.

Annex B provides a more detailed summary of the long-term projections and comparison to FSR 2014.

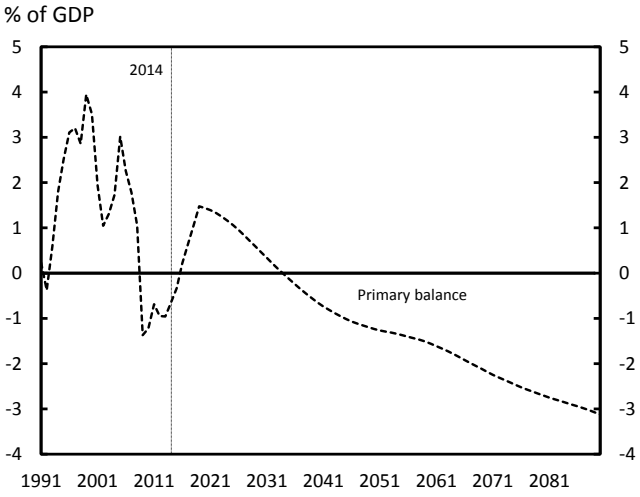
The important assumptions that underlie the baseline federal fiscal projections include:

- Policy adjusts so that its tax burden is held constant as a share of GDP from the end of the medium-term forecast to the end of the projection period.[10] Revenues are projected to be 14.0 per cent of GDP in 2019.
- PBO estimates that the recent increase in TFSA room reduces federal revenues by 0.2 per cent of GDP in 2030, reaching 0.3 per cent by the end of the projection horizon.[11] Under a constant tax burden, the federal government is assumed to recover this foregone revenue from other revenue sources.
- Spending on targeted welfare programs (such as OAS and children's benefits) are driven by the demographic profile of beneficiaries and legislated program parameters.
- Transfers to subnational governments are grown under legislated escalators.
- Direct program expenses are grown with nominal GDP under the assumption that the demand for government services, regulation, and subsidies grows proportionally with aggregate demand.
- There are no further acquisitions or disposals of financial assets after 2019.

5 Operations of subnational governments

For the subnational government sector, which consists of provincial, territorial, local and aboriginal governments, the primary balance is in deficit over the long term (Figure 5-1). The primary balance reaches its highest point at the end of the medium term at a surplus of 1.4 per cent of GDP. Soon after, population ageing and escalating health care costs result in steadily deteriorating finances. The primary balance turns to deficit in 2034 and continues to fall, reaching 3.1 per cent of GDP at the end of the projection. This is nonetheless an improvement relative to PBO's assessment in 2014.

Figure 5-1: Deteriorating subnational primary balance driven by health spending



Sources: Parliamentary Budget Officer, Statistics Canada.

The main results of the long-term projections that determine the subnational primary balance are as follows:

- Subnational program spending increases as a share of the economy from 24.4 per cent in 2019 to 28.8 per cent of GDP by the end of the projection.
- The primary driver of spending growth as a share of GDP is the health sector, which is in turn driven by ageing demographics and enrichment growth. Health spending rises from 7.2 per cent of GDP in 2014 to 12.5 per cent at the end of the projection period.
- Education spending declines as a share of GDP from 5.7 per cent in 2014 to 5.0 per cent over the long term, although the decline is interrupted twice by cohorts of the school-aged grandchildren and great grandchildren of the baby boom generation.
- Spending on social welfare benefits decreases from 1.5 per cent of GDP in 2014 to 1.3 per cent in 2044. The population aged 15 to 64 declines as

[10] If this were not the case, personal income tax revenues would capture a growing share of GDP as a result of bracket creep. This assumption is roughly the same as indexing tax parameters to nominal wages. Current tax law indexes most tax parameters only to inflation.

[11] See http://www.pbo-dpb.gc.ca/files/files/Budget_2015_Analysis_TFSA_changes_EN.pdf

a share of the total population over this period, before stabilizing and growing such that social spending grows at roughly the same rate as GDP over the remainder of the projection.

Annex B provides a more detailed summary of the long-term projections and comparison to FSR 2014.

Important assumptions for the subnational government baseline projections include:

- Health care annual excess cost growth (spending increases in excess of population, ageing and nominal income growth) is assumed to be equal to its 1981-2014 historical average of 0.26 per cent, slightly lower compared to FSR 2014.
- Spending on other non-interest programs is assumed to decline over the medium term, falling to 9.9 per cent of GDP—close to its level prior to the global financial crisis—and is assumed to remain constant thereafter.
- Subnational government own-source revenues are projected to increase over the medium term, returning to their 1981-2014 historical average of 21.7 per cent of GDP, unchanged from FSR 2014.
- Subnational government revenues are also affected by the increase in TFSA contribution room and would be 0.2 per cent of GDP lower at the end of the projection, all else equal. PBO assumes this foregone taxation is recovered through increases in other revenues.
- PBO's medium-term projection of the subnational government budget balance—a deficit of 0.6 per cent of GDP in 2019—is within the range of forecasts produced by other organizations.[12]

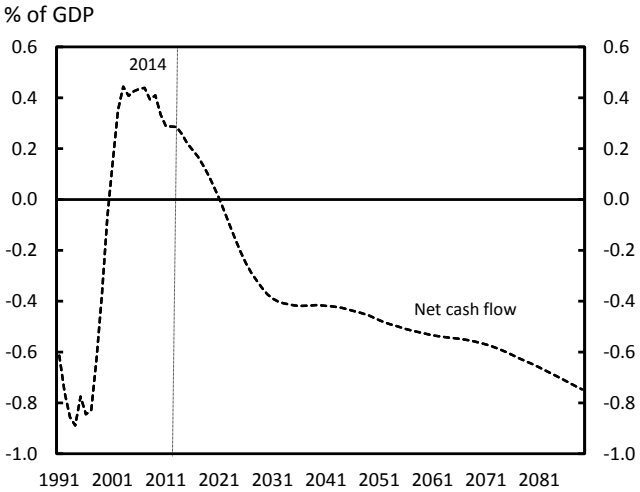
Full methodological details have been published in past reports.[13]

6 Public pension plans

The public pension plan sector includes both the Canada Pension Plan (CPP) and the Quebec Pension Plan (QPP). To account for differences in the demographic assumptions and structures of the plans, contributions and expenses of each plan are projected separately.[14] However, the plans are combined for presentational purposes. The methodology used to project the plans is described in Annex E of the 2014 FSR.

The net cash flow of the pension plans (that is, contributions less expenses) is projected to deteriorate as a result of increases in retirement benefits. Net cash flow was 0.3 per cent of GDP in 2014. It turns negative in 2022, declining to -0.4 per cent of GDP by 2035, and ultimately falls to -0.7 per cent by the end of the projection horizon (Figure 6-1).[15]

Figure 6-1: Pension plan net cash flows are projected to turn negative in 2022



Sources: Parliamentary Budget Officer, Statistics Canada.

Over the projection horizon, contributions to the plans are determined by pensionable earnings and the contribution rate. Pensionable earnings are projected to grow in line with employment, inflation and labour productivity from the

[12] For example, the University of Toronto's Policy and Economic Analysis Program (PEAP) forecasts a small budget deficit (0.1 per cent of GDP) for provincial and territorial governments in 2019 while the Conference Board of Canada forecasts a budget deficit of 2 per cent of GDP for the subnational government sector. IMF (2015) projected a subnational government deficit of 1.6 per cent in 2019.

[13] See, for example, Annex D of Fiscal Sustainability Report 2014, available at: http://www.pbo-dpb.gc.ca/files/files/FSR_2014.pdf.

[14] The starting point of the pension plan projections is 2015. Historical data for contributions and expenses prior to 2015 are taken from Statistics Canada.

[15] The net cash flow of the CPP is projected to turn negative in 2023 while the net cash flow of the QPP is projected to turn negative in 2018.

economic projection. For the CPP, the contribution rate is fixed at 9.9 per cent of (maximum) pensionable earnings. However, for the QPP, the contribution rate is set to increase, under current policy, by 0.15 percentage points a year from 10.5 per cent in 2015 to 10.8 per cent in 2017. Combined, pension plan contributions are projected to remain relatively stable at 3 per cent of GDP over the next 75 years.

Pension plan expenses consist primarily of retirement benefits but also include other benefits (for disability, death and support for the surviving spouse and children), in addition to administrative costs. Population ageing is projected to drive spending on retirement benefits, pushing expenses from 2.7 per cent of GDP in 2015 to 3.4 per cent by 2045 and 3.8 per cent of GDP by 2090.

7 Fiscal sustainability assessment

PBO assesses fiscal sustainability by projecting the net debt of each government sector based on current policy.[16] Current fiscal policy is reflected in the baseline projection of a government's primary balance. If a government's debt-to-GDP ratio is projected to continue to rise above its current level over the long term, fiscal policy is not sustainable and may require corrections.[17]

To project government debt, PBO begins with the stock of net debt at the end of 2014. PBO then adds the projected primary balances of the federal and subnational governments to their stocks of net debt, along with annual interest charges.[18] This is repeated for each subsequent year of the projection period.

To quantify the degree to which fiscal policy is not sustainable, PBO calculates the *fiscal gap*. The fiscal gap measures the difference between current fiscal policy and a policy that stabilizes the debt-to-GDP ratio at some point over the long term. Specifically, the baseline fiscal gap is calculated as the immediate and permanent improvement in the primary balance required to stabilize the debt-to-GDP ratio at its current level 75 years into the future.[19] An improvement in the primary balance can be achieved by increasing revenues, decreasing spending on programs, or a combination of the two.

In the case of the public pension plans, the CPP and QPP acquire financial assets to generate investment income.[20] They use this investment income along with contributions to fund benefit payments and administrative expenses. PBO assesses the sustainability of the CPP and QPP by projecting their assets over the long term, based on their current benefit structures, legislated contribution rates and rates of return on investment portfolios.[21] Similar to the federal and subnational government sectors, PBO calculates a fiscal gap for the CPP and QPP based on their asset-to-GDP ratios and net cash flows.

Government debt projections

Figure 7-1 shows the projected path of net debt for the federal and subnational governments under current policy, and the asset-to-GDP ratio for the public pension plans.

[16] The measure of government debt PBO uses is net debt, defined in Government Finance Statistics Manual (GFSM) 2014 as gross debt minus financial assets corresponding to debt instruments. Gross debt is the sum of all financial claims that governments owe creditors at a future date. Notably this includes both market debt and unfunded benefit obligations for future public service pension and health plans.

[17] Box 7-1 in FSR 2012 provides a discussion of the potential impacts of government debt-to-GDP accumulation.

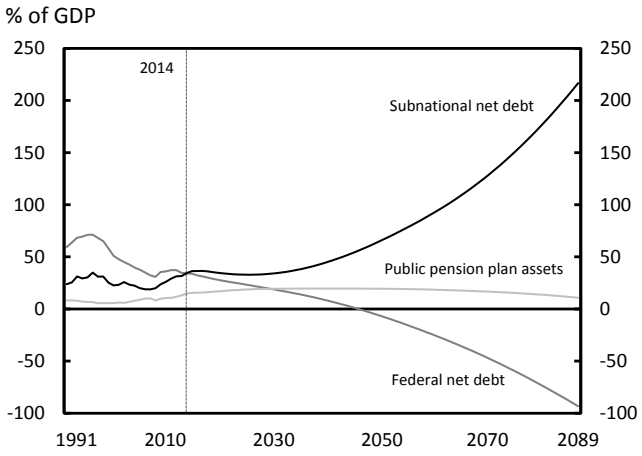
[18] Consistent with the long-term interest rate assumptions in Section 3, PBO assumes that the effective interest rate on federal debt ultimately converges to 4.2 per cent. Following previous FSRs, PBO assumes that the effective interest rate on subnational government debt settles at 90 basis points above the federal effective interest rates over the long term. See Box 2 in FSR 2014 for additional details.

[19] Annex F in FSR 2014 provides a detailed definition and derivation of the fiscal gap.

[20] PBO uses the 10-year Government of Canada bond rate to serve as a benchmark rate of return for pension plan assets. The long-term rate of return on pension plan assets is 6 per cent.

[21] If a pension plan's asset-to-GDP ratio is projected to continue to fall below its current level over the long term, the plan's structure is not sustainable and may require policy corrections.

Figure 7-1: Government sector net debt over the long term



Sources: Parliamentary Budget Officer, Statistics Canada.

Federal government net debt is on a sustainable path and will be eliminated entirely in 35 years. A net asset position is accumulated over the remaining years of the projection period.[22]

Subnational government net debt is unsustainable and will accelerate over the projection period, rising above 200 per cent of GDP after 75 years. At this level, debt service payments would be over 10 per cent of GDP.

The public pension plans maintain a relatively stable net asset ratio over the projection horizon. Net assets of the public pension plans are projected to decrease from 14.9 per cent of GDP in 2014 to 10.7 per cent of GDP after 75 years.

Fiscal gap estimates

Because federal debt is projected to fall over time, the federal government does not have a fiscal gap, but rather has fiscal room of 1.4 per cent of GDP. The federal government could reduce taxes or increase spending by $28 billion in 2015 (and maintain that policy as a proportional share of GDP) while returning to a net debt-to-GDP ratio of 34.1 per cent after 75 years.

If the federal government were to increase spending or reduce taxes by the amount indicated by PBO's fiscal gap estimate, it would run budget deficits over the projection period averaging 1.6 per cent of GDP. This would depart from the federal balanced budget law. Even though budget deficits would be realized over the long term, fiscal policy remains sustainable because the debt ratio is ultimately stabilized.[23]

The federal fiscal gap is unchanged from last year. The long-term impact of the spending programs announced in the Update of Economic and Fiscal Projections and Budget 2015 is small. Although the expansion of Tax Free Savings Accounts reduces long-term revenues, the fiscal gap estimate assumes that foregone revenues are offset by increases elsewhere. Further, the fiscal impact of new measures is offset by developments such as lower projected interest rates on public debt.

In contrast, subnational government debt is unsustainable and the sector has a fiscal gap of 1.4 per cent of GDP. Beginning in 2015, the primary balance would need to increase by 1.4 percentage points of GDP annually ($28 billion in 2015) above the projected baseline by raising its revenues, higher transfers from the federal government, reducing program spending or some combination of the three, in order to return to a net debt-to-GDP ratio of 34.4 per cent after 75 years. The longer this adjustment is delayed, the greater will be the required adjustment.

The subnational fiscal gap has fallen compared to last year largely as a result of lower health care spending in 2014 and slightly lower excess cost growth (0.26 versus 0.30).

Based on the same approach used for the federal and subnational government sectors, the fiscal gap for the public pension plans is estimated as the immediate and permanent change in contributions and or expenses that returns the asset-to-GDP ratio to its current level after 75 years. The fiscal gap for the public pension plans is estimated to be

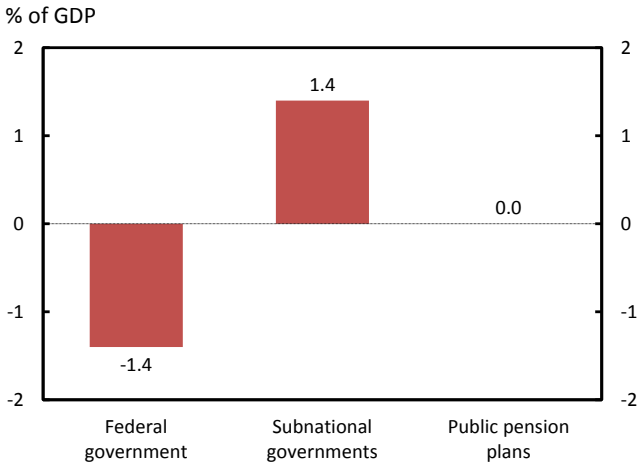
[22] This result is similar to Finance Canada's long-term projection of the federal debt-to-GDP ratio (Public Accounts basis) presented in the 2014 Update of Economic and Fiscal Projections.

[23] Under a scenario where the federal government maintains a balanced budget over the projection horizon, the federal net debt ratio would fall to 2.5 per cent in 75 years.

zero, suggesting that the plans are sustainable over the long term. This assessment is unchanged from last year.

Fiscal gap results for each government sector under PBO's baseline projection are provided in Figure 7-2.

Figure 7-2: Government sector fiscal gap estimates



Source: Parliamentary Budget Officer.

The total general government sector in Canada (that is, the combined federal and subnational governments and public pension plans) is fiscally sustainable. However, this is because the fiscal room of the federal government offsets the fiscal gap of subnational governments.

The subnational fiscal gap could be eliminated under a wide range of policy options. For instance, assuming that the tax burden is not increased above its baseline level, a combination of increased Canada Health Transfer (CHT) payments and reduced excess cost growth in health care spending could eliminate, or significantly reduce, the subnational fiscal gap.

8 Sensitivity analysis

To help gauge the sensitivity of the 75-year baseline fiscal gaps PBO considers alternative demographic, economic and fiscal policy assumptions.

Alternative demographic projections

PBO estimates the fiscal gap under two alternative demographic projections: an older and a younger population. Beginning in 2021, these projections use a combination of high and low assumptions for fertility, mortality (life expectancy) and immigration rates.[24]

With an older population, fiscal gaps increase across all government sectors as spending on elderly benefits, health care and public pension benefits rise above their baseline levels and GDP declines (Table 8-1). Fiscal gaps under the younger demographic projection mirror these impacts.

Table 8-1: Fiscal gaps under alternative demographic projections

% of GDP

	Baseline	Older	Younger
Federal government	-1.4	-0.8	-1.9
Subnational governments	1.4	1.9	1.2
Public pension plans	0.0	0.3	-0.2

Source: Parliamentary Budget Officer.

Alternative economic projections

To assess the sensitivity of the economic assumptions, PBO constructs alternative projections for real GDP growth (± 0.5 percentage points) and interest rates (± 50 basis points), beginning in 2021.[25]

Relative to the baseline estimates, alternative real GDP growth projections have no impact on the fiscal gaps of the subnational governments and public pension plans (Table 8-2). While most revenues and contributions are assumed to grow in line with GDP, subnational government and pension plan spending is also tied directly to GDP growth. However, the federal fiscal gap is more sensitive since spending on elderly benefits and the CST is not linked to GDP growth. As a result, higher (lower) GDP growth leads to more (less) federal fiscal room.

[24] Under the older (younger) demographic projection, the long-term total fertility rate assumption is 1.53 (1.88) births per woman of child-bearing age; life expectancy at birth for males and females in 2061 is, respectively, 85.9 (89.7) and 91.8 (87.2) years; and, the immigration rate is 5 (9) per 1,000 persons.

[25] Alternative real GDP growth projections are constructed using different assumptions for labour productivity growth.

Table 8-2: Fiscal gaps under alternative real GDP growth projections

% of GDP

	Baseline	High growth	Low growth
Federal government	-1.4	-2.0	-0.8
Subnational governments	1.4	1.5	1.4
Public pension plans	0.0	0.0	0.0

Source: Parliamentary Budget Officer.

Alternative interest rate projections also have small impacts on the subnational and pension plan fiscal gaps (Table 8-3). Although changes in interest rates do not affect projected primary balances and net cash flows, they affect the calculation of the fiscal gap.[26] The federal fiscal gap is more sensitive to the alternative interest rate projections; higher (lower) interest rates lead to less (more) fiscal room.

Table 8-3: Fiscal gaps under alternative interest rate assumptions

% of GDP

	Baseline	High rates	Low rates
Federal government	-1.4	-1.2	-1.6
Subnational governments	1.4	1.5	1.4
Public pension plans	0.0	-0.1	0.1

Source: Parliamentary Budget Officer.

Alternative fiscal policy assumptions

While many alternative fiscal policy assumptions can be considered, PBO limits its focus to assessing the impacts on federal and subnational governments of different enrichment factors for elderly benefits, CHT and health care spending. In addition, PBO considers alternative endpoint assumptions for government debt ratios and projection horizons.

For elderly benefits, the alternative assumption is that beyond 2019, benefits are partially indexed (50 per cent) to growth in real GDP per capita, which is in addition to the inflation-only indexation under current policy. With this additional enrichment, federal fiscal room is reduced to 1.1 per cent of GDP (Table 8-4).

Table 8-4: Fiscal gaps under alternative fiscal policy assumptions

% of GDP

	Baseline	Elderly benefits	CHT	Health spending
Federal government	-1.4	-1.1	-0.8	-
Subnational governments	1.4	-	0.9	0.7

Source: Parliamentary Budget Officer.

Beyond 2016, the federal government has indexed the CHT to annual growth in nominal GDP, with a minimum increase of 3 per cent guaranteed. As an alternative, PBO assumes that growth in CHT is instead indexed to baseline subnational health care spending. Such a scenario would maintain the federal CHT share in subnational health spending at its 2016 level (of 22 per cent) instead of continually declining over the long term. Enriching the CHT by indexing it to subnational health care spending would reduce federal fiscal room to 0.8 per cent of GDP but improve the subnational fiscal gap, decreasing it to 0.9 per cent of GDP.

Spending by subnational governments on health care exceeds growth due to population ageing and income over the long term. As an alternative, PBO assumes that beyond 2019 health care enrichment, or excess cost, is eliminated. At the same time, federal CHT is maintained at its baseline level. Reducing excess cost in health care spending would reduce the subnational fiscal gap to 0.7 per cent of GDP.

Lastly, although the baseline fiscal gap is calculated using the current (2014) debt-to-GDP ratio as the endpoint over 75 years, it can also be calculated for any given target and projection horizon. Table 8-5 presents the fiscal gap estimates under the

[26] As a present-value indicator, the fiscal gap is influenced by interest rates—lower interest rates increase the importance of primary and net cash deficits over the long term. At the same time, interest rates also affect the size of the primary balance or net cash flow that is required to stabilize financial positions—lower interest rates reduce the required size of primary balances and net cash flows. Depending on the underlying projections, these influences can be fully or partially offsetting, resulting in little or no change to fiscal gap estimates.

baseline projections for the federal and subnational governments with endpoint debt targets ranging from 0 to 100 per cent of GDP. In all instances, the assessment of fiscal sustainability remains unchanged—the federal government maintains fiscal room to manoeuver while subnational governments face a long-term fiscal shortfall.

Table 8-5: Fiscal gaps under alternative net debt-to-GDP endpoint targets

% of GDP

	0	25	50	100
Federal government	-1.0	-1.3	-1.6	-2.2
Subnational governments	1.7	1.5	1.3	0.9

Source: Parliamentary Budget Officer.

Fiscal gap results under alternative projection horizons of 25 and 50 years are provided in Table 8-6. Federal fiscal room is reduced as the projection horizon is shortened. The shorter horizon excludes the period over which the largest reductions in spending on elderly benefits (relative to GDP) are projected, resulting from the transition of the baby boom and its echo cohorts through the program. In contrast, the subnational fiscal gap is reduced as the projection horizon is shortened because the period over which health care spending (relative to GDP) is the highest, due to population ageing and excess cost growth, is excluded. Fiscal gap estimates for the public pension plans are also reduced over the shorter projection horizons as they exclude the period over which pension benefits relative to GDP is the highest.

Table 8-6: Fiscal gaps under alternative projection horizons

% of GDP

	Baseline	25 years	50 years
Federal government	-1.4	-0.9	-1.1
Subnational governments	1.4	0.3	0.9
Public pension plans	0.0	-0.1	0.0

Source: Parliamentary Budget Officer.

References

Conference Board of Canada (2014). *Canadian Outlook Long-term Forecast 2015*.

Department of Finance Canada (2014). *Update of Economic and Fiscal Projections*. http://www.budget.gc.ca/efp-peb/2014/pub/pdf/efp-peb-14-eng.pdf

Department of Finance Canada (2015). *Economic Action Plan 2015*. http://www.budget.gc.ca/2015/docs/plan/budget2015-eng.pdf

International Monetary Fund (2014). *Government Finance Statistics Manual 2014*. http://www.imf.org/external/Pubs/FT/GFS/Manual/2014/gfsfinal.pdf

International Monetary Fund (2015). *2014 Article IV Consultation—Staff Report; Staff Statement; and Press Release*. http://www.imf.org/external/pubs/ft/scr/2015/cr1522.pdf

Mendes, R.R. (2015). *The Neutral Rate of Interest in Canada*. http://www.bankofcanada.ca/wp-content/uploads/2014/09/dp2014-5.pdf

Office of the Superintendent of Financial Institutions Canada (2013). *26th Actuarial Report on the Canada Pension Plan as at 31 December 2012*. http://www.osfi-bsif.gc.ca/Eng/Docs/cpp26.pdf

Parliamentary Budget Officer (2012). *Fiscal Sustainability Report 2012*. http://www.pbo-dpb.gc.ca/files/files/FSR_2012.pdf

Parliamentary Budget Officer (2014). *Fiscal Sustainability Report 2014*. http://www.pbo-dpb.gc.ca/files/files/FSR_2014.pdf

Parliamentary Budget Officer (2015). *Pre-Budget Outlook*. http://www.pbo-dpb.gc.ca/files/files/PreBudgetOutlook2015.pdf

Parliamentary Budget Officer (2015). *Statement by Jean-Denis Fréchette Parliamentary Budget Officer to the House of Commons Standing Committee on Finance 28 April 2015*. http://www.pbo-dpb.gc.ca/files/files/2015-04-28_FINA_Opening_Remarks_EN.pdf

Régie des rentes du Québec (2013). *Actuarial Report of the Québec Pension Plan as at 31 December 2012*. http://www.rrq.gouv.qc.ca/SiteCollectionDocuments/www.rrq.gouv.qc/Anglais/publications/regime_rentes/EA2012en.pdf

Statistics Canada (2014). *Population Projections for Canada (2013 to 2063), Provinces and Territories (2013 to 2038): Technical Report on Methodology and Assumptions*. http://www.statcan.gc.ca/pub/91-620-x/91-620-x2014001-eng.pdf

Annex A

Summary of FSR 2015 and FSR 2014 demographic and economic projections

%, unless otherwise indicated

		FSR 2015			FSR 2014		
		2035	**2060**	**2085**	**2035**	**2060**	**2085**
Demographic assumptions							
Fertility rate (births per woman)		1.67	1.67	1.67	1.67	1.67	1.67
Life expectancy	Males	83.8	87.3	89.7	83.8	87.3	87.4
(years at birth)	Females	86.5	88.9	90.8	87.1	89.9	90.0
Immigration rate (per 1,000)		7.5	7.5	6.5	7.5	7.5	6.5
Population growth		0.7	0.7	0.6	0.7	0.7	0.5
Ages 65+ population growth		1.4	1.0	0.9	1.4	1.0	0.6
Old age dependency ratio		39.2	43.1	45.4	39.4	43.8	44.4
Economic projections							
Nominal GDP growth		3.6	3.7	3.6	3.6	3.7	3.6
CPI and GDP inflation		2.0	2.0	2.0	2.0	2.0	2.0
Real GDP growth		1.6	1.7	1.6	1.6	1.6	1.5
Labour input growth		0.5	0.6	0.5	0.5	0.6	0.5
Labour productivity growth		1.1	1.1	1.1	1.1	1.1	1.1
Real GDP per capita growth		0.9	1.0	1.0	0.8	1.0	1.0
Unemployment rate		5.9	5.7	5.7	6.4	6.5	6.5
Employment rate		55.5	54.2	53.3	55.2	53.4	53.0
Participation rate		58.9	57.5	56.5	58.9	57.1	56.7
Average weekly hours worked (hours/week)		34.2	34.2	34.2	34.6	34.6	34.6
3-month treasury bill rate		3.45	3.45	3.45	4.20	4.20	4.20
10-year government bond rate		4.55	4.55	4.55	5.30	5.30	5.30

Source: Parliamentary Budget Officer.

Annex B
Summary of FSR 2015 and FSR 2014 fiscal projections

% of GDP

	FSR 2015			FSR 2014		
	2035	**2060**	**2085**	**2035**	**2060**	**2085**
Fiscal projections						
Federal government						
Revenue	14.0	14.0	14.0	14.3	14.3	14.3
Canada Health Transfer	1.6	1.6	1.6	1.6	1.6	1.6
Canada Social Transfer	0.5	0.4	0.4	0.5	0.4	0.4
Other transfers to governments	2.0	2.0	2.0	1.9	1.9	1.9
Elderly benefits	2.7	2.3	1.8	2.7	2.3	1.8
Employment Insurance benefits	0.8	0.8	0.8	0.8	0.8	0.8
Children's benefits	0.7	0.6	0.5	0.6	0.6	0.6
Other program spending	4.6	4.6	4.6	4.4	4.4	4.4
Primary balance	1.2	1.9	2.4	1.7	2.2	2.7
Interest on the public debt	0.8	-0.7	-3.1	0.6	-1.8	-5.6
Net lending	0.4	2.6	5.6	1.1	4.0	8.5
Net debt	14.7	-22.4	-81.6	7.0	-42.4	-126.9
Subnational governments						
Own-source revenue	21.7	21.7	21.7	21.7	21.7	21.7
Health spending	9.4	10.9	12.4	9.8	11.7	13.1
Education spending	5.3	5.2	5.0	5.4	5.2	5.2
Social spending	1.3	1.3	1.3	1.4	1.3	1.3
Other program spending	9.9	9.9	9.9	9.6	9.6	9.6
Primary balance	-0.2	-1.6	-3.0	-0.5	-2.2	-3.5
Interest on the public debt	2.0	4.3	9.2	2.8	7.2	17.2
Net lending	-2.2	-5.9	-12.1	-3.2	-9.4	-20.7
Net debt	37.3	88.4	192.9	44.3	131.1	316.6
CPP/QPP						
Contributions	3.0	3.0	3.0	3.0	3.0	3.1
Expenditures	3.4	3.6	3.7	3.4	3.7	3.8
Net cash flow	-0.4	-0.5	-0.7	-0.5	-0.6	-0.7
Investment income	1.1	1.1	0.7	1.2	1.3	1.1
Net lending	0.7	0.6	0.0	0.8	0.7	0.4
Net assets	19.5	18.7	12.6	20.0	20.6	16.9

Source: Parliamentary Budget Officer.