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# FISCAL SUSTAINABILITY REPORT 2022



OFFICE OF THE PARLIAMENTARY BUDGET OFFICER  
BUREAU DU DIRECTEUR PARLEMENTAIRE DU BUDGET

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.

This report provides PBO's assessment of the sustainability of government finances over the long term for the federal government, subnational governments and public pension plans.

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# Summary

To assess whether a government's fiscal policy is sustainable requires projecting current policy beyond a budget's medium-term planning horizon. Fiscal sustainability means that government debt does not grow continuously as a share of the economy.

Across all provinces and territories, the ageing of the population will move an increasing share of Canadians out of their prime working-age years and into their retirement years, resulting in slower growth in the Canadian economy.

Slower economic growth will put downward pressure on government revenues as growth in the tax base slows. At the same time, population ageing will put upward pressure on government programs such as health care, Old Age Security and pension benefits. Programs targeted to younger age groups will face reduced pressure as the population ages.

## General government sector

The general government sector "consists of groups of resident institutional units classified by level of governments. Non-market, non-profit institutions (NPIs) that are controlled by government units are also classified to this sector and are imbedded under their respective level of government.

The sector does not include public corporations, even when all the equity of such corporations is owned by government units." – Statistics Canada (<https://www150.statcan.gc.ca/n1/pub/13-607-x/2016001/822-eng.htm>)

The objective of this report is to identify if changes to current fiscal policy are required to avoid unsustainable government debt accumulation and to estimate the magnitude of these changes. Our fiscal sustainability assessment reflects federal and provincial budgets from spring 2022.

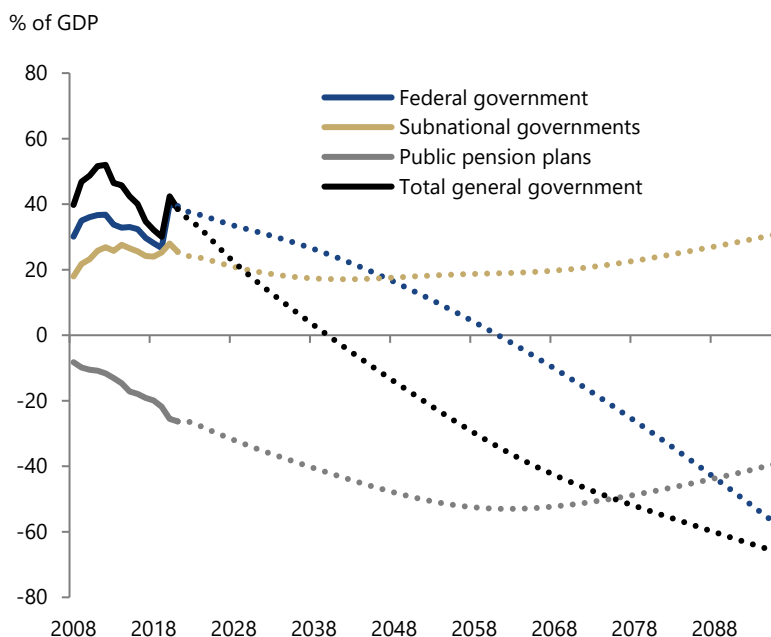
## Assessment

### Total general government sector

From the perspective of the general government sector as a whole, that is federal and subnational governments and public pension plans combined, current fiscal policy in Canada is sustainable over the long term. Relative to the size of the Canadian economy, total general government net debt is projected to decline steadily over the long term primarily due to fiscal room at the federal level (Summary Figure 1).

## Summary Figure 1

## Government net debt relative to GDP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer.

Note: The projection period covers 2022 to 2096.

## Fiscal sustainability and the fiscal gap

PBO assesses fiscal sustainability using the fiscal gap—the difference between current fiscal policy and a policy that is sustainable over the long term.

The fiscal gap represents the immediate and permanent change in revenues, program spending, or combination of both, expressed as a share of GDP, that is required to stabilize a government's net debt-to-GDP ratio at its initial level over the long term.

A negative gap indicates that net debt is projected to decline as a share of GDP and that there is room available to increase spending or reduce taxes while maintaining fiscal sustainability.

For each public pension plan, the fiscal gap represents the immediate and permanent change in contributions or benefits that returns the net asset-to-GDP ratio to its initial level over the long term.

### Federal government

Current fiscal policy at the federal level is sustainable over the long term. We estimate that the federal government could permanently increase spending or reduce taxes by 1.8 per cent of GDP (\$45 billion in current dollars, growing in line with GDP thereafter) while stabilizing net debt at 39.4 per cent of GDP over the long term.

Our assessment reflects all Budget 2022 measures. These measures include, for example, funding for domestic and international defence priorities and dental care, which permanently raise the level of federal program spending over the long term. Revenue-raising measures such as the Additional Tax on Banks and Life Insurers, as well as tax avoidance measures, permanently raise federal revenues over the long term.

Our estimate of federal fiscal room has improved relative to our previous assessment (0.8 per cent of GDP). This reflects an improvement in our medium-term outlook for revenues compared to our 2021 report, as well as lower spending on elderly benefits relative to the size of the economy due to an improved demographic and economic outlook.

## Subnational governments

For the subnational government sector, which includes provincial-territorial, local and Indigenous governments, current fiscal policy is not sustainable over the long term—albeit to a modest extent. We estimate that permanent tax increases or spending reductions amounting to 0.1 per cent of GDP would be required to stabilize the consolidated subnational government net debt-to-GDP ratio at 25.4 per cent of GDP at the end of our projection horizon in 2096.

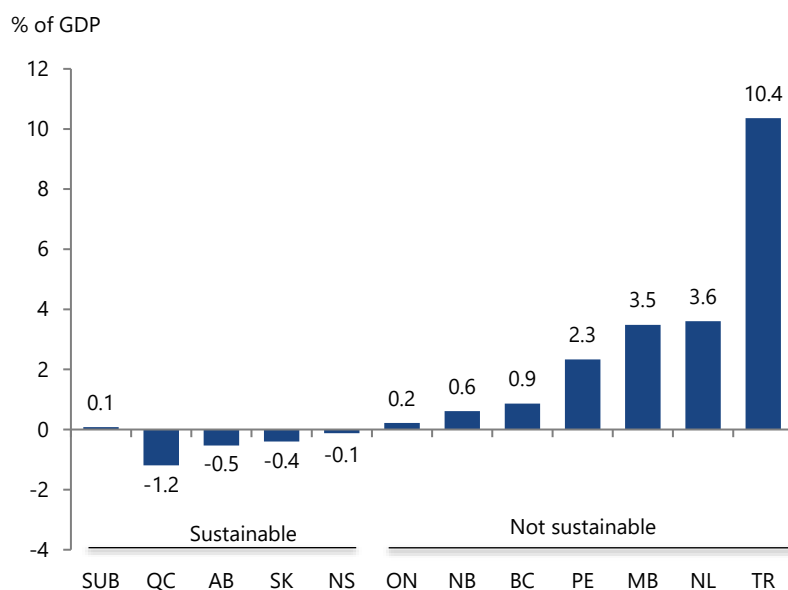
Over the long term, relative to the size of their economies, subnational governments will face rising health care expenses due to population ageing. In addition, all subnational governments will face a less favourable effective interest-GDP growth rate differential compared to the federal government. Some subnational governments will also face significant budgetary pressures owing to reduced federal transfers (relative to the size of their economies).

That said, for the subnational sector as a whole, their own-source revenues, combined with federal transfers, are sufficient to keep the subnational government net debt-to-GDP ratio below its 2021 level over most of the 75-year projection horizon.

- Our assessment indicates that current fiscal policy in four provinces is sustainable: Quebec, Alberta, Saskatchewan and Nova Scotia (Summary Figure 2).
- We estimate that governments in fiscally sustainable provinces have fiscal room to increase spending or reduce taxes, ranging from 1.2 per cent of provincial GDP in Quebec to 0.1 per cent of GDP in Nova Scotia.
- Current fiscal policy is not sustainable in the remaining provinces and the territories. The amount of policy action required to achieve fiscal sustainability in these jurisdictions ranges from 0.2 per cent of provincial GDP in Ontario to 10.4 per cent of territorial GDP for the territories.
- We estimate that subnational governments in Manitoba, British Columbia and Ontario combined contribute 0.3 percentage points to the subnational fiscal gap (Summary Figure 3).

Summary Figure 2

## Subnational government fiscal gap estimates

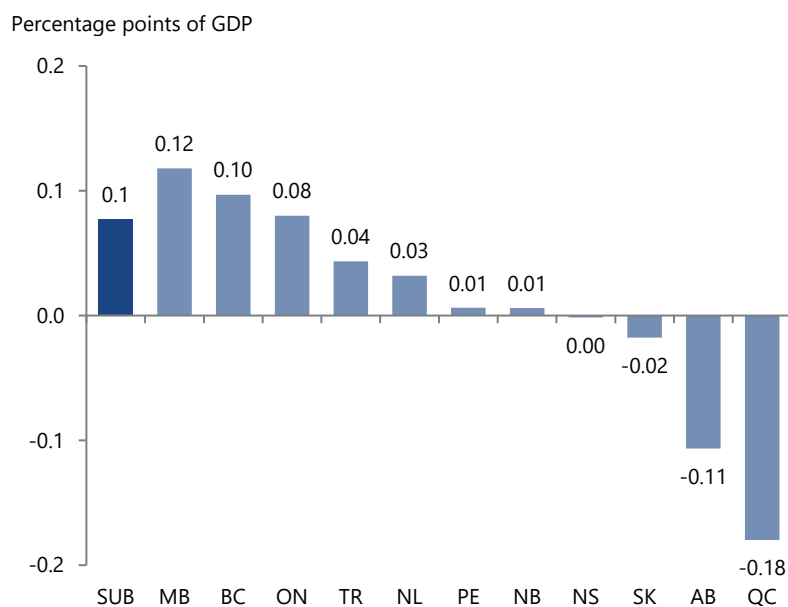


Source: Office of the Parliamentary Budget Officer

Note: Fiscal gaps for each province and the territories are expressed relative to their corresponding provincial and territorial GDP. SUB refers to the consolidated subnational government sector.

Summary Figure 3

## Contributions to the consolidated subnational fiscal gap



Source: Office of the Parliamentary Budget Officer

Note: Contributions are expressed relative to Canadian GDP. SUB refers to the consolidated subnational government sector.

Compared to our previous assessment, the subnational fiscal gap has been revised down from 0.8 per cent of GDP. Based on recent budget plans, the medium-term outlook for provincial and territorial government own-source revenues has been revised up significantly in most provinces and, consistent with our methodology, we assume that the revision carries through to the long term. The upward revision to subnational own-source revenues is only partially offset by upward revisions to program spending.

### **Public pension plans**

The current structure of the Canada Pension Plan (CPP) and Quebec Pension Plan (QPP) is sustainable over the long term. We estimate the fiscal gaps for the CPP and QPP to be, respectively, 0.0 per cent of GDP (in Canada) and -0.3 per cent of GDP (in Quebec).

Under the current structure of the CPP, projected contributions and benefits are sufficient to ensure that the net asset-to-GDP position is at or above its initial value after 75 years. In the case of the QPP, contributions could be reduced, or benefits increased, by 0.3 per cent of GDP, while maintaining fiscal sustainability.

In comparison to our previous assessment, the fiscal gap estimate has improved by 0.1 percentage points of GDP for the CPP and by 0.2 percentage points of GDP for the QPP. This revision reflects an improved net cash flow (contributions less expenditures) over most of the long-term projection horizon.

### **Sensitivity of results**

To help gauge the sensitivity of our baseline fiscal gap estimates, we consider alternative demographic, economic and fiscal policy scenarios.

We find that our qualitative assessment of fiscal sustainability for the federal government is unchanged across all the scenarios considered.

Our qualitative sustainability assessments for most provinces and the territories are essentially unchanged across the alternative demographic, economic and fiscal policy scenarios considered. However, our sustainability assessment is reversed under some alternative scenarios for subnational governments in cases where their baseline fiscal gap estimates are close to zero.



# 1. Introduction

Fiscal sustainability means that government debt does not grow continuously as a share of the economy. Assessing whether—and the degree to which—fiscal policy is sustainable involves projecting government net debt relative to the size of the economy over the long term under the assumption that current fiscal policy is maintained throughout that period.

Recall that these long-term fiscal projections are not forecasts or predictions of the most likely outcomes. They are illustrative scenarios that show the consequences of maintaining a government's current fiscal policy over the long term, after accounting for the economic and fiscal implications of population ageing.

We produce these projections to motivate discussion 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 degree to which current fiscal policy needs to be adjusted to achieve sustainability can be quantified by the fiscal gap. PBO's baseline fiscal gap is calculated as the immediate and permanent change in the primary balance (that is, revenues less program spending) required to return the net debt-to-GDP ratio to its initial level over a 75-year horizon.

The fiscal gap estimate reflects both policy and structural factors:

- *Policy factor:* The primary balance reflects the policy driver of sustainability. Permanent changes in the primary balance can be achieved by adjusting revenues and/or spending on programs.
- *Structural factor:* When interest rates exceed the rate of GDP growth, interest charges on government debt outpace growth in the overall economy. This can lead to excessive debt accumulation unless government runs primary surpluses. However, for the federal government and some provinces, we project a favourable interest-growth rate differential over the long term, that is, GDP growth exceeding their effective interest rate.

We use Statistics Canada's Provincial and Territorial Economic Accounts and Government Finance Statistics (GFS) as the basis for our fiscal projections.<sup>1</sup> The GFS measure and analyze the economic dimensions of the public sector of Canada, consistent with Canada's System of National Accounts and the International Monetary Fund's global guidelines Government Finance Statistics Manual 2014.<sup>2</sup>

## The primary balance

A government's primary balance is defined as revenues less non-interest spending. It represents the contribution to debt accumulation that is directly influenced by fiscal policy. Subtracting public debt charges from the primary balance yields the more familiar budgetary balance or "net lending".

In the case of the public pension plans, we refer to the primary balance as the net cash flow, which represents plan contributions less benefits and administrative expenses.

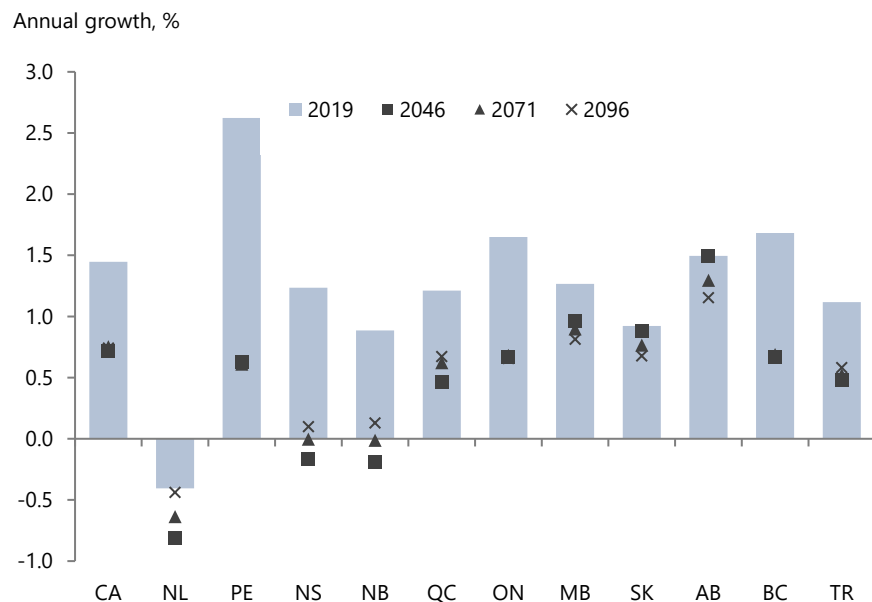
Our medium-term economic and federal fiscal projections are based on PBO's March 2022 Economic and Fiscal Outlook, adjusted to incorporate Budget 2022 measures.<sup>3</sup> Our medium-term fiscal projections for subnational governments are aligned with the Public Accounts-based budget forecasts prepared by provincial governments in spring 2022.<sup>4</sup> Detailed data for all our Fiscal Sustainability Report (FSR) projections are available electronically on our website.<sup>5</sup> Additional methodological and technical details are provided in our 2017 FSR.<sup>6</sup>

## 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. Across all provinces and territories, the ageing of the population will move an increasing share of Canadians out of their prime working-age years and into their retirement years, resulting in slower growth in employment and GDP.

PBO's baseline demographic assumptions reflect Statistics Canada's latest population projections but have been updated to include the Government's latest immigration targets and new population estimates for 2021.<sup>7</sup> These changes raise the projected level of the population by 3.9 per cent in 2096, the last year of our projection. All other demographic assumptions are unchanged from our 2021 assessment (Fiscal Sustainability Report 2021).<sup>8</sup> Population growth at the national level is projected to slow from 1.4 per cent in 2019 to 0.7 per cent in 2096 (Figure 2-1).

**Figure 2-1** Population growth



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

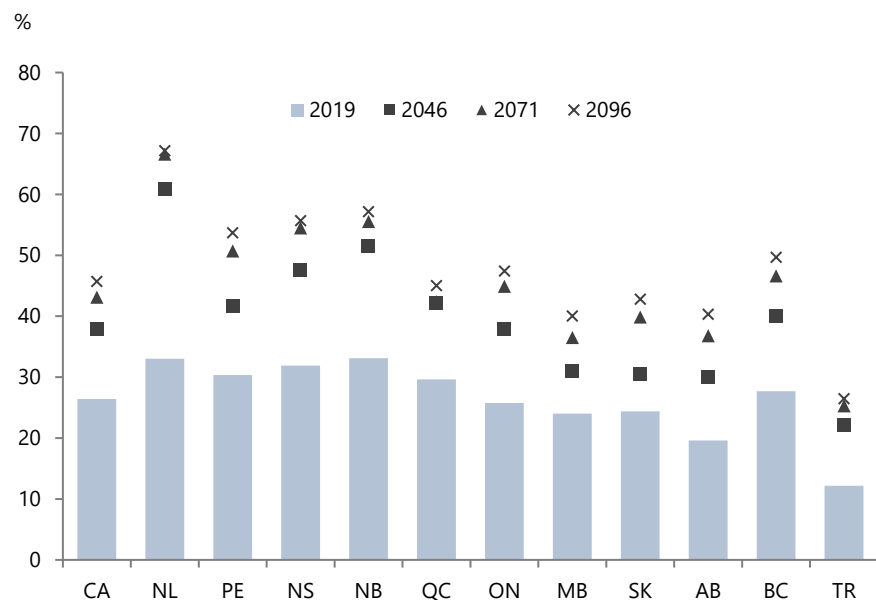
There continue to be meaningful disparities in population projections at the subnational level. Alberta, Manitoba and Saskatchewan will see the highest population growth although growth in all three provinces is projected to slow from recent levels. In contrast, the population in Newfoundland and Labrador, Nova Scotia and New Brunswick is projected to decline over the projection period.

The median age of Canada's population is projected to increase from 40.8 years in 2018 to 44.6 in 2068.<sup>9</sup> The senior dependency ratio—the ratio of individuals 65 years and older relative to the population between 15 to 64 years of age—is projected to increase at the national level from 26.4 per cent in 2019 to 45.7 per cent in 2096 (Figure 2-2). The most acute period of population ageing is projected to occur over the next 15 years.

At the subnational level, the senior dependency ratio in the Atlantic provinces is projected to exceed 43 per cent by 2046. The higher senior dependency ratio in these provinces reflects lower fertility and net migration rates compared to other provinces.

The prairie provinces and the territories are projected to experience a smaller increase in the senior dependency ratio compared to other provinces, but their ratios are still projected to rise well above current levels, particularly over the next 15 years.

**Figure 2-2 Senior dependency ratio**



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

### 3. Economic projection

#### Labour input, labour productivity and GDP

Labour input measures the total number of hours worked and is determined by the size of the working-age population, the employment rate and the average number of hours worked.

Labour productivity measures the amount of output produced per hour worked.

Real GDP is equal to labour input multiplied by labour productivity.

Potential GDP is the amount of output that the economy can produce when capital, labour and technology are at their respective trends.

Growth in real GDP per capita is typically used to measure increases in living standards.

Over the long term, the Canadian economy is assumed to operate at its productive capacity, or potential GDP, which is determined by trends in labour input (that is, total hours worked) and labour productivity (that is, GDP per hour worked).<sup>10</sup> PBO's methodology for projecting GDP at the provincial and territorial level is detailed in our 2017 FSR.<sup>11</sup>

As a greater proportion of the population shifts into older age groups that are less likely to work, or work fewer hours, this will put downward pressure on growth in total hours worked in the economy. Consequently, growth in real GDP and real GDP per capita—a commonly used measure of average living standards—is expected to be slower.

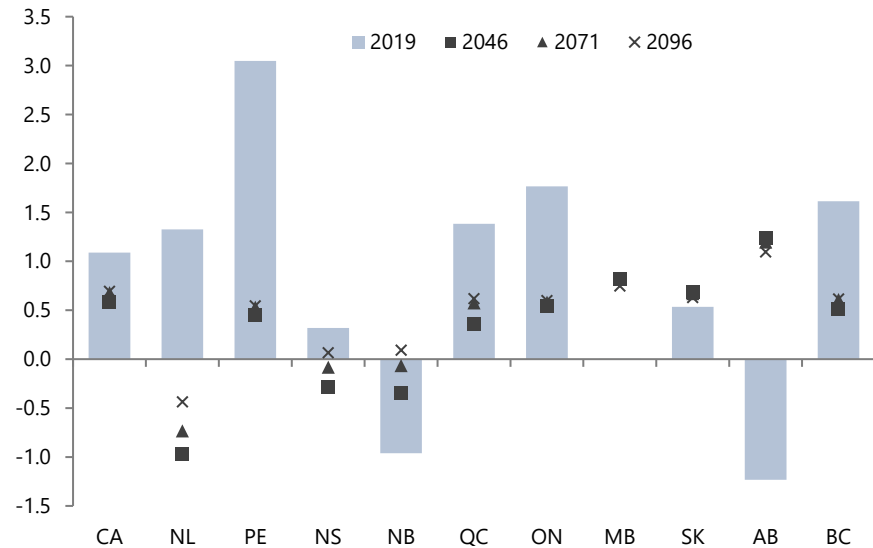
Since our June 2021 assessment, the Canadian economy has encountered more obstacles in its recovery than projected but has maintained momentum.<sup>12</sup> While the average level of real GDP is effectively unchanged over the medium term, the level of nominal GDP in 2026 (the last year of our medium-term projection), is now 5.4 per cent higher compared to our previous assessment due to higher inflation in the near term. Beyond the medium term, nominal GDP growth across provinces and territories, on balance, is largely unchanged compared to our previous assessment.

Population ageing will contribute to slower growth in total hours worked at the national level, but the magnitude of such changes varies significantly across provinces and territories. For example, Alberta, Manitoba and Saskatchewan will see relatively less drag on economic growth from population ageing (Figure 3-1). By contrast, Newfoundland and Labrador, Nova Scotia and New Brunswick will experience significantly more drag on economic growth from population ageing.

Figure 3-1

## Growth in total hours worked

Annual growth, %



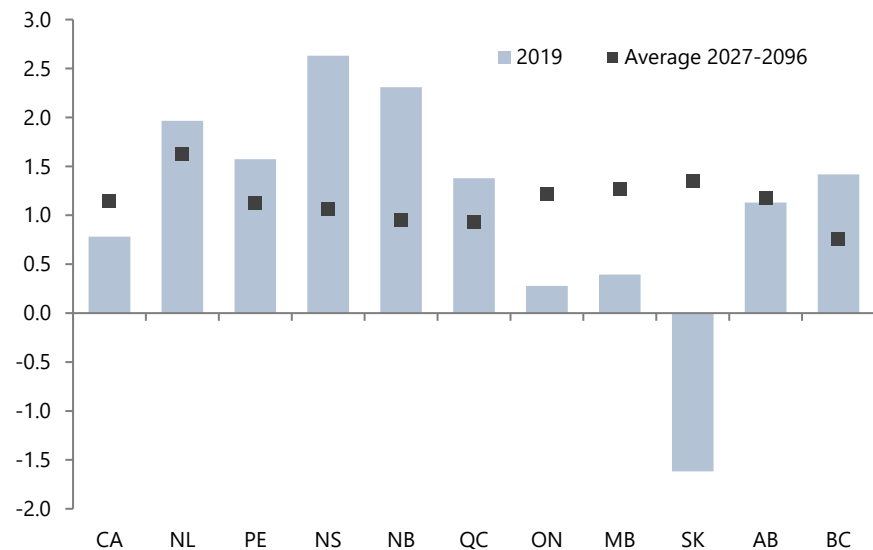
Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Nationally, we project labour productivity growth to converge to its steady-state rate of 1.1 per cent over the long term, which is in line with historical average annual growth in labour productivity observed over 1982 to 2019 (Figure 3-2).

Figure 3-2

## Labour productivity growth

Annual growth, %



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

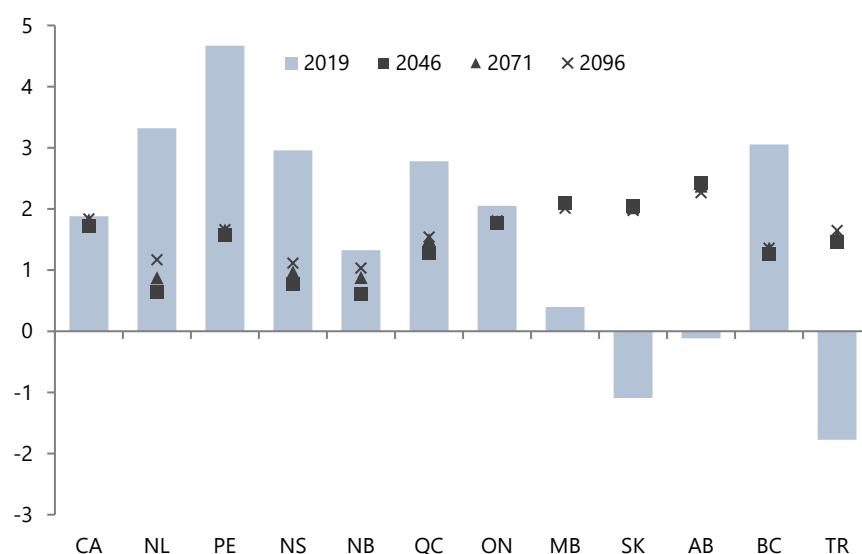
For the provinces, we project growth in labour productivity based on their respective historical average growth rates (over 1982 to 2019) but make adjustments to ensure consistency with our national projection.

Newfoundland and Labrador and Saskatchewan are projected to have the fastest labour productivity growth over the next 75 years while Quebec and British Columbia are projected to have the slowest growth.

We project that real GDP growth in Canada will slow to 1.8 per cent annually, on average, over the long term (Figure 3-3).<sup>13</sup> The relative profile of real GDP growth across provinces and territories over the long term primarily reflects differences in growth in total hours worked. By 2071, we project real GDP growth to range from 0.9 per cent in Newfoundland and Labrador to 2.4 per cent in Alberta.

**Figure 3-3 Real GDP growth**

Annual growth, %



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

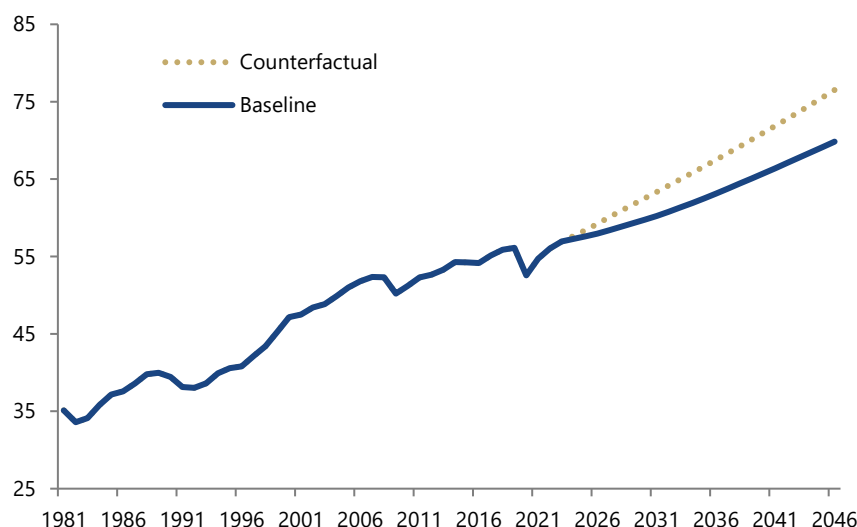
Growth in real GDP per capita—typically used to measure increases in living standards—is projected to average 1.0 per cent annually, which is 0.3 percentage points lower than the average growth observed over 1982 to 2019. This projected slowdown reflects slower growth in total hours worked. With total hours worked projected to ultimately grow in line with the population over the long term, growth in real GDP per capita will ultimately be driven by labour productivity.

To illustrate the impact on real GDP per capita of slower growth in hours worked, we compare our baseline projection to a counterfactual scenario in which growth in total hours worked relative to the population grows at its historical average observed over 1982 to 2019, or 0.1 per cent annually

instead of -0.3 per cent (Figure 3-4). By 2046, we project that real GDP per capita would be around \$6,700 or 9.6 per cent higher in this no-ageing scenario.

**Figure 3-4** Real GDP per capita

Chained 2012 dollars, thousands



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Note: The projection period covers 2022 to 2046. The counterfactual scenario starts in 2023, where growth in total hours worked relative to the population is maintained at its 1982-2019 historical average. Growth in labour productivity is the same under both projections.

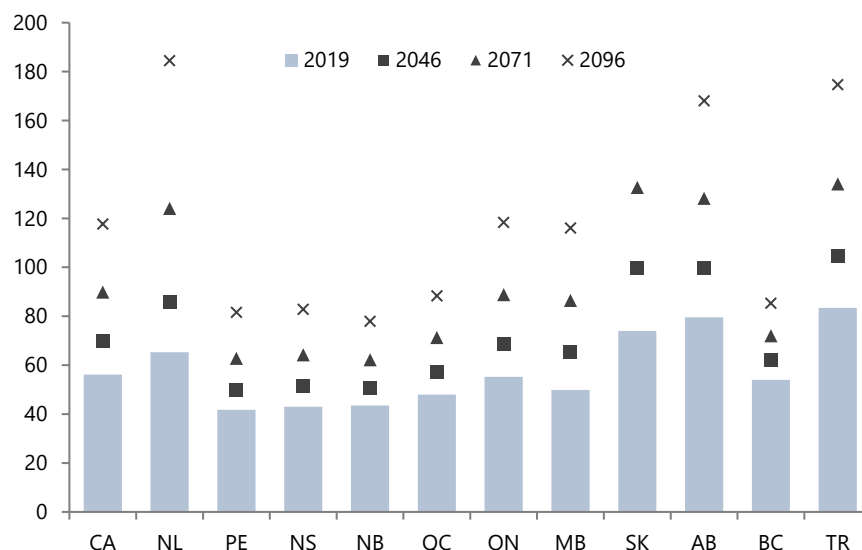
Reflecting the length of the projection period and despite relatively small differences in growth rates, real GDP per capita levels are projected to diverge significantly across provinces and territories. Alberta, Newfoundland and Labrador, Saskatchewan and the territories are projected to enjoy the highest living standards over the long term while Nova Scotia, New Brunswick and British Columbia are projected to have the lowest (Figure 3-5).

For provinces, real GDP per capita is an important contributor to their fiscal capacity (which is closely linked to income per capita) that determines their eligibility for Equalization payments from the federal government. Provinces with fiscal capacity below the national standard are eligible to receive Equalization.



**Figure 3-5 Real GDP per capita**

Chained 2012 dollars, thousands



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Consistent with the economic developments over the past year, our medium-term projection of inflation and interest rates is higher compared to our June 2021 assessment.

However, our long-term assumptions for inflation and interest rates are unchanged from our June 2021 assessment. Beyond the medium term, we assume that inflation will settle at 2.0 per cent. In nominal terms, we assume that the 3-month treasury bill rate will be 2.2 per cent over the long term. The 10-year Government of Canada benchmark and long-term (maximum 30-year maturity) bond rates are assumed to be 3.0 per cent and 3.25 per cent.<sup>14</sup>

The federal effective interest rate is projected to settle at 2.84 per cent. Provincial and territorial effective interest rate spreads (that is, the difference relative to the federal effective rate) are unchanged from our previous assessment.<sup>15</sup> Over the long term, effective interest rate spreads range from a low of 82 basis points for British Columbia to 108 basis for Newfoundland and Labrador.

For some jurisdictions (the federal government and subnational governments in Ontario, Manitoba, Saskatchewan and Alberta), their effective interest rate is lower than their nominal GDP growth rate over the long term.<sup>16</sup>

## 4. Federal government

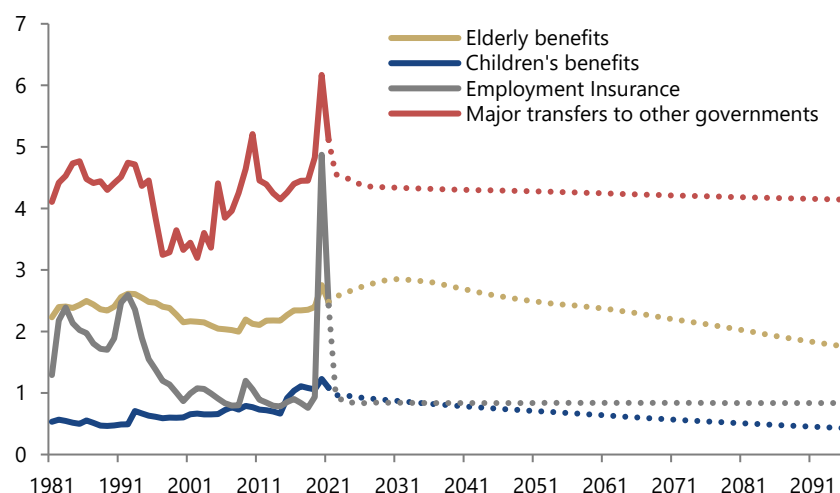
Current fiscal policy at the federal level is sustainable over the long term. Our assessment reflects Budget 2022 measures, including funding for domestic and international defence priorities, dental care and revenue raising measures such as additional tax on banks and life insurers, as well as tax avoidance measures.<sup>17</sup>

Over the long term, federal program spending declines in our projection (relative to the size of the economy prior to the pandemic) for elderly benefits, children's benefits, and transfers to other governments, under status quo policies (Figure 4-1).

Figure 4-1

### Major transfers: federal government

% of GDP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Note: The projection period covers 2022 to 2096. Employment Insurance includes the Canada Emergency Response Benefits and Canada Recovery Benefits. Major transfers to other governments include Equalization, the Canada Health Transfer, the Canada Social Transfer, the Territorial Formula Financing, and other transfers.

Federal spending on elderly benefits amounted to 2.5 per cent of GDP in 2021. As the last of the baby-boom cohort reaches 65 years of age, we project that spending on elderly benefits will continue to increase, peaking at 2.9 per cent of GDP in 2031. However, given that benefit payments are indexed to inflation only, spending on elderly benefits is ultimately projected to decline as these cohorts age and pass on.

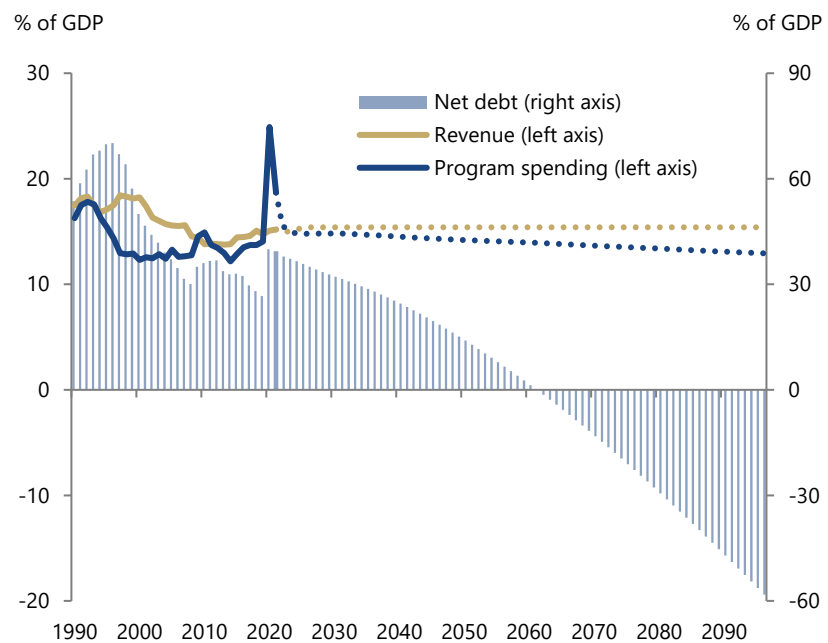
Children's benefits reached a peak of 1.2 per cent of GDP in 2020 mainly due to the additional children's benefits allocated during the pandemic. However, given that the under-18 age group will comprise a smaller share of the total population over the coming decades and that benefit payments are indexed only to inflation, children's benefits will decline relative to the size of the economy. By the end of our projection, children's benefits are projected to amount to 0.4 per cent of GDP.

Federal major transfers to other levels of government are also projected to decline slightly between 2021 and 2096, from 5.1 per cent of GDP to 4.1 per cent of GDP. The Canada Health Transfer (CHT) and Equalization are legislatively linked to growth in nominal GDP. However, the Canada Social Transfer (CST) is legislated to increase by 3 per cent per year, which is 0.8 percentage points lower, on average, than projected GDP growth.

Given projected declines in transfers to individuals and other governments, we project that revenues will exceed program spending over much of the projection period, resulting in sizable primary surpluses by the end of our long-term projection (Figure 4-2).<sup>18</sup>

**Figure 4-2**

### Fiscal projection summary: federal government



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Note: The projection period covers 2022 to 2096.

In addition, we project that the federal effective interest rate will remain below the growth rate of nominal GDP, further contributing to the sustainability of current federal fiscal policy. Based on our projection, the federal government's net debt of 39.4 per cent of GDP in 2021 would be eliminated in 2061 in the absence of policy changes.

### **Fiscal sustainability assessment**

Current fiscal policy at the federal level is sustainable over the long term. To stabilize net debt at 39.4 per cent of GDP over the long term, we estimate that the federal government could permanently increase spending or reduce taxes by 1.8 per cent of GDP (\$45 billion in current dollars, growing in line with GDP thereafter).

Our assessment reflects all Budget 2022 measures.<sup>19</sup> These measures include, for example, funding for domestic and international defence priorities and dental care, which permanently raise the level of federal program spending over the long term.<sup>20</sup> Revenue-raising measures such as the Additional Tax on Banks and Life Insurers, as well as tax avoidance measures, permanently raise federal revenues over the long term.

Our estimate of federal fiscal room has improved relative to our previous assessment (0.8 per cent of GDP). This primarily reflects an improvement in our medium-term outlook for revenues compared to our 2021 report, as well as lower spending on elderly benefits relative to GDP due to an improved demographic and economic outlook.<sup>21</sup>

Our qualitative assessment that current federal fiscal policy is sustainable over the long term is unchanged across all the alternative demographic, economic and fiscal policy assumptions considered (see Table A-1 in Appendix A).

## 5. Subnational governments

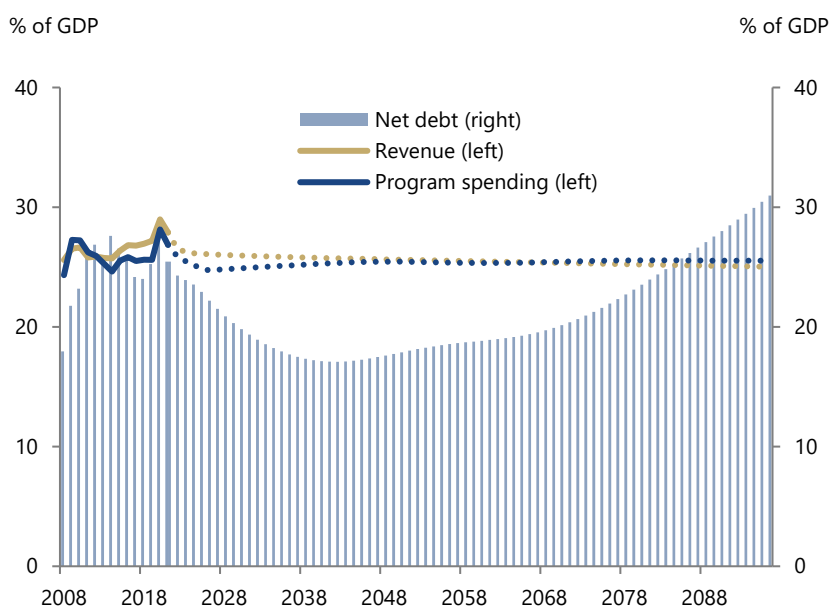
Current fiscal policy is not sustainable over the long term—albeit to a modest extent—for the subnational government sector as a whole, which includes provincial-territorial, local and Indigenous governments. Our assessment reflects provincial and territorial government budgets from spring 2022.

Over the long term, relative to the size of their economies, subnational governments will face rising health care expenses due to population ageing. In addition, all subnational governments will face a less favourable effective interest-GDP growth rate differential compared to the federal government. Some subnational governments will also face significant budgetary pressures owing to reduced federal transfers (relative to the size of their economies).

That said, for the subnational sector as a whole, their own-source revenues, combined with federal transfers, are sufficient to keep the subnational government net debt-to-GDP ratio below its 2021 level over most of the 75-year projection horizon (Figure 5-1).

**Figure 5-1**

### Fiscal projection summary: subnational government



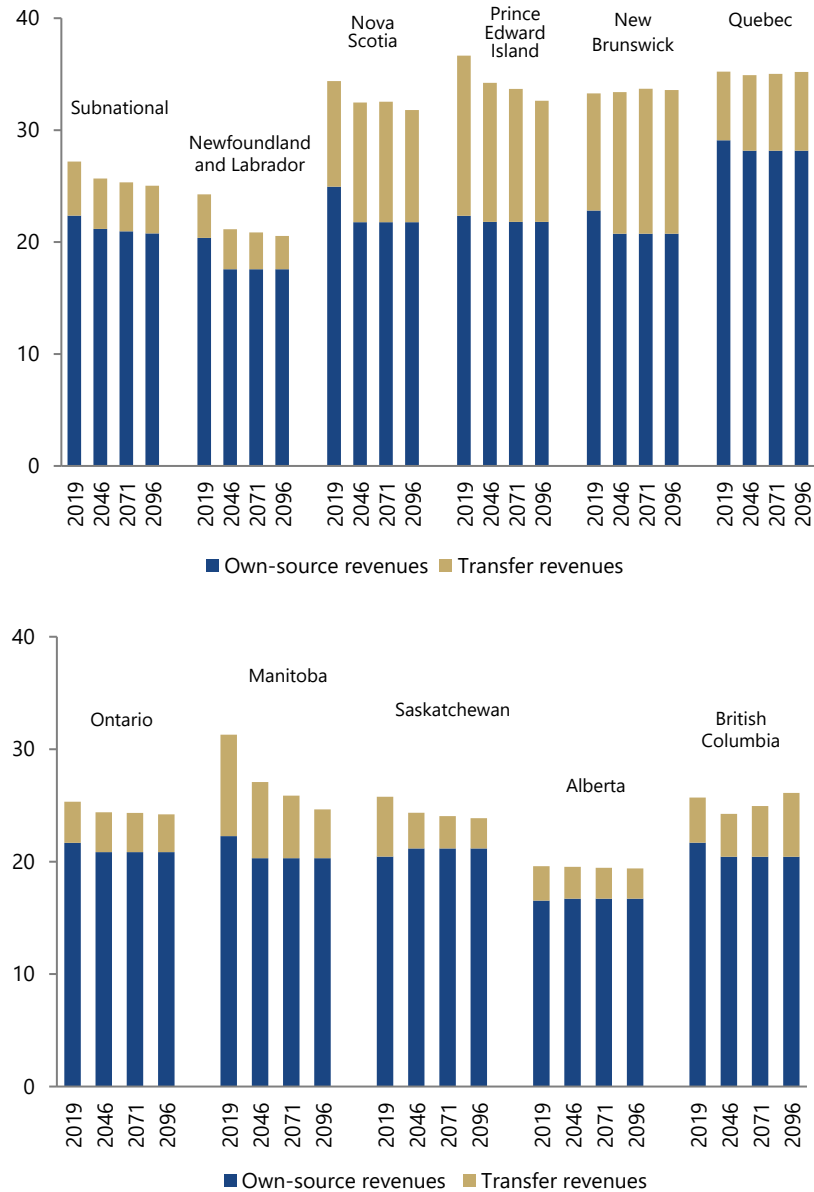
Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Note: The projection period covers 2022 to 2096.

Subnational governments derive most of their revenues from own-sources—most notably taxes on income, consumption, and property. We assume these revenues grow in line with provincial nominal GDP over the long term. Consequently, total revenues rise or fall as a share of provincial GDP in our projection because of changes in federal transfers, such as Equalization, CHT and CST (Figure 5-2).<sup>22</sup>

**Figure 5-2 Subnational government revenues: provinces**

% of GDP

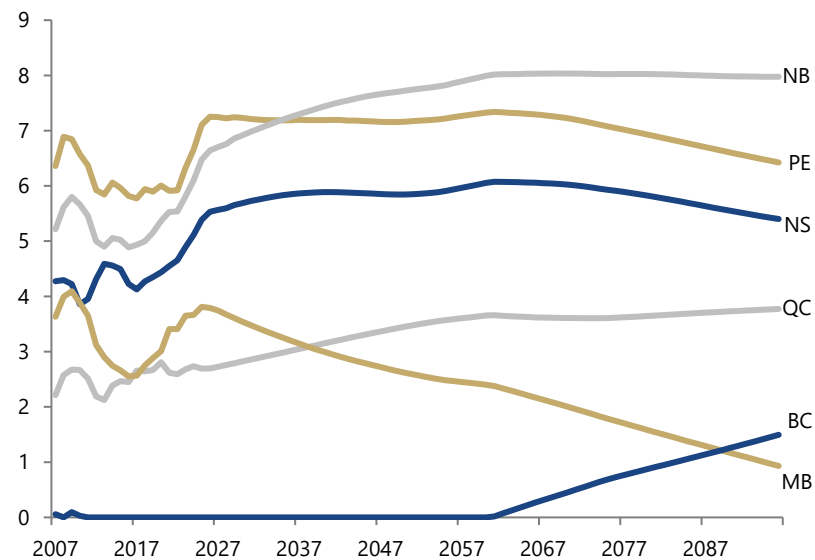


Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Equalization payments help explain part of these long-term changes in federal transfer revenue projections, because they are determined according to each province's fiscal capacity relative to the national average. Equalization entitlements for provinces with below-average growth in per capita incomes, such as Quebec and British Columbia, tend to increase over time (relative to provincial GDP). In contrast, provinces with relatively higher per capita income growth will see decreases in Equalization payments relative to their GDP, such as Prince Edward Island and Manitoba (Figure 5-3).

**Figure 5-3 Equalization payments: receiving provinces**

% of GDP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Note: The projection period covers 2022 to 2096.

Under current legislation, the Equalization envelope grows in line with nominal GDP at the national level. Therefore, the amounts transferred to subnational governments can be either above or below the necessary amounts to bring all provinces to the national standard.

Based on our projection of interprovincial fiscal disparities, the nominal GDP growth escalator does not have a large impact on the Equalization program. Total Equalization payments in our projection are only marginally lower than the amount required to bring all provinces to the national standard over the 75-year horizon (0.1 per cent of GDP per year, on average).<sup>23</sup>

Similar to Equalization, CHT and CST payments do not increase uniformly across the provinces when measured relative to their nominal GDP.

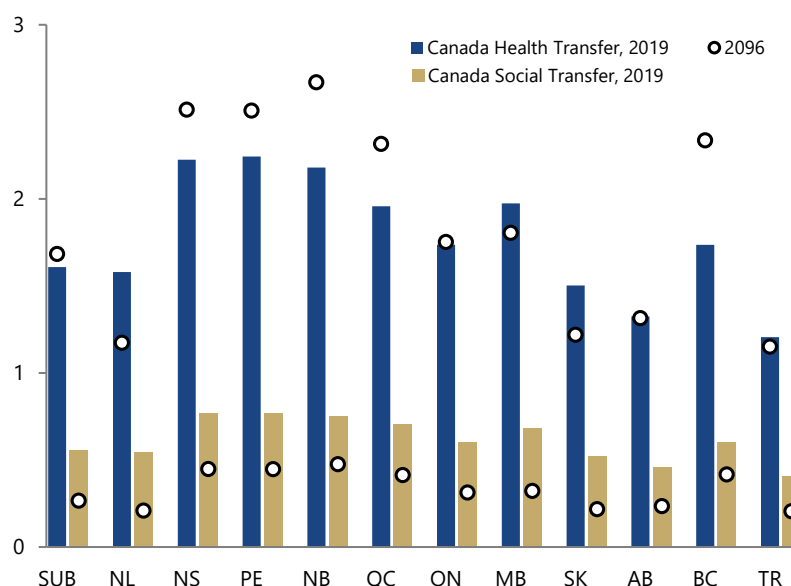
Given the structure of the Canada Health Transfer, CHT payments will increase (relative to the size of their economies) in provinces that have lower growth in nominal GDP per capita, compared to the national average.<sup>24</sup> Conversely, CHT payments will decrease relative to GDP in several other provinces that are projected to have growth in nominal GDP per capita above the national average (Figure 5-4).

The legislated annual growth of CST payments (3 per cent) is lower, on average, than the rate of growth of national nominal GDP over the long term. Consequently, all provinces and territories will receive lower CST payments relative to GDP over the long term.

Figure 5-4

### Canada Health Transfer (CHT) and Canada Social Transfer (CST)

% of GDP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

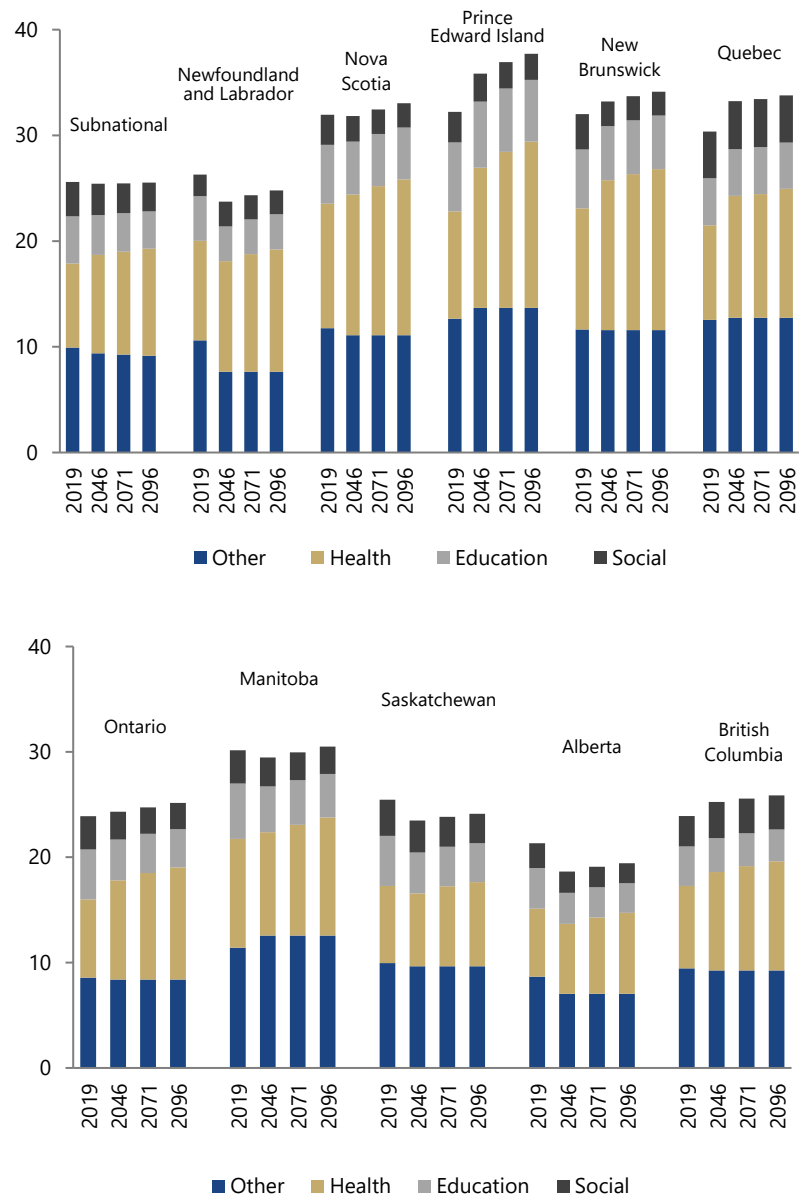
Note: SUB refers to the consolidated subnational government sector.

Subnational government program spending is categorized into four main categories: health, education, social and other (Figure 5-5).<sup>25</sup> Health spending makes up a large portion of provincial and territorial program spending and all provinces and territories will face rising health care costs due to population ageing.<sup>26</sup> However, based on our projections, these cost pressures will not be spread uniformly across provinces, as they reflect differences in the demographic composition of provincial populations and current provincial policies.<sup>27</sup>



**Figure 5-5 Subnational government program spending: provinces**

% of GDP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Subnational government spending on health care varies significantly across provinces and territories. In 2019, health care spending ranged from a low of 6.5 per cent of GDP in Alberta, to a high of 14.8 per cent of GDP in the territories (Figure 5-6).

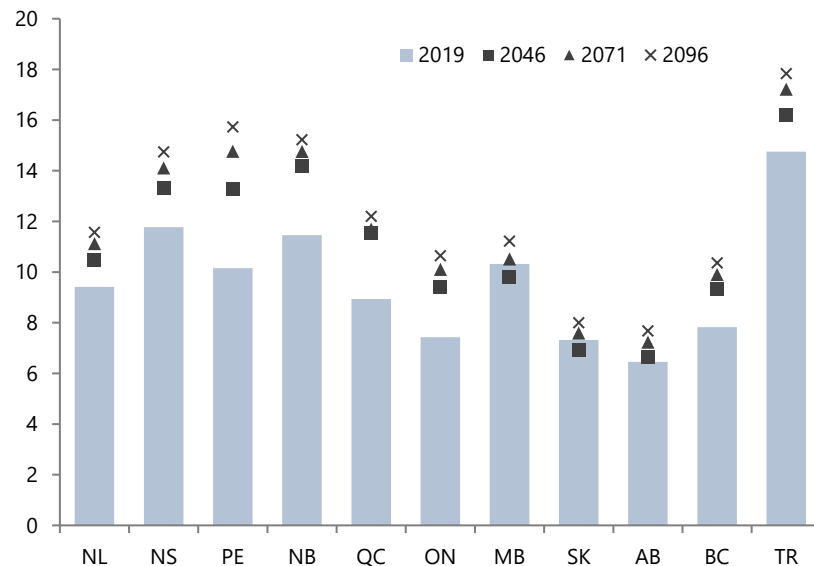
Over the long term, we project that Prince Edward Island will experience the largest (percentage-point) increase in health care spending, of 5.6 percentage points of GDP. Two factors contribute to this result. First, under current policy, Prince Edward Island spends more on elderly health care on a per-person basis than any other province. Second, we project that Prince Edward Island will experience population ageing to a greater extent than most provinces.

In addition, given that we project that health care spending will grow faster than nominal GDP, and since the federal CHT envelope is limited to grow in line with nominal GDP (or 3 per cent per year), we estimate that the ratio of the federal CHT to subnational health spending will decline from 19.3 per cent in 2021 to 16.6 per cent by 2096.

**Figure 5-6**

### Health spending: subnational governments

% of GDP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

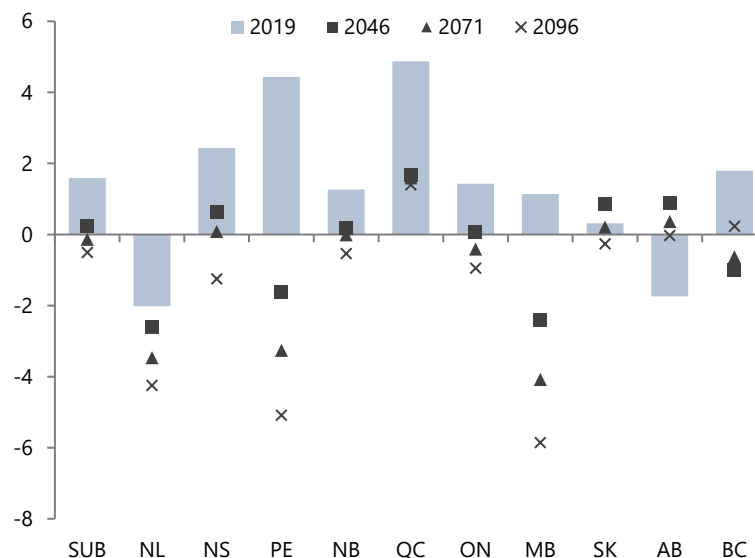
Relative to their pre-pandemic levels, primary balances (relative to GDP) in most provinces and territories are projected to deteriorate over the long term as population ageing puts upward pressure on health care spending. However, the primary balance-to-GDP ratio in Alberta and Saskatchewan is projected to increase relative to its 2019 level due to lower program spending over the medium term that carries through to the long term.

For some provinces (Manitoba and Newfoundland and Labrador), spending pressures are exacerbated by a reduction in federal transfers relative to the size of their economies, as they are projected to have a higher growth in nominal GDP per capita than the national average over the long term. Under current policy, we project that these provinces will see among the largest deteriorations in their primary balances (Figure 5-7).<sup>28</sup>

Figure 5-7

## Subnational government primary balances: provinces

% of GDP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Note: SUB refers to the consolidated subnational government sector. The territorial subnational government primary balance is projected to decrease from -1.3 per cent of GDP in 2019 to -13.0 per cent in 2096.

Over the long term, primary deficits, combined with rising public debt charges, lead to excessive debt accumulation in some provinces and the territories. Net debt in three provinces and in the territories is projected to exceed 100 per cent of GDP by 2096. However, the remaining seven provinces, and the subnational government sector as a whole, will remain under 100 per cent, and in three cases (Quebec, Alberta and Saskatchewan), result in a net asset position by the end of the long-term projection horizon (Table 5-1).

**Table 5-1 Net debt: subnational governments**

% of GDP		2021	2046	2071	2096
Subnational		25.4	17.4	20.4	31.0
Newfoundland and Labrador		35.0	118.2	259.3	433.6
Nova Scotia		24.5	-3.0	-9.0	12.4
Prince Edward Island		23.3	28.5	95.1	213.6
New Brunswick		28.1	41.4	63.6	94.8
Quebec		32.2	3.5	-30.0	-64.3
Ontario		33.4	23.7	30.0	48.9
Manitoba		40.6	79.4	157.0	269.9
Saskatchewan		18.0	-4.2	-13.0	-8.2
Alberta		13.5	-9.0	-18.4	-17.6
British Columbia		4.4	31.5	63.5	76.3
Territories		-2.8	186.5	491.0	833.0

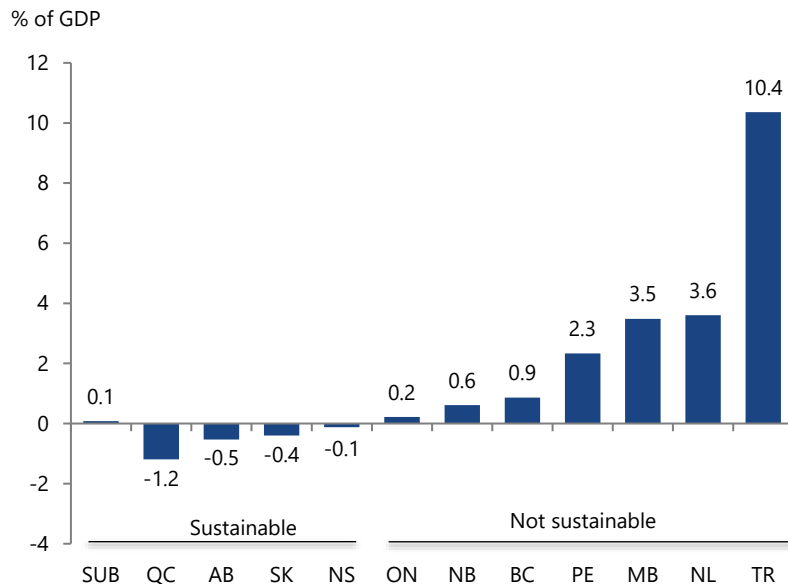
Sources: Statistics Canada and Office of the Parliamentary Budget Officer

### Fiscal sustainability assessment

For the subnational government sector as a whole, current fiscal policy is not sustainable over the long term—albeit to a modest extent (Figure 5-8). We estimate that permanent tax increases or spending reductions amounting to 0.1 per cent of GDP would be required to stabilize the consolidated subnational government net debt-to-GDP ratio at 25.4 per cent of GDP at the end of our projection horizon in 2096.

We estimate that current fiscal policy in four provinces is sustainable over the long term: Quebec, Alberta, Saskatchewan and Nova Scotia. We estimate that these provinces have fiscal room to increase spending or reduce taxes, ranging from 1.2 per cent of provincial GDP in Quebec to 0.1 per cent of GDP in Nova Scotia.

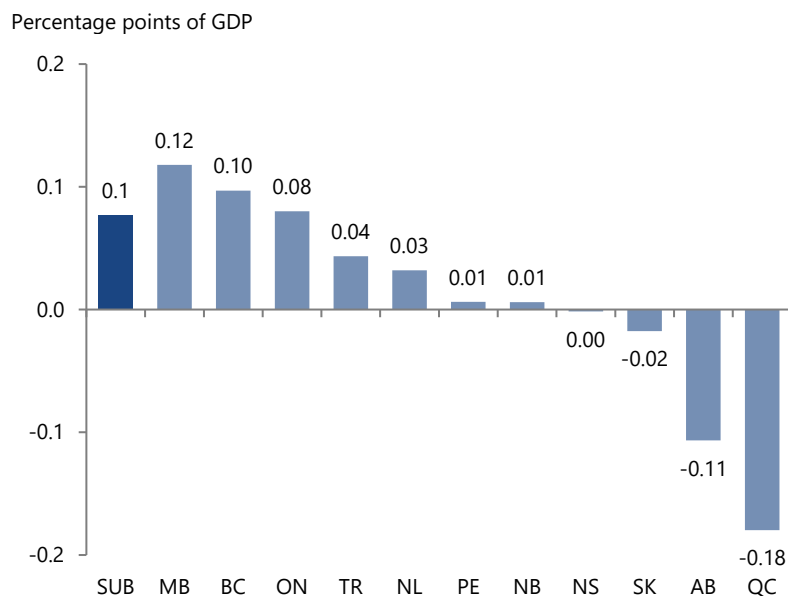
All other provinces and territories have current fiscal policies that are not sustainable over the long term. Based on our estimates, the amount of policy action required to achieve fiscal sustainability ranges from 0.2 per cent of provincial GDP in Ontario to 10.4 per cent of territorial GDP for the territories.

**Figure 5-8 Subnational government fiscal gap estimates**

Source: Office of the Parliamentary Budget Officer

Note: SUB refers to the consolidated subnational government sector.

We estimate that subnational governments in Manitoba, British Columbia and Ontario combined contribute 0.3 percentage points to the subnational fiscal gap (Figure 5-9).

**Figure 5-9 Contributions to the consolidated subnational fiscal gap**

Source: Office of the Parliamentary Budget Officer

Note: SUB refers to the consolidated subnational government sector.

Compared to our previous assessment, the subnational fiscal gap has been revised down from 0.8 per cent of GDP. Our current assessment reflects the budgets of provincial governments from spring 2022. Based on these recent budget plans, the medium-term outlook for provincial and territorial government own-source revenues has been revised up significantly in most provinces and, consistent with our methodology, we assume that the revision carries through to the long term.<sup>29</sup> The upward revision to subnational own-source revenues is only partially offset by upward revisions to program spending.

To help gauge the sensitivity of our fiscal gap estimates, we consider alternative demographic, economic and fiscal policy scenarios. Our qualitative sustainability assessments for most jurisdictions are essentially unchanged across the alternative demographic, economic and fiscal policy scenarios considered (see Table A-1 in Appendix A). However, our sustainability assessment is reversed under some alternative scenarios in cases where their baseline fiscal gap estimates are close to zero.

## 6. Public pension plans

The Canada Pension Plan (CPP) and Quebec Pension Plan (QPP) are defined benefit public plans that provide inflation-indexed benefits for retirement, disability and survivor benefits to working Canadians. Contributions are shared equally between employees and employers. These plans consist of a base plan and additional plan.

Excess cash flows in these plans have been, and will continue to be, invested in financial markets to accumulate assets that will generate investment income to fund future cash shortfalls as the number of beneficiaries relative to contributors rises with the ageing of the population.

Our CPP and QPP projections reflect the *30<sup>th</sup> Actuarial Report of the Canada Pension Plan* as at 31 December 2018 (published in December 2019) and the *Évaluation actuarielle du Régime de rentes du Québec* as at 31 December 2018 (published in December 2021).

Fiscal gaps for the CPP and QPP represent the immediate and permanent change in contributions and/or benefits that returns their net asset-to-GDP ratios to their initial levels after 75 years.

### Net cash flows and financial positions

Contributions to the CPP and QPP are projected to grow in line with earnings and contribution rates. Contributions to the CPP (for the combined base and additional plans) are projected to rise from their pre-pandemic level of 2.3 per cent of GDP in 2019 to 3.1 per cent of GDP (in Canada) by the end of our projection horizon. For the QPP, contributions are projected to increase from 3.6 per cent of GDP in 2019 to 4.8 per cent of Quebec's GDP in 2096.

CPP and QPP benefit payments are projected to grow in line with the retirement-age population, inflation and a portion of real wage growth, and will increase steadily as population ageing drives retirement benefits. CPP benefit payments (for the combined base and additional plans) are projected to increase from 2.1 per cent of GDP in 2019 to 3.9 per cent in 2096. Over the same period, QPP benefits are projected to rise from 3.1 per cent of GDP to 5.3 per cent.

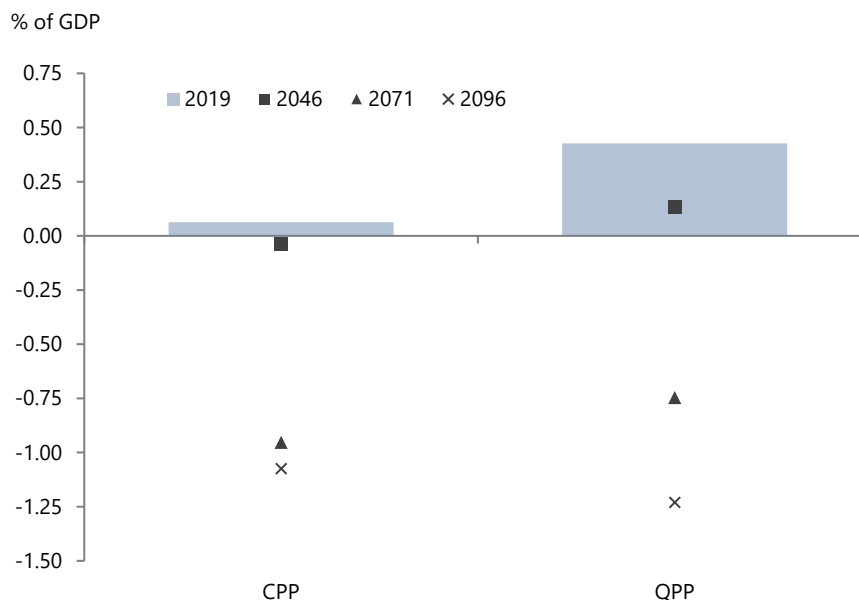
We have assumed that CPP and QPP administrative expenses, including investment expenses, are set equal to 1.0 per cent of their respective financial assets over the projection horizon. For the base (additional) CPP and QPP, the ultimate nominal rate of return on assets, before investment expenses, is assumed to be 5.7 (4.9) per cent.<sup>30</sup>

The additional CPP and QPP benefits and contributions are combined with their base plans to project their respective financial positions over the long term. The net cash flow (that is, contributions less expenses) of the CPP is

projected to decline from a (pre-pandemic) surplus of 0.1 per cent of GDP in 2019 to a deficit of 1.1 per cent by the end of the projection horizon (Figure 6-1). The net cash flow of the QPP is projected to decrease from a surplus of 0.4 per cent of GDP in 2019 to a deficit of 1.2 per cent in 2096.

Figure 6-1

## Net cash flow (contributions less expenses): CPP and QPP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

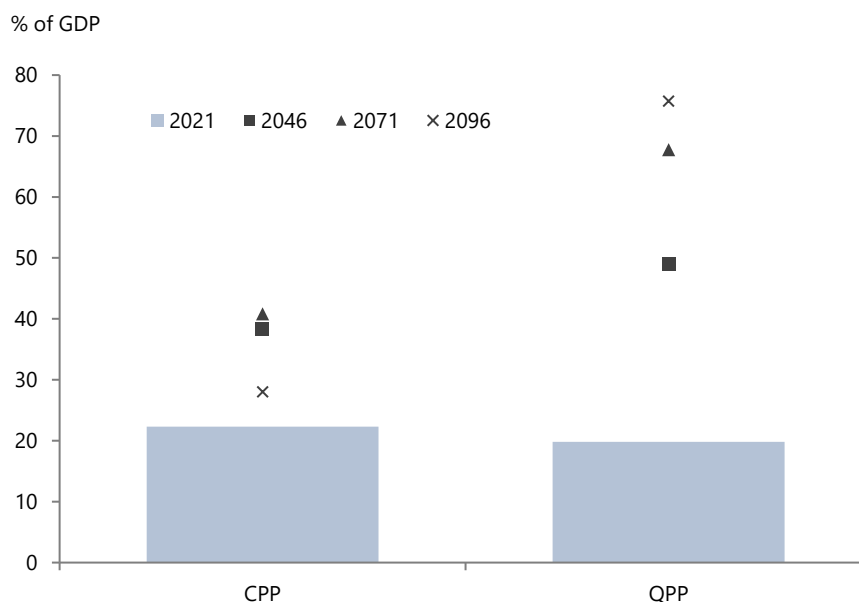
Notes: The CPP (QPP) net cash flow is expressed relative to GDP in Canada (Quebec).

Although CPP and QPP contributions are projected to fall short of their plans' expenses over the long term, the rate of return on plan assets generates additional investment income to help cover the annual cash flow deficits.

Under the current structure of the CPP, the net asset position is projected to increase from 22.3 per cent of GDP in 2021, reaching a peak of 42.9 per cent of GDP in 2061, before declining to 28.0 per cent of GDP at the end of our projection horizon (Figure 6-2). Under the current structure of the QPP, the net asset position is projected to rise from 19.8 per cent of GDP in 2021 to 75.7 per cent of GDP in 2096.

The QPP's net asset position is projected to exceed that of the CPP (as a share of GDP), even though the asset return assumptions are the same for both plans. This is due to QPP's smaller cash flow deficit relative to GDP (through 2085), as well as the QPP's higher *relative* rate of return.<sup>31</sup>



**Figure 6-2 Net asset positions: CPP and QPP**

Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Note: The CPP (QPP) net asset position is expressed relative to GDP in Canada (Quebec).

### Fiscal sustainability assessment

The current structure of the CPP and QPP is sustainable over the long term. We estimate the fiscal gaps for the CPP and QPP to be, respectively, 0.0 per cent of GDP (in Canada) and -0.3 per cent of GDP (in Quebec).<sup>32</sup>

Under the current structure of the CPP, projected contributions and benefits are sufficient to ensure that the net asset-to-GDP position is at or above its initial value after 75 years. In the case of the QPP, contributions could be reduced, or benefits increased, by 0.3 per cent of GDP, while maintaining fiscal sustainability.

Our qualitative assessment that the CPP is sustainable over the long term is reversed under the scenario of a lower interest rate (rate of return). However, our qualitative assessment that the QPP is sustainable is unchanged across the alternative demographic and economic scenarios considered (see Table A-1 in Appendix A).

In comparison to our previous assessment, the fiscal gap estimate has improved by 0.1 percentage points of GDP for the CPP and by 0.2 percentage points of GDP for the QPP. This revision reflects an improved net cash flow (contributions less expenditures) over most of the long-term projection horizon.

### Estimates of steady-state contribution rates

Consistent with our March 2021 report assessing the sustainability of the CPP,<sup>33</sup> we calculate steady-state contribution rates based on stabilising the asset-to-expenditure ratio at the end of our 75-year projection horizon. To calculate the steady-state contribution rate for the base plans, the endpoint (2096) value is set at the asset-to-expenditure ratio in 2021. For the additional plans, the endpoint value is set at 25, which corresponds to the target ratio used in the 30<sup>th</sup> Actuarial Report.<sup>34</sup>

For the base CPP, we estimate the steady-state contribution rate to be 10.16 per cent (of base contributory earnings), which is slightly higher than the statutory rate of 9.90 per cent (Table 6-1). For the additional CPP, the steady-state contribution rates are somewhat higher than the statutory rates.

Our steady-state contribution rate estimates of the base and additional plans would suggest that the CPP is not sustainable over the long term within this framework. This contrasts our assessment based on the fiscal gap estimate and reflects the higher threshold to achieve sustainability based on stabilizing the asset-to-expenditure ratio over the long term.<sup>35</sup>

**Table 6-1 Steady-state contribution rates, base and additional plans**

%		Base	First Additional	Second Additional
CPP	statutory	9.90	2.00	8.00
	steady-state	10.16	2.93	11.71
QPP	statutory	10.80	2.00	8.00
	steady-state	9.77	2.68	10.72

Source: Office of the Parliamentary Budget Officer

For the base QPP, we estimate the steady-state contribution rate to be 9.77 per cent (of base contributory earnings), which is lower than the statutory rate of 10.80 per cent, indicating that the base plan is sustainable within this framework. For the additional QPP, the steady-state contribution rates are higher than the statutory rates. This would suggest that the additional plan would not be sustainable over the long term based on this framework.

Similar to our March 2021 report, to examine the sensitivity of our estimates to rate of return assumptions, we calculate steady-state contribution rates based on rate of return assumptions from the 30<sup>th</sup> Actuarial Report of the CPP. Based on these (higher) rate of return assumptions, our estimates of the steady-state contribution rates for both the CPP and QPP base and additional plans improve significantly compared to our estimates presented in Table 6-1.<sup>36</sup>

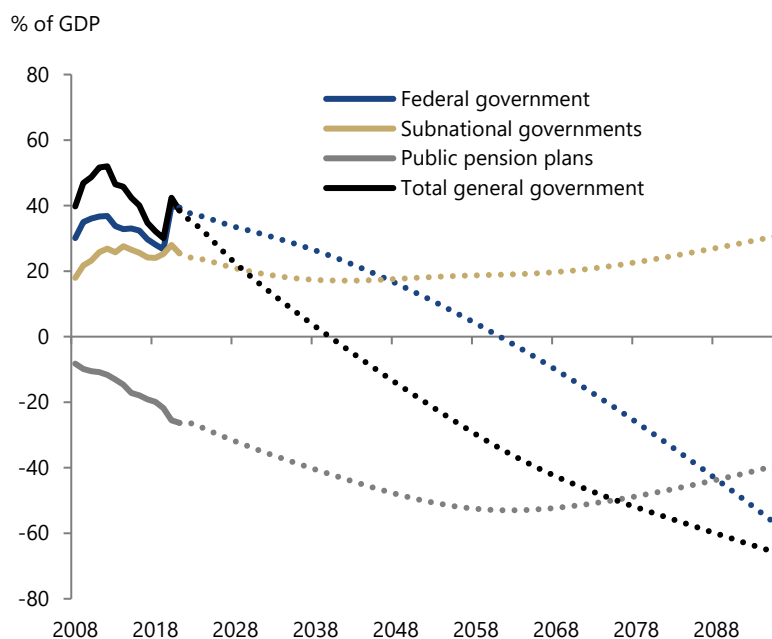
## 7. Total general government sector

From the perspective of the general government sector as a whole, that is federal and subnational governments and public pension plans combined, current fiscal policy in Canada is sustainable over the long term. Relative to the size of the Canadian economy, total general government net debt is projected to decline steadily over the long term primarily due to fiscal room at the federal level under status quo fiscal policy (Figure 7-1).

We project total general government net debt to decrease from 38.5 per cent of GDP in 2021, reaching a net asset position in 2040. As the total primary balance surplus is maintained over the long term, the total net asset ratio reaches 66.3 per cent of GDP in 2096.

Figure 7-1

### Government net debt relative to GDP



Sources: Statistics Canada and Office of the Parliamentary Budget Officer

Note: The projection period covers 2022 to 2096.

## Appendix A: Sensitivity analysis

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To help gauge the sensitivity of our baseline fiscal gaps, we consider alternative demographic, economic and fiscal policy scenarios. Fiscal gaps for each jurisdiction under our baseline and demographic, economic and fiscal policy scenarios are expressed as a percentage of GDP in Table A-1.

The following provides additional detail for the alternative scenarios considered.

### Alternative demographic projections

PBO projects the fiscal gap under three alternative demographic scenarios: (1) a higher population growth scenario with higher fertility, higher life expectancy, and higher immigration rates; (2) a lower population growth scenario with lower fertility, lower life expectancy and lower immigration rates; and (3) an interprovincial migration scenario based on more recent historical trends.

### Alternative economic projections

To assess the sensitivity of the economic assumptions, we construct alternative projections for real GDP growth ( $\pm 0.5$  percentage points) and interest rates ( $\pm 50$  basis points), beginning in 2027. Alternative real GDP growth projections are constructed using different assumptions for labour productivity growth.

### Alternative fiscal policy assumptions

In terms of alternative fiscal policy assumptions, we limit our focus to alternative health spending projections and alternative endpoint assumptions for government debt ratios.

In the baseline subnational government projections, we assume that growth in health care spending is determined by income growth (nominal GDP) and growth due to changes in the age structure of the population. Our alternative health care spending projections include excess cost growth in health care spending (that is, growth in excess of nominal GDP and growth due to population ageing) of  $\pm 0.25$  percentage points, beginning in 2027.

Our baseline fiscal gap is estimated based on an assumption that the ratio of net debt-to-GDP converges to its current level in 75 years. We consider two alternative endpoint scenarios for the federal government and subnational governments: 0 and 100 per cent of GDP.

**Table A-1**      **Fiscal gap estimates under alternative scenarios**

% of GDP

Scenario	Federal	Subnational	Newfoundland and Labrador	Nova Scotia	Prince Edward Island	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Territories	CPP	QPP
<b>Baseline</b>	<b>(1.8)</b>	<b>0.1</b>	<b>3.6</b>	<b>(0.1)</b>	<b>2.3</b>	<b>0.6</b>	<b>(1.2)</b>	<b>0.2</b>	<b>3.5</b>	<b>(0.4)</b>	<b>(0.5)</b>	<b>0.9</b>	<b>10.4</b>	<b>0.0</b>	<b>(0.3)</b>
Higher population growth	(2.4)	(0.1)	3.5	(0.2)	2.3	0.5	(1.5)	0.0	3.2	(0.5)	(0.6)	0.7	11.0	(0.1)	(0.5)
Lower population growth	(1.4)	0.1	3.6	(0.2)	2.1	0.6	(1.1)	0.3	3.6	(0.4)	(0.5)	0.9	9.8	(0.1)	(0.3)
Interprovincial immigration	(1.8)	0.1	3.5	0.0	2.4	0.7	(1.1)	0.2	3.6	(0.5)	(0.5)	0.9	11.7	0.0	(0.3)
Higher GDP growth	(2.6)	0.1	3.5	0.0	2.6	0.6	(1.3)	0.2	3.5	(0.4)	(0.5)	0.9	11.1	0.0	(0.3)
Lower GDP growth	(1.0)	0.1	3.7	(0.2)	2.1	0.6	(1.1)	0.2	3.4	(0.4)	(0.6)	0.8	9.6	(0.1)	(0.4)
Higher interest rates	(1.6)	0.2	3.8	0.0	2.3	0.8	(1.0)	0.3	3.6	(0.3)	(0.5)	1.0	10.1	(0.1)	(0.4)
Lower interest rates	(2.1)	0.0	3.4	(0.2)	2.4	0.4	(1.4)	0.1	3.4	(0.5)	(0.6)	0.8	10.6	0.1	(0.3)
Higher health spending growth	(1.8)	1.0	4.4	1.0	3.7	1.8	(0.2)	1.1	4.5	0.3	0.2	1.7	10.7	N/A	N/A
Lower health spending growth	(1.8)	(0.7)	2.9	(1.1)	1.2	(0.4)	(2.1)	(0.6)	2.6	(1.0)	(1.2)	0.1	10.1	N/A	N/A
0% debt-to-GDP endpoint	(1.1)	0.5	4.0	0.1	2.6	0.9	(0.8)	0.7	4.1	(0.1)	(0.3)	0.9	10.3	N/A	N/A
100% debt-to-GDP endpoint	(2.9)	(0.9)	3.0	(0.8)	1.4	0.0	(2.0)	(0.7)	2.6	(1.6)	(2.0)	(0.3)	9.1	N/A	N/A

Source: Office of the Parliamentary Budget Officer

## Appendix B: Fiscal gap definition

A government's budget balance  $BB$  is defined as  $BB_t = PB_t - i_t \cdot D_{t-1}$ , where  $PB$  is the primary balance (revenues minus program spending) and  $i$  is the effective rate on government debt  $D$ . Government debt accumulates according to  $D_t = (1 + i_t) \cdot D_{t-1} - PB_t$ . Nominal GDP is indicated by  $Y_t$ .

We calculate the fiscal gap ( $\Delta$ ) over finite horizons under the assumption that the endpoint debt-to-GDP ratio  $d^*$  at some point  $k$  periods (75 years) in the future is equal to the initial debt-to-GDP ratio.

$$D_t = \prod_{i=1}^k \left( \frac{1}{1+i_{t+i}} \right) \cdot d^* \cdot \bar{Y}_{t+k} + \sum_{i=1}^k \prod_{j=1}^i \left( \frac{1}{1+i_{t+j}} \right) \cdot (\bar{PB}_{t+i} + \Delta \cdot \bar{Y}_{t+i})$$

$$\Delta = \frac{D_t - \prod_{i=1}^k \left( \frac{1}{1+i_{t+i}} \right) \cdot d^* \cdot \bar{Y}_{t+k} - \sum_{i=1}^k \prod_{j=1}^i \left( \frac{1}{1+i_{t+j}} \right) \cdot \bar{PB}_{t+i}}{\sum_{i=1}^k \prod_{j=1}^i \left( \frac{1}{1+i_{t+j}} \right) \cdot \bar{Y}_{t+i}}$$

In the case where interest rates and GDP growth ( $g$ ) are constant, the fiscal gap reduces to the following:

$$\Delta = \left( \frac{i-g}{1+g} \right) \cdot \left[ \frac{D_t}{Y_t} - \left( \frac{1+g}{1+i} \right)^k \cdot d^* - \sum_{i=1}^k \left( \frac{1+g}{1+i} \right)^i \cdot \frac{\bar{PB}_{t+i}}{\bar{Y}_{t+i}} \right].$$

# Notes

1. Available at: <https://www150.statcan.gc.ca/n1/daily-quotidien/211109/dq211109a-eng.htm>. See <http://www.statcan.gc.ca/pub/13-605-x/2014005/article/14088-eng.htm> for an overview of the Canadian Government Finance Statistics.
2. Available at: <https://www.imf.org/external/Pubs/FT/GFS/Manual/2014/gfsfinal.pdf>.
3. See PBO's March 2022 EFO, available at: <https://www.pbo-dpb.ca/en/publications/RP-2122-030-S--economic-fiscal-outlook-march-2022--perspectives-economiques-financieres-mars-2022>.
4. Up to and including 15 June 2022.
5. Available at: <https://www.pbo-dpb.ca/en/publications/RP-2223-012-S--fiscal-sustainability-report-2022--rapport-viabilite-financiere-2022>.
6. Available at: <https://www.pbo-dpb.ca/en/publications/RP-1718-350--fiscal-sustainability-report-2017--rapport-viabilite-financiere-2017>.
7. Available at: <https://www150.statcan.gc.ca/n1/pub/91-520-x/91-520-x2019001-eng.htm>. PBO's projections were produced by the Centre for Demography of Statistics Canada based on assumptions provided or selected by the Office of the Parliamentary Budget Officer.
8. Available at: <https://www.pbo-dpb.ca/en/publications/RP-2122-010-S--fiscal-sustainability-report-2021--rapport-viabilite-financiere-2021>.
9. See Figure 2.6 at: <https://www150.statcan.gc.ca/n1/pub/91-520-x/2019001/sect02-eng.htm>.
10. PBO's methodology for projecting trends in labour input and labour productivity is described in our 2018 report available at: <https://www.pbo-dpb.ca/en/publications/RP-1819-498--pbo-approach-measuring-potential-gdp--calcul-pib-potentiel-methode-dpb>.
11. Available at: <https://www.pbo-dpb.ca/en/publications/RP-1718-350--fiscal-sustainability-report-2017--rapport-viabilite-financiere-2017>.
12. The medium-term (2022-2026) economic projection in our current FSR is based on our Economic and Fiscal Outlook published on 1 March 2022 (available at: <https://www.pbo-dpb.ca/en/publications/RP-2122-030-S--economic-fiscal-outlook-march-2022--perspectives-economiques-financieres-mars-2022>).

The medium-term economic projection underlying our June 2021 FSR was based on the post-2021 budget scenario presented in our May 2021 report, Impact Assessment of Budget 2021 Measures (available at: <https://www.pbo-dpb.ca/en/publications/RP-2122-007-S--impact-assessment-budget-2021-measures--evaluation-incidence-mesures-budget-2021>).

13. Average annual real GDP growth of 1.8 per cent projected over the long-term is slightly higher compared to average growth of 1.7 per cent projected in our assessment last year. The upward revision reflects higher average growth in hours worked.
14. As of July 20, current yields on 3-month treasury bills (2.53 per cent) and 10-year benchmark bonds (3.11 per cent) are somewhat higher than projected in our March 2022 Economic and Fiscal Outlook. That said, in our March outlook, we projected that their ultimate yields (2.20 and 3.00 per cent, respectively) would be attained in early 2024.

Adjusting our near-term outlook to bring forward their ultimate yields to 2022 and 2023 would not materially impact our fiscal gap estimates given the temporary nature of the increase in interest rates relative to our baseline. Moreover, we do consider higher interest rates—on a permanent basis—in our sensitivity analysis.

15. For each province, subnational effective interest rates are assumed to converge to the federal rate plus the average spread (that is, the difference between provincial government 10-year rates and the Government of Canada 10-year benchmark rate) estimated over 2014-2017.
16. Our February 2020 FSR provides additional discussion of the fiscal implications of a negative interest-growth rate differential. Available at: <https://www.pbo-dpb.ca/en/publications/RP-1920-029-S--fiscal-sustainability-report-2020--rapport-viabilite-financiere-2020>.
17. The PBO has estimated that the cost of the dental care plan proposed in Budget 2022 would be \$9.0 billion over 2022-23 to 2026-27, which is \$3.7 billion more than estimated in Budget 2022. For additional information please see: <https://www.pbo-dpb.ca/en/publications/LEG-2223-008-S--cost-dental-care-plan-canadians--cout-un-regime-soins-dentaires-canadiens>.
18. Budget 2022 includes the Canada Recovery Dividend, a temporary one-time tax on banking and life insurers' groups, whose revenues will be collected in equal installments over the next five years, until 2026-27. That said, we assume that the tax burden in 2026-27 will carry through over the long term.
19. Our current fiscal sustainability assessment also incorporates pandemic budgetary measures but assumes that any remaining pandemic response measures are withdrawn as currently scheduled. Once these measures are withdrawn, we assume that fiscal policy reverts to its pre-crisis setting—new programs or extensions are not introduced.
20. At the end of our medium-term projection, program spending relative to nominal GDP is little changed from our previous assessment. While new measures announced in the Government's 2021 Economic and Fiscal Update and Budget 2022 have been incorporated into our current projection, our revised medium-term nominal GDP outlook effectively offsets their impact on the federal program spending-to-GDP ratio.

Over the long-term projection horizon, federal program spending relative to GDP is marginally lower (0.2 percentage points annually, on average) compared to our previous assessment.



21. Compared to our previous assessment, the increase in federal revenues relative to nominal GDP also reflects an upward adjustment to Employment Insurance contributions in 2029.
22. Three quarters of territorial revenues are generated through transfers from the federal government. As such, the territories' projection is sensitive to growth in Territorial Formula Financing, the Canada Health Transfer and the Canada Social Transfer. The territories' overall transfer revenue is projected to decrease from 50.6 per cent of GDP in 2019 to 36.5 per cent of GDP in 2096.
23. Based on our projections, Equalization transfers will exceed the fiscal requirements to bring all provinces up to a national standard through 2047, thus "over-equalizing" by an average of 0.05 per cent of GDP. From 2048 to 2096, transfers are "under-equalizing" by an average of 0.1 per cent of GDP.

See PBO's report Federal Support through Major Transfers to Provincial and Territorial Governments for more information on over- and under-equalization, available at: <https://www.pbo-dpb.ca/en/publications/RP-2021-020-S--federal-support-through-major-transfers-to-provincial-territorial-governments--soutien-federal-principaux-transferts-aux-gouvernements-provinciaux-territoriaux>.

24. Total CHT transfers grow by a three-year moving average of growth in nominal GDP, with a minimum increase of 3 per cent annually. The allocation of CHT to provinces and territories is on an equal per capita basis.
25. Relative to the size of their economy, territorial total program spending is projected to decrease from 65.5 per cent in 2019 to 63.0 per cent in 2096. Territorial health spending is projected to increase from 14.8 per cent in 2019 to 17.8 per cent in 2096. Territorial education spending is projected to decrease from 7.2 per cent in 2019 to 6.4 per cent in 2096. Territorial social spending is projected to decrease from 7.0 per cent in 2019 to 5.8 per cent in 2096. Other program spending for the territories is projected to decrease from 36.6 per cent in 2019 to 33.0 per cent in 2096.
26. To improve the consistency of our subnational expenditure data, we now use health spending data from the Canadian Classification of Functions of Government (CCOFOG) by consolidated government component, Table 10-10-0005-01 from Statistics Canada.  
  
This is a change from previous reports, which used data from the Canadian Institute for Health Information (CIHI) for historical subnational government spending on health. However, we continue to use CIHI age-based spending by province to project the ageing component of subnational health spending.
27. For example, a province that spends more on health care for older age groups compared to the national average, will face greater cost escalation due to population ageing, all else equal.
28. The territories' primary balance is projected to decrease from -1.3 per cent of GDP in 2019 to -13.0 per cent of GDP in 2096.

29. The upward revision also reflects improvements in our approach to map provincial government budget outlooks for own-source revenues on a Public Accounts basis to a National Accounts basis, accounting for differences in our respective nominal GDP projections.
30. For additional detail on our rate of return assumptions, see PBO's March 2021 report, Assessing the Sustainability of the Canada Pension Plan, available at: <https://www.pbo-dpb.ca/en/publications/RP-2021-045-S--assessing-sustainability-canada-pension-plan--evaluation-viability-regime-pensions-canada>.
31. That is, the rate of return of its assets relative to nominal GDP growth. Since Quebec's GDP is projected to grow more slowly than GDP for the Canadian economy as a whole, its relative rate of return is higher, which results in additional asset-to-GDP accumulation for a given net cash flow.
32. Consistent with our convention of rounding to the nearest tenth of a percentage point, the fiscal gap estimate for the CPP was rounded to 0.0 from -0.04 per cent of GDP.  
  
We estimate fiscal gaps for the base and additional CPP to be -0.01 and -0.04 per cent of GDP, respectively. For the QPP base and additional plans, we estimate the fiscal gap at -0.2 and -0.1 per cent of GDP, respectively.
33. Available at: <https://www.pbo-dpb.ca/en/publications/RP-2021-045-S--assessing-sustainability-canada-pension-plan--evaluation-viability-regime-pensions-canada>.
34. We applied the target ratio for the CPP additional plan to the QPP despite differences in the legislation for determining sustainability of the additional QPP. The Chief Actuary of the QPP targets an asset value that is equal to the future value of expenditures in a scenario where contributions cease, and no additional beneficiaries are added after a certain point in time. Given the significant gap in projection horizons, we applied the target ratio from the CPP additional plan.
35. As noted in our March 2021 report assessing the sustainability of the CPP, switching from the asset-to-GDP to the asset-to-expenditure ratio raises the threshold for measuring sustainability, given that growth in expenditures is projected to outpace GDP growth due to population ageing.
36. Based on the rate of return assumptions in the 30<sup>th</sup> Actuarial Report on the CPP, we calculate the steady-state contribution rate of the base CPP to be 8.85 per cent and the first and second additional CPP steady-state contribution rates are estimated at 2.14 per cent and 8.58 per cent, respectively. We estimate the steady-state contribution rate of the base QPP to be 9.11 per cent. The first and second additional QPP steady-state contribution rates are estimated at 2.02 per cent and 8.08 per cent, respectively.